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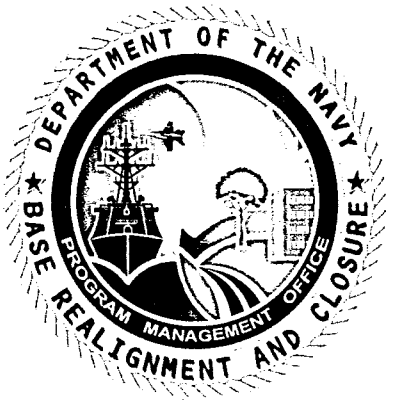

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CONTRACT NO. N62473-06-D-2201
CTO NO. 0028

FINAL
TIME-CRITICAL REMOVAL ACTION
POST-CONSTRUCTION REPORT
August 31, 2009

DCN: ECSD-2201-0028-0009

INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA
ALAMEDA POINT, ALAMEDA, CALIFORNIA

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EXECUTIVE SUMMARY

This Post-Construction Report was prepared to describe the specific activities for a Time-Critical Removal Action (TCRA) at Installation Restoration (IR) Sites 1, 2, and 32 at Alameda Point, Alameda, California. Under Executive Order 12580, the Department of the Navy is the lead agency responsible for the implementation of the IR Program. The U.S. Environmental Protection Agency is the lead regulatory agency with state regulatory oversight provided by the California Environmental Protection Agency, Department of Toxic Substances Control. The Base Realignment and Closure Team, which includes the aforementioned agencies as well as representatives from the Regional Water Quality Control Board, the California Department of Public Health, the City of Alameda, and other community representatives, provides additional review and oversight for projects conducted under the IR Program.

In 2004, Tetra Tech EC, Inc. conducted a radiological characterization survey at IR Sites 1 and 2. The primary objective of the survey was to characterize the potential ^{226}Ra contamination that may be present. Due to accessibility issues, neither the shorelines of IR Sites 1 and 2 nor the former Radiological Shack area located within IR Site 2 was surveyed. During the radiological survey of IR Site 1, an elevated radiological reading was identified on the eastern boundary, which borders IR Site 32.

Subsequent radiological surveys were completed in November 2006 and encompassed the shorelines of IR Sites 1 and 2, the former Radiological Shack located within IR Site 2, and all of IR Site 32. The results of these surveys were used to determine the location of radiological contamination to be identified and removed under the TCRA scope of work. In addition, a disposal trench, which reportedly contained radiological material, located north of the former Firing-Range Berm was specified for excavation and removal.

The decision to undertake the TCRA was documented in the Action Memorandum for IR Sites 1, 2, and 32 (TtEC 2007a). The primary goal of the TCRA was to mitigate the potential risk posed by material potentially presenting an explosive hazard (MPPEH) at the former Firing-Range Berm and Debris Pit; radiological contamination at IR Sites 1, 2, and 32; and the threatened release of hazardous substances to the environment.

TCRA activities included:

- Removing previously identified surface and subsurface radiological anomalies at IR Sites 1, 2, and 32
- Eliminating the Disposal Trench containing radiological material in IR Site 1
- Removing the former Firing-Range Berm and Debris Pit containing MPPEH in IR Site 1

In IR Site 1, there is a sub-area referred to as Area 1A, which contains the aforementioned Disposal Trench, Firing-Range Berm, and Debris Pit. Other than removal of these three areas within Area 1A, further investigation and removal were not performed due to the planned construction of a prescriptive cap for this location.

Preconstruction activities included mobilization of equipment, manpower, and supplies; conducting of site-specific training; evaluation of environmental resources; MPPEH identification and delineation; geophysical surveys; vegetation clearance; and collecting radiological measurements in three background reference areas. Construction of support facilities included specified soil stockpile and screening areas, mobilization of the screening plant, and a radiological surface survey to confirm the location of previously identified radiological anomalies.

Construction work was initiated upon completion of preconstruction activities. Construction activities included the excavation and removal of the Firing-Range Berm, Debris Pit, and Disposal Trench (containing radiological anomalies and MPPEH); excavation of radiological anomalous areas containing discrete items or dispersed radiological contamination; soil screening; MPPEH demilitarization; waste characterization; confirmation sampling; laboratory analysis; backfilling of excavated areas; and restoration of the site. MPPEH was removed only from the Firing-Range Berm and Debris Pit excavations. Fieldwork began in February 2007 and was completed after the IR Sites 1, 2 and 32 post-characterization surveys were finalized in July 2008.

Items and soils contaminated with ^{226}Ra were identified and removed from IR Sites 1, 2, and 32. Current field conditions indicate that ^{226}Ra contamination is still present throughout the IR sites. Therefore, it is recommended that IR Sites 1, 2 and 32 continue to be fenced off and that access to these sites be controlled. It is further recommended that radiation surveys be conducted when any intrusive activities are performed in these sites.

The MPPEH removal action objectives were met; however, due to radium-226 (^{226}Ra) contamination being present at each IR site to a greater extent than anticipated, the radiological removal action objectives were not met by the activities undertaken during the TCRA. This report does not demonstrate nor imply that the removal action objectives were met; rather, it presents the removal activities and documents the current radiological conditions at the IR sites.

The remaining radiological contamination within IR Sites 1, 2, and 32 will be addressed under the remedy selected in the corresponding Record of Decision for each site.

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ABBREVIATIONS AND ACRONYMS

ALARA	as low as reasonably achievable
AM	Action Memorandum
bgs	below ground surface
BRAC	Base Realignment and Closure
CCR	*California Code of Regulations*
CDFG	California Department of Fish and Game
CFR	*Code of Federal Regulations*
cm^2	square centimeter
cpm	counts per minute
^{137}Cs	cesium-137
DAC	derived air concentration
DoD	Department of Defense
DON	Department of the Navy
DOT	Department of Transportation
dpm	disintegrations per minute
DU	depleted uranium
EPA	U.S. Environmental Protection Agency
ESS	Explosives Safety Submission
FCR	field change request
GPS	global positioning system
HAZMAT	hazardous material
HE	high explosive
HHRA	human health risk assessment
HPGe	high-purity germanium
HRA	Historical Radiological Assessment
IAS	Initial Assessment Study
IR	Installation Restoration
LDR	land disposal restriction
LLRW	low-level radioactive waste
MDAS	material documented as safe

ABBREVIATIONS AND ACRONYMS

(Continued)

MDEH	material documented as an explosive hazard
MGFD	munition with the greatest fragmentation distance
mm	millimeter
MPPEH	material potentially presenting an explosive hazard
mrem/y	millirems per year
mR/hr	milliroentgens per hour
MRS	Munitions Response Site
NaI	sodium iodide
NAS	Naval Air Station
NOSSA	Naval Ordnance Safety and Security Activity
NVLAP	National Voluntary Laboratory Accreditation Program
OE	ordnance and explosives
OEW	ordnance or explosive waste
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
PHP	Project Health Physicist
PMO	Program Management Office
PPE	personal protective equipment
PRC	PRC Environmental Management, Inc.
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
^{226}Ra	radium-226
RAO	removal action objective
RASO	Radiological Affairs Support Office
RCA	radiological controlled area
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RMA	radiological materials area

ABBREVIATIONS AND ACRONYMS

(Continued)

ROD	Record of Decision
RSO	Radiation Safety Officer
RWP	radiological work permit
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
^{90}Sr	strontium-90
SSPORTS	Supervisor of Shipbuilding, Conversion and Repair, Portsmouth
STLC	Soluble Threshold Limit Concentration
SUXOS	Senior UXO Supervisor
SVOC	semivolatile organic compound
TCLP	Toxicity Characteristic Leaching Procedure
TCRA	time-critical removal action
TDEM	time domain electromagnetics
^{232}Th	thorium-232
TLD	thermoluminescent dosimeter
TPH	total petroleum hydrocarbons
TtEC	Tetra Tech EC, Inc.
^{238}U	uranium-238
UO_2	uranium dioxide
USC	*United States Code*
UXO	unexploded ordnance
VOC	volatile organic compound

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1.0 INTRODUCTION

This Post-Construction Report was prepared to describe the specific activities for a Time-Critical Removal Action (TCRA) at Installation Restoration (IR) Sites 1, 2, and 32 at Alameda Point, Alameda, California. Under Executive Order 12580, the Department of the Navy (DON) is the lead agency responsible for the implementation of the IR Program. The U.S. Environmental Protection Agency (EPA) is the lead regulatory agency with state regulatory oversight provided by the California Environmental Protection Agency, Department of Toxic Substances Control. The Base Realignment and Closure (BRAC) Team, which includes the aforementioned agencies as well as representatives from the Regional Water Quality Control Board, the California Department of Public Health, the City of Alameda, and other community representatives, provides additional review and oversight for projects conducted under the IR Program.

1.1 PROJECT OBJECTIVE AND SCOPE

The primary objective of the TCRA was to mitigate the potential risk posed by material potentially presenting an explosive hazard (MPPEH) and radiological contamination at IR Sites 1, 2, and 32 and the threatened release of hazardous substances to the environment. IR Sites 1 and 32 are located in the northwest corner of Alameda Point (Figures 1-1 and 1-2), while IR Site 2 is located in the southwest corner (Figure 1-3). IR Site 1 was operated between 1943 and 1956 as the former Naval Air Station (NAS) Alameda's main site for waste disposal. IR Site 2 was used as a disposal area for Alameda Point from approximately 1952 through 1978. An open space area in the eastern portion of IR Site 32 was historically used for equipment, vehicle, and aircraft storage.

Based on previous investigations, geophysical findings, and the sites' locations, the following specific removal action objectives (RAOs) were established in the Action Memorandum (AM) (TtEC 2007a):

- To prevent ingestion, dermal contact, or inhalation of radiological anomalies with concentrations that significantly exceed background concentrations (6,000 counts per minute [cpm])
- To assure that the total effective dose equivalent received through all potential pathways from the radium-impacted waste in the surface and subsurface to any member of the public does not exceed 15 millirems per year (mrem/y)

The MPPEH-specific RAOs are as follows:

- To reduce the risk to humans and the environment from MPPEH-related items buried at IR Site 1

- To reduce the risk of the public coming into contact with MPPEH, resulting in severe injury or even death
- To reduce the risk to humans and the environment from contaminants in site soils
- To minimize impacts to the surrounding areas and surface waters

TCRA activities included removing previously identified surface and subsurface radiological anomalies at IR Sites 1, 2, and 32; eliminating the Disposal Trench containing radiological material within IR Site 1; and removing the former Firing-Range Berm and Debris Pit containing MPPEH (also within IR Site 1). Area 1A located within IR Site 1 (which includes the Disposal Trench, Firing-Range Berm, and Debris Pit) is scheduled to be capped with an engineered cover and (other than removal of the aforementioned areas) was not included in the TCRA Work Plan (TtEC 2007b).

The definition of MPPEH has been modified since the work was planned and conducted. The definition of MPPEH at the time of the fieldwork was the following:

> **MPPEH**: Material that, prior to determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or potentially contains a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization or disposal operations).

However, the definition of MPPEH has been modified to add two new terms as follows:

> **Material Documented as Safe (MDAS)**: MPPEH that has been assessed and documented as not presenting an explosive hazard and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.
>
> **Material Documented as an Explosive Hazard (MDEH)**: MPPEH that cannot be documented as MDAS, that has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present, and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.

Although the use of the term MPPEH in this document is not consistent with the new Department of Defense (DoD) definitions, in order to be consistent with the Work Plan, field documentation, and the waste manifests, the abbreviation MPPEH will be used throughout this document to represent munitions or munitions-related debris that was searched for, recovered, and is awaiting explosives safety status determination.

1.2 REMOVAL CRITERIA (INVESTIGATION LEVELS)

The investigation level used to guide field activities was established using the mean background ambient gamma activity measured in the background reference areas by the sodium iodide (NaI) detectors plus 3 times the average standard deviation of the background measurements collected by each NaI detector (i.e., mean background + 3-sigma). Using this approach, the investigation level was set at 6,000 cpm. Sections 2.4 and 3.1 provide a description of this process.

1.3 DESCRIPTION OF IR SITE 1

IR Site 1 was mainly used for waste disposal at former NAS Alameda from 1943 to 1956. Prior to 1940, early maps show that the disposal area at IR Site 1 was under water (San Francisco Bay) at a depth of approximately 20 feet along the current western shoreline of the site. This area was reclaimed by dredging operations, which involved the placement of sunken barges and pontoons on the western edge of the disposal area and clay and silt sediments in the disposal area. These operations are visible in aerial photographs taken in the 1940s. A jetty was later transformed into a seawall protecting the harbor entrance, which is now the northern edge of the disposal area (Figures A-3 through A-9 in the Final Historical Radiological Assessment [HRA] for NAS Alameda [Weston 2007]). New taxiways and runways were extended over the disposal area in the 1950s.

Information on the history of disposal area contents is limited. The primary method used by NAS Alameda Public Works to dispose of wastes was to bulldoze trenches to the water table, fill them with waste, and then compact the surface. In the early years of operation, the waste was simply pushed into the water. There are no records of placement of any liners in the disposal area. Soil cover material was applied to the disposal area in later years (pages 6-13 and 6-14 in the HRA [Weston 2007]).

Accurate estimates of the types and amounts of wastes deposited at IR Site 1 over the years are not available. However, there are likely to be approximately 15,000 to 200,000 tons of assorted refuse and debris, including scrap metal, waste oil, aircraft engines, low-level radioactive waste (LLRW) (mainly radium-226 [^{226}Ra] from the rework of dials and gauges), solvents, paint wastes, cleaning compounds, creosote, waste medicines, reagents, asbestos, pesticides, mercury, and construction debris. Other naval installations, including Oak Knoll Naval Hospital, Naval Supply Center Oakland, and Treasure Island, also used the site for waste disposal.

The former pistol range area is located in the western portion of IR Site 1 and consists of a pistol range, a shotgun range, and an area immediately north of the pistol range used for disposal of spent ordnance (spent lead bullets and pellets). An earthen impact berm lined with sandbags is located behind the firing line and is referred to as the former Firing-Range Berm. The entire pistol range area is approximately 220 feet by 200 feet in size. The pistol range was in operation between the early 1940s and 1993. The types of weapons used at the pistol range include 9 millimeter (mm), 0.22, 0.38, 0.45, 0.357, and 0.44 caliber weapons, as well as 12-gauge shotguns at the shotgun

range. During the construction of the pistol range, excavation was conducted to approximately 8 feet below ground surface (bgs) in order to remove buried debris such as fence material and aircraft engine parts. Reports have suggested that an unknown quantity of 55-gallon drums filled with fired 20mm projectiles was then placed in this excavation. These projectiles were also mixed into concrete (as aggregate) and used for the foundations in the pistol range (TtEMI 1999).

The HRA lists the following radionuclides of concern for IR Site 1: ^{226}Ra, strontium-90 (^{90}Sr), cesium-137 (^{137}Cs), thorium-232 (^{232}Th), uranium dioxide (UO_2), and depleted uranium (DU) (Weston 2007).

1.4 DESCRIPTION OF IR SITE 2

IR Site 2 was used as the main disposal area for Alameda Point from approximately 1952 through 1978. An estimated 1.6 million tons of waste was deposited (E&E 1983). The wastes included municipal solid waste, waste chemical drums (contents unknown), solvents, oily waste and sludge, paint waste, plating wastes, industrial strippers and cleaners, acids, mercury, polychlorinated biphenyl (PCB)-containing liquids, batteries, LLRW from radium dials and dial painting, scrap metal, inert ordnance, asbestos, several pesticides (solid and liquid), tear gas agent, biological waste from the Oak Knoll Naval Hospital, creosote, dredge spoils, and waste medicines and reagents (E&E 1983). MPPEH may have also been deposited in the approximately 2.5-acre possible Ordnance and Explosives Waste Burial Site located in the southern part of the disposal area. A seawall was constructed along the southern and western edges of the site, and a 36-inch culvert was installed in the seawall to hydraulically connect San Francisco Bay to waters within the seawall. A substantial (10- to 15-foot) dike was installed around the perimeter of the site when disposal operations ceased.

A fenced-in area known as the Radiological Shack Area was located inside the boundary of IR Site 2. It is discussed separately because it has a radiological history of its own. The Radiological Shack Area was originally a small wood frame structure surrounded by a locked security fence in the West Beach landfill area just west of Bunker 353 (page 6-18, HRA [Weston 2007]). The former Radiological Shack was located on the west side of the northern boundary. The only other permanent structures that are documented as having existed at the site are two earthen ammunition bunkers located in the northern portion of the site. The former Radiological Shack was demolished; however, the two bunkers still exist.

The HRA lists the following radionuclides of concern for IR Site 2: ^{226}Ra, ^{90}Sr, ^{137}Cs, ^{232}Th, UO_2, and DU (Weston 2007).

1.5 DESCRIPTION OF IR SITE 32

An open space area in the eastern portion of the site was used for equipment, vehicle, and aircraft storage. Two buildings are located within IR Site 32: Buildings 594 and 82. Building 594

contains dormitory rooms, a kitchen, and a security-monitoring panel. Although Building 594 was originally built as a storage and repair shop for underwater weapons, there is no documentation that the building was ever used for such activities. Building 82 is a concrete guard shack. Buildings 594 and 82 were constructed in 1979. There are no documented releases of hazardous substances from either of these buildings.

In 1883, the South Coast Pacific Railroad constructed a rail causeway over 2 miles long that extended into San Francisco Bay from the northwest corner of Alameda Island (BEI 2005). The former causeway crossed the northern portion of present-day IR Site 32 and consisted of railroad tracks built on a mud- and rubble-filled double-rock wall, with a rail yard and a passenger terminal built on a trestle at the end. A fire destroyed the original rail line in 1902; a second line was built parallel to the original rail path. Based on aerial photographs, it appears that all railroad tracks in the vicinity of and at IR Site 32 were removed by 1960; no surface evidence of the former railroad is visible at IR Site 32.

Fill activities at IR Site 32 began in 1919, and the area was completely filled by 1936.

The HRA does not identify any radionuclides of concern for IR Site 32 (Weston 2007).

1.6 NATURE AND EXTENT OF CONTAMINATION AND PREVIOUS INVESTIGATIONS

The nature and extent of the chemical and radiological contamination at IR Sites 1, 2, and 32 have been investigated and are detailed in various site investigation reports. The following sections summarize the findings of the previous investigations but are not intended to provide the complete detailed history. The referenced reports provide more detailed information. Please note that since this project focused only on remediation of radiological and MPPEH contamination, the nature and extent of chemical-only contamination are not discussed here. The TCRA Work Plan (TtEC 2007b) provides further information.

1.6.1 Site Physical Characteristics

Alameda Point is located on Alameda Island, at the base of a gently sloping plain that extends from the Berkeley Hills on the east to the shore of the San Francisco Bay on the west. Alameda Island is a low-lying flat area composed partly of artificial fill and partly of tidal-flat marshy sediments. Originally, the island was a peninsula connected to land on the southeast, but dredging in the late 19th century and the early part of the 20th century deepened and extended the San Antonio Creek channel southeasterly to form the Oakland Inner Harbor, thus creating the island. The island was enlarged by extending it northwesterly with materials dredged from the surrounding San Francisco Bay and Oakland Inner Harbor. IR Sites 1, 2, and 32 are located entirely over this dredged material.

1.6.1.1 Geologic Setting

IR Sites 1, 2, and 32 at Alameda Point are located on Alameda Island on the eastern side of the central San Francisco Bay. The San Francisco Bay region is located within an elongated basin or valley that extends southeasterly to the Santa Clara Valley. San Francisco Bay and Santa Clara Valley are bounded by the Santa Cruz Mountains to the southwest and the East Bay Hills and Diablo Range to the northeast.

There are no known faults directly at or in the near vicinity of the subject sites. No earthquake fault zones (Alquist-Priolo Zones) have been designated at the sites. The nearest active fault is the Hayward Fault, which is about 6.5 miles east of the site. Another nearby active fault is the San Andreas Fault within the hills on the west side of San Francisco Bay at a distance of about 12 miles. Other major faults in the region include the Calaveras Fault system on the east side of the East Bay Hills and the Green Valley and Greenville Fault systems, which are located farther to the east.

Five Quaternary-time (within the past 2 million years) sedimentary rock units have been identified as underlying IR Sites 1, 2, and 32. These sedimentary units record a sequence of fillings and evacuations of San Francisco Bay in response to global glacial/climate changes and local tectonics. The five rock units, from oldest to youngest, are the Alameda Formation, the Yerba Buena Mud, the San Antonio Formation, the Merritt Sand, and the Young Bay Mud. These sedimentary units are overlain by artificial fill deposited by mechanical processes.

A brief geological description specific to each site is provided below.

IR Site 1

The artificial fill comprising most of IR Site 1 is composed of mixtures of sand, silt, and clay dredged from the surrounding bay and a rock dike to retain the fill in place. The fill ranges in thickness from about 10 to 30 feet. The fill is thinnest in the eastern part of the site. The varying thickness is a result of natural variation in the depth of the estuary before filling, which began in the late 1800s. Throughout most of the site, the bottom of the fill is near sea level. The fill is predominantly a sandy silt similar to the Merritt Sand, which served as the primary source of the fill. The fill typically has abundant shell fragments and debris including gravel. As reported earlier, the fill area incorporates the 1943 to 1956 Disposal Area. Due to lack of sufficient waste disposal characterization information, the lateral and vertical extent of existing waste material in the fill is not entirely defined. Refuse was observed under a thin cover of fill in selected test pits during the geotechnical investigation (FWENC 2002) and included items such as cables, plexiglass, wire, asphalt, and miscellaneous wood, aluminum, and metal objects.

IR Site 2

The Young Bay Mud is thinnest in the eastern and southern parts of IR Site 2 and is thickest in the northern part of IR Site 2 where it appears to represent an ancient channel fill. In previous

reports (TtEMI 1999), the Young Bay Mud unit was considered to consist of both the mud (clay, silty clay, clayey silt) and some of the underlying sands, and these were combined into a unit called Bay Sediments. Recent geotechnical investigations revealed that most of the sands underlying the upper soft mud are generally soft to moderately dense sands, silts, and clayey sands, and these appear to also be Holocene-age bay deposits. Adopting the terminology from previous reports, these are Bay Sediments and range from about zero to 50 feet thick and also appear to represent an ancient channel. Both the Young Bay Mud and the Bay Sediments appear to pinch out to the south, where they may have been removed by dredging in the offshore area (TtFW 2004).

The Merritt Sand shows indications of marine reworking during the most recent sea level rise. The unit has been entirely removed by erosion in the northern part of IR Site 2. The Merritt Sand is up to 25 feet in thickness in the south and pinches out toward the northern part of the site. The underlying Upper San Antonio Formation is also discontinuous at IR Site 2. Broad channels were eroded within the surface of the upper San Antonio Formation. The San Antonio Formation is present in the southern portion of the site, but absent through the erosional channeling to the north.

The fill encountered at most of the site is composed of mixtures of sand, silt, and clay dredged from the surrounding bay and a rock dike to retain the fill in place. The fill ranges in thickness from about 25 feet in the northwest to 45 feet in the southwest part of IR Site 2. The varying thickness is a result of natural variation in the depth of the estuary before filling, which began in the late 1800s. The lower Young Bay Mud and Merritt Sand served as primary sources of the fill. The fill typically has abundant shell fragments and debris including gravel. The strength of the fill varies widely because of the wide variety of materials it contains. The existing waste material in the fill is not entirely defined due to lack of sufficient information on the waste disposal history at the site. Solid wastes deposited in the disposal area included dredge spoils, batteries, ordnance, radiological materials (instrument dials with radium paint), asbestos, scrap metal, and spent sandblast abrasives. Liquid wastes placed in the disposal area include solvents, paints, plating bath sludge, waste oil, PCBs, pesticides, and medical wastes (TtEMI 1999, E&E 1983). Also, the existence of MPPEH at the site has been a major concern and a critical part of recent investigation and remediation activities.

IR Site 32

The fill material that comprises IR Site 32 is composed of mixtures including sand, silt, and clay dredged from the surrounding bay. A rock dike serves as the northernmost boundary of IR Site 32 adjacent to the Oakland Inner Harbor. The fill ranges in thickness from about 10 to 30 feet. The fill is thinnest in the eastern part of the site. Throughout most of the site, the bottom of the fill is near sea level. The fill is predominantly silty sand similar to the Merritt Sand, which served as the primary source of the fill. Because of lack of sufficient information on the waste disposal history at the site, the existing waste material in the fill is not entirely defined.

1.6.1.2 Hydrogeologic Setting

Two aquifer zones specific to remedial investigations have been identified beneath IR Sites 1, 2, and 32 by others (TtEMI 1999). The first water-bearing zone is unconfined and present in the artificial fill. Depth to water ranges from 2 to 8 feet bgs. The Young Bay Mud situated beneath the artificial fill acts as a semiconfining layer that separates the first water-bearing zone from the second water-bearing zone. The second water-bearing zone is situated in the lower portion of the Young Bay Mud unit and on top of the Merritt Sand, and extends into the San Antonio Formation. The Yerba Buena Mud unit acts as an aquitard. Previous site investigations by others suggest that a vertical gradient between the first and second water-bearing units is minimal.

Groundwater flow in the first water-bearing zone is horizontal, and groundwater flows radially from the center portion of Alameda Point toward Oakland Inner Harbor, San Francisco Bay, and Seaplane Lagoon. In the vicinity of IR Sites 1 and 32, groundwater flow is generally west toward San Francisco Bay and north and northwest into the Oakland Inner Harbor. In the vicinity of IR Site 2, groundwater flow is generally west and south toward San Francisco Bay. The first water-bearing zone is tidally influenced, and seawater intrusion is a consequence of climatic variations. Investigators report that the first water-bearing zone at the site is characterized by thin lenses of freshwater recharged by precipitation floating on brackish to saline water.

1.6.2 Historical Radiological Investigations

In 1983, a DON Initial Assessment Study (IAS) (E&E 1983) reported the use of radioactive materials at Alameda Point starting in the 1940s, particularly at the dial painting section of the instrument shop at Building 5. Dial painting consisted of a two-step process. First, refurbished old aircraft dials were scraped and cleaned in solvent. Then the dials were repainted with radioluminescent paint containing ^{226}Ra.

Radium-impacted waste (scraping solids, rags, used paint brushes, and so forth from refurbishing dials and gauges) was collected from the shop and discarded at IR Sites 1 and 2. The radium painting shop was closed in the early 1960s (exact date unknown), and a contractor decontaminated the facility. According to site personnel interviews, the contractor was unable to decontaminate an unknown number of work materials from the facility and disposed of them in IR Site 1. The radioactive material was reported to have been disposed of in an unlined trench 50 feet long, 11 feet wide, and 8 feet deep in the vicinity of the rifle range, located at the north end of IR Site 1, west of the runway (TtEC 2007a).

Additional radium contamination was detected in 1979 in Building 400. Operations associated with radium dials at Building 400 were restricted to their removal and replacement with non-radioluminescent materials. Radium-contaminated benches, ducting, and drains were removed and disposed of off-site (page 6-12 of the HRA [Weston 2007]).

Disposal of radioluminescent devices containing radium was not controlled by specific procedures until the late 1960s. Before that time, it was common practice throughout private industry and the military to dispose of radioluminescent instruments and articles by burial in landfills. Other radionuclides were used in radioluminescent devices, but ^{226}Ra is the primary radionuclide of concern. This survey and previous radiation surveys by PRC Environmental Management, Inc. (PRC) (1997) and Supervisor of Shipbuilding, Conversion and Repair, Portsmouth (SSPORTS) (1999) substantiated these conclusions.

Preliminary radiological surveys were completed at IR Sites 1 and 2 in September 1995. In June 1996, a second preliminary radiological survey was conducted at a different area within IR Site 1 (PRC 1997). Based on results from the preliminary surveys, the SSPORTS Environmental Detachment conducted a more comprehensive radiological survey at IR Sites 1 and 2 in 1998 and 1999 (SSPORTS 1999). The results of these surveys showed that ^{226}Ra was present at IR Sites 1 and 2 in soils at levels above background. In 2004, Tetra Tech FW, Inc. conducted radiological characterization surveys at IR Sites 1 and 2 (TtFW 2005a,b). The primary objective of the surveys was to characterize the potential ^{226}Ra contamination that might be present by performing a 100 percent surface scan using 2-inch by 2-inch NaI detectors, as well as fixed gamma and exposure rate surveys, gamma energy analysis with a portable high-purity germanium (HPGe) system, and soil sampling. However, due to accessibility issues, neither the shorelines of IR Site 1 and 2 nor the former Radiological Shack area located within IR Site 2 were surveyed. During the radiological survey of IR Site 1, an elevated radiological reading was identified on the eastern boundary, which borders IR Site 32.

In 2006 Tetra Tech EC, Inc. (TtEC) performed additional radiological surveys. The primary objective of these surveys was to determine if elevated levels of radioactive material are present within IR Site 32, within the former Radiological Shack area at IR Site 2, and along the shorelines of IR Sites 1 and 2. The work performed included surface scans using 2-inch by 2-inch NaI detectors, static gamma measurements, exposure rate surveys by instrumentation and thermoluminescent dosimeters (TLDs), gamma energy analysis with a portable HPGe system, and soil sampling (TtEC 2007c).

Fifteen soil samples and two duplicate soil samples were collected at 15 locations within IR Site 32, within the former Radiological Shack area at IR Site 2, and along the shorelines of IR Sites 1 and 2. The sample locations were selected based on the results of the radiological surveys and represented those locations where survey data indicated the greatest elevation of radiation above established background levels. Soil samples were collected from zero to 20 inches bgs using a hand auger. Independent laboratory analysis indicated all but three samples had ^{226}Ra concentrations at or above the investigation level 0.559 picocuries per gram (pCi/g). The highest concentration of ^{226}Ra was 753 pCi/g. Two of the five soil samples analyzed for ^{90}Sr had reported concentrations that were greater than the method detection limit but did not exceed the project action levels. The highest concentration of ^{90}Sr was 0.211 pCi/g, which is below the

EPA Preliminary Remediation Goal for ^{90}Sr (0.331 pCi/g). In the reference background soil samples, ^{90}Sr was not found to be present at concentrations greater than the method detection limit. This section is only intended to summarize historical radiological characterization at IR Sites 1, 2, and 32. The final Characterization Reports for IR Sites 1, 2, and 32 (TtFW 2005a, TtFW 2005b, and TtEC 2007c, respectively) can be consulted for information on additional analysis.

In situ gamma spectroscopy was used to analyze the soil at the 15 locations with the highest elevated survey measurements. A review of these spectra indicated the presence of ^{226}Ra, which was substantiated by the laboratory sample results.

Static measurements of the shorelines of IR Sites 1 and 2 were collected using a 2-inch by 2-inch NaI scintillator encased in a polyvinyl chloride (PVC) capsule. Ten-second static measurements were collected from the edge of the riprap to the current water level at the grid points of the 10-foot grid projected on the shoreline. Scan measurements using the towed array or backpack system were performed at IR Site 32 and the former Radiological Shack area in IR Site 2. Scan measurements were also conducted in IR Sites 1 and 2 to fill in data gaps between the 2004 radiological characterization survey conducted by Tetra Tech FW, Inc.

1.6.3 Material Potentially Presenting an Explosive Hazard Characterization

IR Site 1

A radiological survey of IR Site 1 in 1998 resulted in the discovery of 335 live 20mm high-explosive (HE) projectiles and 2 small arms casings. These MPPEH items were thermally treated (explosive demolition) as a part of an Emergency Removal Action completed by Unexploded Ordnance (UXO) technicians from SSPORTS Environmental Detachment. A geophysical survey of the former pistol range was conducted subsequent to the Emergency Removal Action. The anomalies detected in the survey were not indicative of buried MPPEH, but were consistent with results expected for any survey of a landfill with known subterranean metal debris.

In 2001, prior to a geotechnical and seismic investigation at IR Site 1, a surface sweep for MPPEH was performed. The MPPEH characterization was conducted by Foster Wheeler Environmental Corporation (2002). During the investigation, UXO technicians conducted a 100 percent surface (exposed soil or grass) characterization of IR Site 1 to verify that no MPPEH was missed during the previous sweeps. MPPEH characterization activities performed at IR Site 1 identified 1,086 20mm target practice/inert projectiles and an empty 40mm grenade casing at five different locations. Most MPPEH was found in large groups in the vicinity of the former small arms range, but some was found in individual units.

Activities conducted on IR Site 1 in the years subsequent to the surface sweep discovered approximately 30 accumulated 20mm projectiles that percolated to the ground surface from debris pits after rain events or heavy surf.

IR Site 2

In 2002, prior to a geotechnical and seismic investigation at IR Site 2, a surface sweep for MPPEH was performed and MPPEH characterization was conducted (TtFW 2005b). During the investigation, UXO technicians conducted a 100 percent surface (exposed soil or grass excluding wetland areas) characterization of IR Site 2 to verify that no MPPEH was missed during the previous sweeps. During the surface characterization of IR Site 2, one anti-tank/anti-personnel inert land mine and one 20mm target practice projectile were found.

In addition to the surface characterization activities, a TCRA was performed in 2002 at the possible ordnance or explosive waste (OEW) Burial Site, a 2.3-acre area located at the southern part of IR Site 2. The site was excavated to a depth of 1 foot bgs, and the MPPEH and large debris were removed. The TCRA activities that were completed resulted in the removal and demilitarization of 8,882 20mm target practice projectiles and some miscellaneous munitions debris in the form of casing fragments (FWENC 2002).

IR Site 32

There is no history of MPPEH presence at IR Site 32.

1.7 REPORT ORGANIZATION

This report is organized as follows:

- Section 1.0 is the introduction, which describes the project objective, scope of work, and background of the sites.
- Section 2.0 describes removal activities at the sites.
- Section 3.0 presents data analysis and results.
- Section 4.0 discusses waste management.
- Section 5.0 summarizes data quality assessment.
- Section 6.0 describes project documentation.
- Section 7.0 lists the references cited in this report.

Tables and figures are under separate tabs following the text sections.

The following appendices are provided:

- Appendix A – Land Survey Data
- Appendix B – Biological Survey Summary Report
- Appendix C – Explosives Safety Submission (ESS) Determination
- Appendix D – Background Reference Area Static Survey Data

- Appendix E – Survey Area Gamma Spectroscopy Data
- Appendix F – Chain-of-Custody and Laboratory Analytical Reports
- Appendix G – Laboratory Analytical Results
- Appendix H – Instrument Calibration and Performance Check Data
- Appendix I – Radioactive Discrete Items
- Appendix J – Disposal Trench Post-Excavation Scan Data
- Appendix K – Photographic Log
- Appendix L – Field Change Request Forms
- Appendix M – Naval Ordnance Safety and Security Activity (NOSSA) Audit
- Appendix N – Demilitarization Verification
- Appendix O – Response to Comments

2.0 REMOVAL ACTIVITIES

The removal activities discussed in this section include mobilization, survey and removal preparation, geophysical survey, reference area selection, survey areas activities, excavation activities, post-excavation sampling, and a post-characterization survey. Excavation activities were planned to address the removal of previously identified radiological anomalies from IR Sites 1, 2, and 32. Additional excavation activities were within the scope of work for IR Site 1, including the removal of the former Firing-Range Berm, Debris Pit, and Disposal Trench. Excavations in these additional areas included MPPEH identification and removal in conjunction with the removal of identified radiological anomalies.

2.1 MOBILIZATION

All mobilization activities were coordinated with the DON. These activities included mobilizing support facilities, construction and radiation monitoring equipment, and miscellaneous materials. Mobilization activities began on February 2 and continued through March 14, 2007.

Temporary office facilities were set up on the former active runway area located between IR Site 1 and IR Site 2 and were used by project personnel throughout the project. The office facilities included a furnished 12-foot by 50-foot office trailer, a furnished 12-foot by 50-foot crew trailer, two 8-foot by 20-foot storage containers, portable toilets, a trash dumpster, an outdoor freezer for ice, and a parking area. Power was provided by a 55-kilowatt generator located between the two large trailers. Office equipment, such as laptop computers, a copy machine, and computer printers, was also available. Phone service was provided by cellular technology. A broadband satellite system was also installed for access to the Internet.

After the initial mobilization period, additional equipment and materials were mobilized to the site on an as-needed basis to minimize storage requirements. Equipment was selected and sized to perform the designated tasks associated with soil excavations, screening, surveys, transportation/disposal, backfill, and site restoration. The project files contain an inventory of the equipment used at the site and the associated daily checklist to assure the equipment was in working order.

2.2 SURVEY AND REMOVAL PREPARATION

2.2.1 Topographical Surveying

A licensed land surveyor, Coast Surveying, Inc., was contracted as part of the TCRA project and conducted land surveys of IR Sites 1, 2 and 32 features. During the TCRA period, the surveyors provided excavation boundaries and volume calculations for the former Firing-Range Berm,

Debris Pit, and Disposal Trench. In addition, the locations of characterization samples and specific site features were surveyed as requested by field management staff.

The surveyors performed all site surveys using third-order, Class I accuracy. Horizontal control (northings and eastings) was tied to the State Plane Coordinate System, based on the North American Datum of 1927, and vertical control (elevations) was tied to North American Vertical Datum of 1929, mean sea level. The topographic survey maps and copies of the survey coordinates, stamped by a California-licensed surveyor, are provided in Appendix A.

2.2.2 Clearing of Vegetation

TtEC was required to clear the vegetation in the work area, as defined by the scope of work, to conduct UXO clearances, and to perform radiological surveys. For the purpose of the TCRA, "clearing and grubbing" was defined as the cutting of grasses and brush to a height of 2 inches above the existing ground surface and minimum pruning of trees to provide access within the drip zone (i.e., base of the tree that lies within the circumference of the crown and contains the majority of the tree's root system). Field crews used a variety of equipment (e.g., Kubota skip loader with mower, brush trimmers, weed-eaters), as needed, to meet work objectives. All cut vegetation remained in place or was hauled to bare ground areas within the site limits.

2.2.3 Biological Monitoring

Biological clearance surveys were conducted prior to vegetation clearance and radiological/ MPPEH removal activities to ascertain the presence or absence of nesting birds and special-status species, including their habitats. Measures were then designed and employed to avoid, minimize, and/or mitigate project-related effects to comply with the Fish and Wildlife Coordination Act (Title 16 *United States Code* [USC], Sections 661 through 666c), *California Department of Fish and Game* (CDFG) *Code* sections, Endangered Species Act of 1973 (16 USC, Sections 1531 through 1543), Migratory Bird Treaty Act (16 USC, Sections 703 through 712), and other applicable and relevant regulatory requirements.

Field survey techniques were derived from previously implemented protocols that received regulatory approval from California State Lands Commission, CDFG, Federal Energy Regulatory Commission, Bureau of Land Management, and U.S. Fish and Wildlife Service for similar types of project activity disturbances.

On February 26, 2007, a TtEC Project Biologist performed the initial biological survey that examined all areas proposed for mowing and pruning prior to vegetation clearance. No active nests were observed during this survey. On May 2, 2007, a Project Biologist conducted a second biological survey prior to removal of a large eucalyptus tree in the Debris Pit area. The biologist verified that the tree contained no active nests and approved removal of the tree. Several geese nesting areas were also identified and delineated during this survey. Work personnel were given

briefings on the biological status of the sites and the appropriate mitigation and avoidance procedures.

On April 17, 2008, a Project Biologist conducted a third biological survey prior to performing vegetation clearance associated with the post-characterization survey. During this survey, several geese nests were observed and delineated. Field crews were reminded to avoid the areas until the eggs were hatched and the hatchlings gone. Biological reviews and site findings are presented in Appendix B.

2.2.4 MPPEH Survey

Prior to beginning work at IR Site 1, an ESS was approved by the DoD Explosives Safety Board to specify requirements for the removal of MPPEH at IR Site 1. In accordance with ESS procedures provided in Appendix C, UXO technicians marked the approximate boundaries of the debris field in order to restrict access to other project personnel due to the potential presence of MPPEH. A cursory visual inspection during the boundary marking detected multiple 20mm projectiles on the ground surface.

The two known boundaries of the debris field were San Francisco Bay to the west and the small arms range foundation to the south. A line parallel and approximately 100 feet offset to the foundation of the small arms range became the northern boundary of the debris field, and a line parallel with the shoreline that ran between the corner of the building and the small arms range foundation became the eastern boundary. The debris field (Debris Pit) is shown on Figure 2-1. Four UXO technicians assigned to the project formed a loose line abreast on the eastern boundary of the debris field, with the Senior UXO Supervisor (SUXOS) acting as the guide. The line proceeded east to west, following along the small arms range foundation. The UXO technician at the end of the line opposite the SUXOS marked his progress with pin flags placed every few feet, so when the shoreline was reached, a clear boundary to follow on the return path was in place. When the line of technicians reached the shoreline, the formation was reversed, and shifted down so the SUXOS could guide along the line of pin flags. This process was repeated until the entire surface of the debris field was covered. Several hundred 20mm target practice projectiles were recovered during this survey effort.

A subsequent quality control (QC) check of the debris field area recovered additional target practice projectiles, so the surface sweep was repeated with technicians completing the sweep on hands and knees. This additional surface sweep did not result in the recovery of any projectiles, which confirmed acceptance of the work.

2.2.5 Geophysical Survey

In early March 2007 and in accordance with the ESS, the UXO technicians performed an initial geophysical survey within Area 1A of IR Site 1. The initial geophysical survey was conducted over the former Firing-Range area and the suspected Debris Pit and Disposal Trench areas where subsurface anomalies were suspected to exist at the site.

A critical objective of the work was to provide a location and subsurface definition to the potential Disposal Trench within IR Site 1. The estimated location of the trench was adjacent to the northern half of IR Site 1, in an area bounded by the fence line on the north, and the Debris Pit and Radio Shack to the south. This area was selected for the geophysical survey due to debris detected above ground surface, as well as large surface depressions and a trench outline possibly caused by previous excavation and backfill activities.

Immediately prior to the geophysical survey, UXO technicians, the lead geophysicist, and a team of laborers visually swept the area planned for the survey and removed all metal at or protruding from the ground surface in order to increase the quality of the geophysical survey. Laborers then removed any vegetation of a height determined to affect the survey.

Where accessible, the entire Firing-Range Berm was surveyed. The incline of the northern slope of the berm was not surveyed due to the steep slope face and safety hazards associated with that part of the berm.

After interpretation of the initial geophysical data, an additional follow-up survey was deemed necessary by TtEC due to existing data gaps identified south of the suspected Disposal Trench area, areas near the east side of the former Firing-Range Berm, and adjacent to the former Radio Shack structure.

On May 12 and 13, 2007, a second geophysical survey was completed to populate the data gaps identified in the initial survey.

2.2.6 Geophysical Results

The equipment used for the geophysical surveys included a Geonics EM61 MKII time-domain electromagnetics (TDEM) system, which is certified under the Navy's Hazards of Electromagnetic Radiation to Ordnance (HERO) program. The TDEM system used for this project can detect small rebar at a depth of 1 to 2 feet bgs as well as a 55-gallon metal drum at a depth of 8 to 10 feet bgs.

Geophysical data were processed and interpreted using a combination of internally developed software in conjunction with Geosoft Oasis MONTAJ, commercial software used for processing and analyzing geophysical data. When the processing was completed, a color-coded image of the geophysical sensor data was generated as shown on Figure 2-1 (Geophysical Interpretation

Map). The color-coded image was used to identify geophysical anomalies that are likely representative of subsurface areas containing relatively large amounts of metal debris within the area surveyed.

The Disposal Trench and Debris Pit areas identified on Figures 2-1 and 2-3 were based on summarized data from the initial and second surveys, as well as historical information. The geophysical figure was provided to the DON, which resulted in agreement for locations to proceed with the initial excavations.

2.2.7 Background Reference Area Survey

The ambient gamma radiation background ("background count rate") at former NAS Alameda was determined to establish the TCRA radiological investigation level of 3-sigma above background. The background count rate was determined by performing measurements at systematic locations within the designated background reference areas. Figure 2-2 shows the locations of the background reference areas. The background reference areas were selected with the concurrence from the DON. Only areas that the DON has concluded were not impacted by historical activities at former NAS Alameda were selected for background reference areas. These measurements were neither a screening method nor a more definitive method (i.e., in situ gamma spectroscopy system); they simply established the ambient gamma radiation background for the survey instruments used to perform surveys.

Each NaI detector probe was held approximately 10 centimeters (4 inches) from the surface area at each background measurement location with in each background reference area and a 1-minute static measurement was collected. The average of all the ambient gamma background count rate measurements collected in the background reference areas was used to determine the background count rate. The background data collected by each NaI detector were reviewed to ensure that the detector was operating properly and that the data fell into the same distribution population. Appendix D.1 provides the static NaI background measurements. Section 3.1 provides a summary of the background data collected.

The ambient gamma background count rate was established for the NaI detectors mounted on the towed array by performing a 10-minute scan (using the towed array) in each background reference area. The background data collected by each NaI detector mounted in the towed array were reviewed to ensure that the detector was operating properly and that the data fell into the same distribution population. Appendix D.2 provides the scan background measurements for the towed array NaI detectors.

The ambient gamma radiation background exposure rate was established using the MicroRem meter. Each MicroRem meter was held waist high (approximately 3 feet) above each background measurement location within each background reference area and a measurement was collected. Each instrument was allowed to stabilize before background exposure rate

readings were recorded. The background data collected by each MicroRem meter was reviewed to ensure that the detector was operating properly and that the data fell into the same distribution population. Appendix D.3 provides the MicroRem meter background measurements.

Soil samples were collected at each background measurement location within each background reference area and analyzed by gamma spectroscopy to identify the concentration of naturally occurring radionuclides within the soil at former NAS Alameda. This sampling was performed as part of the survey activities during the 2004 radiological survey (TtFW 2004). Additional background soil samples were collected during this TCRA and analyzed for isotopic uranium and thorium to further identify the distribution of naturally occurring radionuclides in the soil at former NAS Alameda. Appendix G provides the background soil sample results. Section 3.1 provides a summary of the background data collected.

2.3 GENERAL RADIOLOGICAL WORK ACTIVITIES

The following sections describe specific work requirements that were adhered to during the TCRA activities. These requirements were specific to conducting work inside a radiological controlled area (RCA) as defined by the Radiation Safety Officer (RSO).

2.3.1 Radiological Work Permits

Radiological work permits (RWPs) were used to specify the appropriate personnel protective measures within the scope of the work based upon the radiological conditions in the area. The RWPs addressed radiological conditions, personal protection equipment (PPE) requirements, dosimetry requirements, as low as reasonably achievable (ALARA) considerations, and specific instructions to personnel. Before beginning work governed by an RWP, the Project Health Physicist (PHP) or Site Health and Safety Specialist conducted a pre-job briefing with the work crew in order to review and discuss the RWP requirements. All RWPs generated during the course of this project can be referenced in the DON project files.

2.3.2 Scan Surveys

Scan surveys were performed at each removal location as part of the survey approach to determine radiological contamination levels. The surveys were an evaluation technique performed by moving a detection device (an NaI scintillation detector) over a surface at a specified speed and distance above the surface to detect radiation. These surveys were used to identify areas that potentially required additional survey measurements. Appendix J provides scan survey data.

2.3.3 Static Surveys

Static surveys were performed at each removal location. These surveys were an evaluation technique performed by holding a detection device (an NaI scintillation detector) over a surface

for a specified time at a set distance. These surveys were used to verify the presence of elevated readings observed while performing a scan survey. Appendix I provides static survey data.

2.3.4 Exposure Rate Measurements

Exposure rate measurements were performed at each removal location. These surveys were used to measure ambient gamma radiation levels to ensure that worker exposure was maintained ALARA. The exposure rate measurements were obtained by holding the detection device, typically a Bicron Microrem meter. Appendix I provides exposure rate survey data.

2.3.5 Soil Sampling

Soil samples were collected to establish the residual ^{226}Ra activity in the soil to support the removal activities. Soil sampling activities were carefully controlled, with personnel collecting the sample, at a minimum, wearing gloves. Samples were surveyed for removable contamination before they were removed from the area to ensure that the contamination would not spread. The soil samples were packaged in containers specified by the analytical laboratory. Prior to release for shipment to the laboratory, each container was tightly capped, securely sealed, and clearly labeled. Prior to packaging for shipment, all sample containers were surveyed for alpha/beta contamination. Sampling results and data analysis are further detailed for this project in Section 3.0.

2.3.6 Gamma Spectroscopy

Gamma energy analysis using a portable HPGe system was performed to characterize recovered discrete items (i.e., point sources) and to qualitatively identify the presence of ^{226}Ra in collected soil samples. The field gamma spectroscopy instrumentation was used only to verify the radionuclides present in the soil samples. Actual quantification was performed by the off-site laboratory. Gamma spectroscopy acquisition data are presented in Appendix E.

2.3.7 Air Sampling

Airborne activity monitoring (continuous or grab samples) was used during the course of work to control occupational exposures, establish PPE, and determine respiratory protection requirements. Engineered controls were not required to maintain airborne concentrations below 10 percent of the applicable derived air concentration (DAC) value for ^{226}Ra (3.0E-11 microcurie per milliliter). During the course of work, airborne concentrations in excess of 10 percent of the DAC were not observed. Air sampling data can be referenced in the DON project files.

2.3.8 Dosimetry Monitoring

To support the monitoring, tracking, and recording of occupational whole-body radiation exposure, all personnel working directly with impacted material, including equipment operators,

were issued and required to wear a dosimeter. Only National Voluntary Laboratory Accreditation Program (NVLAP)-approved dosimeters from an NVLAP-certified provider were used.

2.4 EXCAVATION ACTIVITIES

Excavation of radioactive and MPPEH materials was performed in accordance with the TCRA Work Plan activities and sequencing (TtEC 2007b). Excavation activities included removal of the former Firing-Range Berm, Debris Pit, and Disposal Trench in IR Site 1. The Firing-Range Berm and Debris Pit removal was geared towards removal of suspected MPPEH but also included screening for radiological contamination. The Disposal Trench removal was geared towards removal of suspected radiological contamination but also included screening for MPPEH. In addition, excavations were performed throughout IR Sites 1, 2, and 32 (with the exception of Area 1A in IR Site 1) to remove surface/near-surface radiological anomalies that had been identified in previous radiological investigations.

2.4.1 IR Site 1 Soil Screening Pad

For excavated soils from the former Firing-Range Berm, the Debris Pit, and the Disposal Trench, two phases of soil screening were conducted. The first phase was to identify and remove radiological anomalies and impacted soil, and the second phase was to mechanically screen for MPPEH items. Once this screening was performed and any MPPEH was removed, the nonimpacted soil was placed in stockpiles for further sampling and waste characterization (Section 2.5.6). Radiologically impacted soil was placed in intermodal bins for further sampling and characterization by the DON's LLRW waste subcontractor for eventual disposal.

Radiological Screening

A 75-foot by 75-foot pad for screening (surveying) excavated soils and debris for radiological impact was constructed on the project site within the IR Site 1 area (Figure 2-3). The screening pad was located south of the former Firing-Range area overlying a former asphalt basketball court. The proposed pad area was inspected by the Radiological Control Technicians (RCTs) prior to installation to ensure that no anomalous readings within the subsurface were present that would affect future readings from the pad.

The screening pad was used to screen the soil/debris for MPPEH items and radiological sources. The screening pad was constructed of a 6-inch layer of asphalt surrounded by an approximately 8-inch curb. Soil and debris material removed from the excavation sites were transferred to the asphalt pad and spread into a 6-inch lift. Oversized material was removed and stockpiled separately within the IR Site 1 area. The remaining material was visually inspected by the UXO technicians and cleared of any suspected MPPEH. Upon that clearance, the RCTs performed a radiological scan survey using either a hand-held NaI detector or an all-terrain vehicle towed array of NaI detectors. Soil observed to have radioactivity present greater than the investigation level of 6,000 cpm was removed in accordance with the TCRA Work Plan (e.g., removed and

placed in a steel drum or roll-off bin). Screened soil that did not exceed the investigation level was transferred to an area for mechanical screening for MPPEH as described below.

Mechanical Screening for MPPEH

To fully evaluate the presence of MPPEH within excavated soils from the former Firing-Range Berm and Debris Pit (locations near the Firing-Range Berm where MPPEH was buried) in IR Site 1, a two-phased mechanical screening operation was performed during the TCRA. The purpose of the screening operations was to 1) separate excavated materials into size ranges (less than ¾ inch to +6 inches) that enable the technicians to thoroughly identify and remove any larger MPPEH pieces, and 2) to screen the less than ¾-inch material further into less than ¼-inch size to remove any smaller bullet-sized objects.

The mechanical screening operation was performed in IR Site 1 on the asphalt area east of the main north-south access road (Figure 2-3). The initial operation included the use of a 725 Powerscreen Trommel with a grizzly attachment. The unit was mobilized to the site on March 20, 2007, and was operational through May 10, 2007. Excavated soil and debris material moved from the radiological survey pad was transferred to the screening area and stockpiled. Using the 960 front-end loader, operators placed material into the grizzly attachment (an elevated steel structure containing a row of angled steel slates separated by 6 inches) that allowed the separation of +6-inch sized material from the less than 6-inch material. The less than 6-inch material was transferred, via the 960 loader, to the top of the trommel unit (a rotating cylindrical steel screen on a 30-degree angle with approximately ¾-inch openings). As the material passed through the rotating trommel unit, material less than ¾-inch in size fell through the openings onto a conveyor belt, which transferred the material to a stockpile. The ¾-inch to 6-inch sized material that passed through the trommel was collected at the bottom opening. Screening activities were supervised by observation from an adjacent platform fabricated with clear blast-proof sheeting. In addition, the technicians physically spread each stockpile and performed a 100 percent visual survey of the material.

The second phase of the operation included the use of a Chieftain 1400, ¼-inch screening plant. The plant was mobilized on-site on May 23, 2007, and remained operational through July 17, 2007. This equipment was used for screening the Debris Pit excavation material, as well as previously screened material from other areas and UXO-cleared ¾-inch material. The screened materials were transferred in 100-cubic-yard lots to the stockpile area, described in Section 2.4.2, for waste characterization sampling and eventual disposal.

2.4.2 IR Site 1 Soil Stockpiles

After material was screened and cleared for MPPEH and radioactive impacted materials, the excavated soils were placed in 100-cubic-yard stockpiles on eight soil stockpile containment pads. The pads were constructed in an approved radiological materials area (RMA) at the

concrete runway between IR Sites 1 and 2, and a small RMA area at Runway 13 immediately east of the mechanical screening area.

The stockpile containment pads were constructed of a 20-mil PVC liner overlain by 6 inches of fine sand. The ground surface was surveyed by a qualified RCT for the presence of radioactive materials prior to containment pad construction.

In accordance with the Stormwater Management Plan, the stockpile pads were bermed to prevent surface water runoff from coming into contact with the stockpiled material in accordance with the Resource Conservation and Recovery Act (RCRA) staging pile regulations of 40 *Code of Federal Regulations* (CFR), Part 264.554, and Section 25123.3 of the *California Health and Safety Code* provision for stockpiling of non-RCRA hazardous soil. An 8-inch-high sandbag berm was constructed surrounding the stockpile area. The 20-mil PVC liner was extended over the berms surrounding the individual stockpile pad. Soil stockpiles placed on the pads were covered with 10-mil plastic liner and secured with sandbags at the end of each workday to prevent rainwater contact with the stockpiled soil and to minimize wind dispersion of particulate matter.

Soil samples were collected from the stockpiled material at a frequency of 2 samples per 100 cubic yards of material. The samples were sent to an off-site laboratory and analyzed for metals and gamma spectroscopy, and 10 percent of the samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbon (PAHs), pesticides, PCBs, total petroleum hydrocarbons (TPH), UO_2, and ^{90}Sr. A summary of these analyses is provided in Appendix G. For the waste characterization conducted using these sample results, see Section 4.0.

2.4.3 IR Site 1 Excavation and Backfill of Former Firing-Range Berm and Debris Pit

Excavation activities in IR Site 1, as defined by the DON's scope of work, included the removal of the former Firing-Range Berm and Debris Pit (locations where MPPEH was buried). These areas were located during the geophysical survey previously described in this report. Excavations in these two areas required identification and removal of MPPEH, and identification and removal of radiological anomalies. The area features and associated excavations are identified on Figure 1-2. A larger view of the actual locations as determined by the geophysical survey is included on Figure 2-1.

The former Firing-Range Berm was an elongated soil berm located on the western boundary of IR Site 1 immediately adjacent to the former pistol and rifle range area (Figure 1-2). The feature was approximately 15 feet in height, 40 feet in width at the northern extent, and tapered to 1 foot in height and 5 feet in width approximately 500 feet to the south at the southern extent. This feature was included in the TCRA due to the high likelihood of lead and UXO contamination within the soil matrix.

Excavation of the Firing-Range Berm began on April 2, 2007, and reached site grade on May 8, 2007. Material identified in the excavation included soil and rock material mixed with MPPEH, wood, timbers, metal, and concrete debris. The excavation materials were sized, segregated, and disposed of depending on size and ability to release materials from the RCA.

Based on survey data, approximately 4,200 cubic yards of soil, rock, and some debris material was excavated from the berm. This material was screened for UXO and radiological anomalies that were segregated and handled in accordance with the MPPEH and radiological control guidelines. Screened soil that did not exceed the investigation level was transferred to an area for mechanical screening. Once the soil was mechanically screened, it was placed in stockpiles for waste characterization sampling as described in Section 2.4.2.

During excavation activities, oversized concrete materials greater than 12 inches were removed from the waste stream and stockpiled on a PVC liner in a designated area in IR Site 1. This material was surveyed and scanned by RCTs using hand-held equipment. After the DON review of field screening data, the material was released from radiological controls, in accordance with Standard Operating Procedure (SOP) 5, Release of Materials and Equipment from Radiologically Controlled Areas, and cleared for placement along the existing riprap shoreline at the western boundary of the site. Documentation of these surveys is provided in the project record. Approximately 320 cubic yards of concrete material was cleared and placed as riprap during this project period.

In order to terminate excavation activities on the Firing-Range Berm, TtEC was required to make a reasonable attempt to determine if additional subsurface UXO materials were present. On May 13, 2008, a second geophysical survey was completed in the IR Site 1 area. The survey filled in the data gaps from the original survey and also covered the exposed area of the former Firing-Range Berm. Based on the data collected, three areas were selected within the footprint of the former Firing-Range Berm that appeared to have anomalous readings on the map. TtEC informed the DON that three potholes would be excavated and inspected for MPPEH. Depending on those findings, the DON would determine if below-grade excavations were required. On May 31, 2008, the three potholes were completed, and it was confirmed that no MPPEH was present.

The Debris Pit described in the DON's Statement of Work was an approximate location but was considered to be an area of concentrated MPPEH materials. During historic field investigations at the site, abundant amounts of inert 20mm MPPEH that were exposed at the surface had been collected and removed. Site information also indicated that after turbulent weather associated with high tide events, additional MPPEH would be found at the surface. As described above, at the initiation of the TCRA activities, the UXO technicians verified surface exposures of the MPPEH and defined the area. To complete the excavation, a steel radio tower, once associated with the radio shack, and a large eucalyptus tree were required to be removed for health and

safety considerations. The two features were removed on May 7 and May 21, 2007, respectively, in accordance with the DON's acknowledgement.

Delineation of the Debris Pit was finalized on May 13, 2007, at the completion of the geophysical work, and land surveyors established the excavation boundary. On May 15, 2007, excavation activities began and continued through June 27, 2007, at which time the UXO technicians certified that no further MPPEH materials were evident within the approved Debris Pit boundary. The UXO technicians did report that additional MPPEH materials were present in a concrete sidewalk along the south excavation wall of the Debris Pit, and this information was shared with the DON. The DON acknowledged the information and indicated to TtEC that no further excavations were required based on their anticipated future remedial action in the area. The proposed preferred alternative to be identified in the IR Site 1 Record of Decision (ROD) for this area is a 4-foot soil cover.

UXO procedures adhered to during the excavation work were in accordance with the ESS prepared by TtEC and provided in Appendix C. The ESS addressed munitions response activities that were to be conducted at the Munitions Response Site (MRS) in accordance with the requirements of NOSSA Instruction 8020.15.

The ESS MPPEH remediation goals required that the former Firing-Range Berm and Debris Pit be excavated such that all debris and material were excavated until native soil or groundwater was reached to meet RAOs as defined in the AM (TtEC 2007a). Based on the results of past characterizations and removal actions, and for the purpose of the TCRA work, the item selected as the munition with the greatest fragmentation distance (MGFD) was the 20mm HE-filled projectile (M56A4), with a contingency MGFD based on a 40mm M406 grenade. These assumptions resulted in the establishment of the 200-foot exclusion zone arc employed during excavation and screening activities within the MRS area and the 500-foot quantity/distance arc in the magazine area in IR Site 2.

The TCRA approach for MPPEH removal included the following activities:

- A pre-vegetation cutting surface search of the area(s) around the former Firing-Range Berm, Debris Pit, and Disposal Trench and removal of metal objects
- A UXO technician-escorted vegetation cutting crew in the former Firing-Range Berm, Disposal Trench, and Debris Pit areas
- A geophysical survey of the former Firing-Range Berm and the area north of the small arms range bordered by San Francisco Bay to the west, the road to the east, and the fence line to the north
- The delineation of boundaries for the Debris Pit and the Disposal Trench based on the results of the geophysical survey

- The 100 percent mechanized removal of debris and material from the former Firing-Range Berm and Debris Pit

During the TCRA, all munitions-related materials were considered MPPEH until formally characterized under an inspection process. The purpose of the inspection process was to certify and verify if the MPPEH contained or did not contain explosives or energetic materials so the material could be assigned an explosives safety status of either *safe* (does not contain explosives or energetic materials) or *hazardous* (contains explosives or energetic materials). When the UXO technician determined the item was *safe*, the MPPEH was assigned an explosion contamination category of either 3X or 5X[1]. All 3X MPPEH was handled and treated as ammunition and explosives requiring segregation and placement in a locked magazine (M354), located in IR Site 2, while UXO activities were in progress. Items identified as 5X were no longer classified as MPPEH and segregated from the 3X items for storage in a separate magazine (M353) at IR Site 2. At the conclusion of UXO field activities, all 3X MPPEH was certified as safe and re-classified as 5X material. All 5X materials were transferred off-site to an approved facility that provided a Certificate of Destruction in accordance with guidelines in DoD 4160.21-M-1.

During the course of this TCRA, no munitions and explosives of concern were identified at any of the excavation sites.

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[1] MPPEH explosive contamination falls into one of four categories: 5X, 3X, 1X, and 0X. This terminology is used to indicate the degree of explosive hazard. Processes and procedures to attain these levels are determined locally. Definitions of the relevant categories are as follows:

- ***Category 5X.*** Items that have been completely decontaminated are entirely safe and may be released for general use, when certain provisions (demilitarization) are met. Items can only be classified 5X by visual inspection when every surface is visible and capable of being inspected. Visual inspection is only applicable to pieces of metal that have no holes, cavities, blind spaces or other obscured features, and probes are NOT used to inspect any blind cavities. Thermal or chemical processing is the most effective way to ensure that material is 5X. Items that are 5X are not MPPEH and have an explosive safety status of "safe."
- ***Category 3X***. Items that have been visually examined and no contamination can be visually noted on accessible surfaces or in concealed housings. Items that are 3X are expected to be free of explosives/energetic material, but not enough information is available to certify them as safe because of inaccessible cavities, or because the items have not been 100 percent inspected, or because the certification process is not complete. When there is the slightest doubt concerning the presence of explosive material, the material shall be subjected to whatever treatment is necessary to ensure that it has an explosives safety status as safe before it is released from government control. Items that are 3X may be treated in a variety of methods with written approval of operating procedures. Items that are 3X are MPPEH, and have an explosive safety status of "hazardous."

Removal of Radioactive Material

Radiological anomalies were excavated to remove all radium-impacted waste above background levels, in accordance with the RAOs. With regards to the former Firing-Range Berm and the Debris Pit, the primary objective of the excavations was to remove UXO materials. Excavations did not extend below groundwater.

To ensure that removal of all detectable radiologically impacted materials was accomplished, a three-step, 100 percent radiation-screening process was used during the excavation process in accordance with RWPs and Work Plans. The first step in this process was accomplished during the removal of soil in 6-inch lifts using armored earthmoving machinery. The length of each lift 6-inch varied based on field conditions. UXO technicians screened the soil prior to the excavation of each 6-inch lift using ordnance locators and visual methods. RCTs, using hand-held radiological instrumentation, surveyed the soil lift and identified radiologically impacted materials. These materials were segregated from the soil lift and stored in the IR Site 1 area for further characterization and disposition decisions.

The cleared excavated material was then transported to the 75-foot by 75-foot asphalt screening (survey) pad and laid out in a 6-inch layer. The volume of the material did not exceed 100 cubic yards.

Once the UXO technicians cleared the layer on the pad, the RCTs surveyed the layer for radiological anomalies. The radiological survey consisted of a 100 percent surface scan survey using the Laser-Assisted Ranging and Data System (LARADS) survey system in accordance with the TCRA Work Plan. This system consisted of four NaI detectors attached to a fabricated bar positioned 4 inches above the ground surface and attached to a four wheeled all-terrain vehicle containing power supplies and global positioning system (GPS) equipment. Following the removal of any radiological anomalies, the excavated material was then transported to the screening plant (trommel) for further MPPEH screening processing. This completed the second step in the survey process.

Originally the soil material was to be surveyed by RCTs when it exited the trommel equipment to complete the third step of the survey process. However, TtEC management, in agreement with the radiological group, determined it would be more efficient to delay the third radiological survey until all the soil materials had undergone mechanical screening with the trommel and the ¼-inch screening plant.

At the completion of the mechanical screening process, the ¾-inch to ¼-inch sized soil and the less than ¼-inch soil sized materials were stockpiled in 100 cubic yard piles in the stockpile pad area described above. Each stockpile received a discrete identifier. Once all the MPPEH-free soils were stockpiled the soil material was then transferred back to the asphalt screening in 100-cubic yard lots for the last radiological survey. This survey was conducted exactly as step two described above, and the cleared soil material was returned to the stockpile pad area to the same

location from which it had been removed. These stockpiles were then sampled for waste characterization purposes that included radiological analysis as described in later sections of this report.

Excavations requiring backfill in the former Firing-Range Berm consisted of the three test pits approximately 8 feet long by 8 feet wide by 6 feet deep. The Debris Pit consisted of an approximate 105-foot-long by 105-foot-wide by 2-foot-deep excavation that required backfilling. Based on the Work Plan, these excavations required backfilling with a material that was an approved source for use at Alameda Point.

At the time of the excavation, the only available borrow source was quarry fines from Stevens Creek Quarry. TtEC approached the DON with a value engineering proposal that would allow the use of selected screened material from the Firing-Range Berm and Debris Pit for backfill. Approximately 700 cubic yards of ¾-inch to 6-inch material, predominantly gravel to boulder-sized sedimentary and igneous rocks mixed with some minor debris, was created during screening (with no elevated radiological readings observed) and was originally characterized for off-site waste disposal. The DON and TtEC determined that it was not feasible to conduct representative chemical sampling for waste characterization purposes or representative sampling for gamma radiation due to the size and heterogeneous mixture of the material. Since it was impractical to sample and thoroughly demonstrate that the material was not radiologically contaminated, the DON, to err on the side of caution, would have to assume that the material was radiologically impacted and transport/dispose of the material as such at considerable expense (even though initial screening did not indicate radiological contamination).

On May 29, 2007, the DON agreed to allow TtEC to use the material in the Area 1A disposal area as backfill for the former Firing-Range Berm and the Debris Pit areas. The Area 1A disposal area contains known radiological anomalies that will remain in place as part of the remedial action, which requires the installation of a 4-foot soil cover over the entire boundary of the Area 1A disposal area.

Based on this approval, on June 1, 2007, three potholes at the former Firing-Range Berm were backfilled with the oversized material. On August 16, 2007, approximately 300 cubic yards of the oversized material was used to backfill the Debris Pit. The excavation bottoms were covered with orange safety fencing before backfilling for the purpose of identification during anticipated future site work by others.

2.4.4 IR Site 1 Excavation, and Removal and Backfill of Disposal Trench

Excavation activities in IR Site 1, as defined by the DON's scope of work, included removal of the feature defined as the Disposal Trench. The trench was cited in a 1983 IAS for NAS Alameda. There was no direct evidence of the Disposal Trench's location at IR Site 1 when the TCRA was initiated. However, based on previous investigations, the trench location was

estimated to be approximately 250 feet north of the former Firing-Range Berm. The IAS provided in the HRA indicates that radioactive material was disposed of in an unlined trench 50 feet long, 8 feet deep, and approximately 11 feet wide north of the Rifle Range, and approximately 50 feet north of the aboveground water outlet (page 6-44, Weston 2007; E&E 1983). This information and the elevated gamma scan readings previously observed at this location (1,000,000 to 1,500,000 cpm) provide the basis to conclude that this was the location of the unlined trench. As previously described (Section 2.2.5), TtEC completed a geophysical survey of the area, which provided evidence of the suspected location of the trench. Interpretation and analysis of the geophysical results leading to this location are described in Section 2.2.5 and are shown on Figure 2-1. Based on this data, the DON approved the location, and excavation activities began on June 5, 2007.

Excavation was performed in this area to remove identified radiological anomalies, debris, and impacted soil. UXO observers were present at the site during removal activities. No MPPEH was observed in the trench or trench spoils during the excavation period. A hazardous material (HAZMAT) emergency response subcontractor was procured in the event that buried drums were encountered during excavation activities. No drums were encountered and the HAZMAT subcontractor was not utilized.

Originally, excavation of the disposal trench was to be performed in a similar manner as the excavation of the former Firing-Range Berm. The surface would be scanned for radiological anomalies assumed as discrete items which, if found, would be removed along with 12 inches of soil surrounding the material. UXO observers would verify whether any MPPEH was encountered. Once the surface was cleared, the first 6 inches of soil would then be removed with earth-moving equipment and transferred to the asphalt pad for a radiological survey. Based on the historical evidence from previous investigations, no MPPEH was suspected within the area, and mechanical screening of the soil was not specified.

On June 5, 2008, prior to the start of excavation, the boundaries of the Disposal Trench were delineated and marked with survey tape. The area of the Disposal Trench had been previously cleared by UXO technicians for MPPEH, and work began in the northern section of the trench using hand excavation techniques in accordance with the RWP. Elevated gamma scan readings had been noted in the northern section of the trench in previous surveys. Excavation activities began in the northern portion of the trench and proceeded in a southerly direction using a combination of hand tools and a Cat 430 backhoe.

During the initial removal process, the excavation proceeded to a depth of about 10 to 12 inches bgs before a metal object was encountered. The contact dose rate on the metal object at the bottom of the pit was measured to be 9 milliroentgens per hour (mR/hr). The dose rate at 1 foot bgs was measured to be 1.5 mR/hr. The soil removed to this point was also contaminated. Shovels of soil were observed giving off 1 to 2 mR/hr readings. The contamination appeared to be distributed and uniform. Only one piece of debris was removed during this initial excavation:

a piece of metal that produced NaI measurements of approximately 700,000 cpm. Subsequent characterization for waste disposal confirmed that the elevated NaI readings were due to the presence of ^{226}Ra. Excavation activities were stopped to prevent the spread of contamination due to gusting winds. At the conclusion of the first work day, 29 drums were filled with radiologically impacted soils. No soils were cleared for transport to the screening pads due to elevated radiological readings. Based on these findings and the elevated level of radioactive soils remaining in the trench, the TtEC RSO terminated excavation activities to evaluate the Radiation Work Plan and develop a work instruction that would provide greater contamination control and worker protection. The increase radiological controls implemented are described below.

The area surrounding the trench and area where the disposal bins were staged were controlled as a contamination area with a separate entry/exit step-off pad. A sufficient width of plastic liner material was placed on both sides of the trench and waste container to contain spillage of material. Waste containers were staged to the northeast of the trench (i.e., upwind of the prevailing wind direction). A loader bucket (transfer vehicle) was lined with plastic. The liner extended beyond the sides of the bucket allowing a "burrito wrap" of material once loaded. The backhoe excavated from the north or south end of trench, and the loader bucket approached the trench from the upwind direction.

A water truck was outfitted with a "fog spray" nozzle and staged upwind of the trench. Water was "fog sprayed" to eliminate visible dust. If wind conditions were such that visible dust could not be eliminated, excavation activities were stopped. Workers performed their actions from upwind of source material to the maximum extent possible. The excavator and loader bucket were surveyed by the RCT on a routine periodic basis. If levels exceeded 20,000 disintegrations per minute (dpm) removable, the equipment was dry decontaminated (using masslin or other wipes) to less than 2,500 dpm or fully wrapped in plastic and left in the area for decontamination at later time before operations were resumed.

The RCT periodically performed a large area wipe survey of work area liner material. The liner was decontaminated using masslin wipes or replaced if gross contamination greater than 2,500 dpm was observed. A windsock was located upwind of the trench and clearly visible from the work location. Low-volume air samples were collected both up- and down-wind during all operations. Periodic high-volume workplace samples were taken at locations of the highest potential for resuspension of airborne material.

Between June 13 and August 8, 2007, the RSO and PHP prepared a specific work instructions document in order to proceed with activities at the Disposal Trench. The work instruction was presented to the DON on August 8, 2007, as Field Change Request (FCR) 15-017 and approved on August 16, 2007. Excavation and removal at the Disposal Trench took place between August 21 and September 5, 2007. The methodologies detailed in the work instruction and FCR were described in the preceding paragraphs. Air sampling is discussed in Section 3.6. Excavation

was performed in 6-inch lifts to specified depths. Groundwater was reached at approximately 6.5 feet below the original ground surface on September 5, 2007. The trench walls were cut at a 1.5:1 slope to allow access to the trench for radiological screening, resulting in a final excavation approximately 26 feet wide, 70 feet long, and 6.5 feet deep. On September 5, 2007, excavation of the trench was terminated after the excavation limits established in the Radiation Work Plan were reached.

Approximately 95 cubic yards of soil, rock, wood, and metal debris was removed at the completion of excavation activities. Only one radiological anomaly was recovered during the excavation (HS-27), which exhibited a contact exposure rate of 3 mR/hr. Approximately 20 cubic yards of soil was determined to be below the investigation level (i.e., less than 6,000 cpm) by the RCTs. This soil was surveyed in accordance with the Work Plan and subsequently transferred to the stockpile area for waste characterization. The remaining 75 cubic yards was determined to exceed the investigation level (i.e., greater than 6,000 cpm) and placed directly into intermodal bins as it was excavated. Approximately 8 cubic yards of radiologically impacted soils was placed in 29 steel drums at the initiation of the work. These drums were initially stored in steel roll-off bins, and then transferred to a steel container within the IR Site 1 RMA until intermodal storage and transport bins arrived at the site. After soil sampling, the 28 drums were eventually transferred into the intermodal bins. Based on laboratory analysis, one steel drum with elevated radioactivity readings remained segregated and stored in the IR Site 2 magazine until eventually removed off-site for disposal.

The majority of the soil removed from the Disposal Trench was radiologically impacted. The amount and type of debris were not consistent with historical descriptions of suspected trench contents (i.e., wood work benches, chairs, rags and other debris described in previous reports). The DON acknowledged the inconsistency but chose not to investigate adjacent areas since Area 1B is scheduled to be excavated in future contract task orders. This final remedial action will be determined in the ROD for IR Site 1, Area 1B, and will be designed to meet the RAOs.

On September 29, 2007, 10 soil samples were collected from the Disposal Trench walls and floor at locations specified in the Sampling and Analysis Plan (SAP) (Figure 2-4). In addition, between October 5 and 18, 2007, the entire trench surface was surveyed for radioactive contamination with a backpack system (a scan and static survey as described in Sections 2.3.2 and 2.3.3) that integrated GPS coordinate data with NaI readings. Collected soil sample data are available in Appendix G. Sampling results and data analysis are provided in Section 3.0.

As discussed in previous sections, TtEC was required to have a UXO Supervisor oversee all excavation activities at the Disposal Trench area. No MPPEH was observed during the course of excavation activities within the Disposal Trench area.

On October 26, 2007, after analysis of the radiological backpack survey was completed, the DON approved backfilling of the Disposal Trench. The sides and bottom of the trench were

covered with orange safety fencing, and the excavation was filled with the approved ¾-inch to 6-inch oversized material. Section 3.2.2 provides a discussion of the post-excavation characterization of the Disposal Trench. Figure 2-4 provides the sample locations and post-excavation scan survey of the Disposal Trench.

2.4.5 IR Site 1 Excavation, and Removal and Backfill of Outside Disposal Area 1A

In 2004 and 2006, TtEC conducted a radiological characterization survey at IR Sites 1, 2, and 32. The primary objective of the survey was to characterize potential ^{226}Ra contamination that might be present above background levels. These surveys covered approximately 100 percent of the obstruction-free surface areas at the three sites and identified specific locations of anomalous radiological readings above background levels. At the time the TCRA began, the main source of contamination was assumed to be discrete sources that had been disposed of or scattered during historical disposal of materials within IR Sites 1 and 2. Radioactive materials identified in IR Site 32 were believed to have been spread when disposal cells in IR Site 1 were disrupted during construction of Runway 13. These discrete items were inferred to be the cause of the anomalous readings collected during the 2006 radiological characterization survey at IR Sites 1, 2, and 32, and assumed to be buried just beneath the surface, allowing for removal by excavation.

The TCRA Work Plan initially provided justification based on other historical removal actions to require excavation of the area within a radius of 1.5 meters (diameter of 3 meters) surrounding the coordinate location of the suspected radioactive material. Soil removal would then continue until the source of the elevated gamma activity was removed or until a depth of 12 inches was reached. Following removal of the source of elevated gamma activity, an additional 12 inches of soil in all directions from the source would also be removed. However, to be consistent with how the DON performs overexcavation on other projects when removing radioactive contamination, FCR15-003 was generated to change the requirement to remove all soil within 1.5 meters surrounding the coordinate location. Instead, the locations were overexcavated by 12 inches and then surveyed to determine if further excavation was warranted. Copies of FCRs generated during the TCRA are provided in Appendix L.

On August 24, 2007, TtEC began the process of removing anomalies from the IR Site 1 area. Based on the 2004 and 2006 survey data, stakes were placed at areas of elevated readings utilizing GPS system data integrated with NaI detectors. Once the location was marked, a field crew followed up to perform the excavations. Excavations were conducted with a front-end loader, backhoe, and hand tools. Excavations were in accordance with the RWPs and Work Plan, and included air monitoring with low and high volume air samplers. The technical approach specified that the surface area would be scanned by the RCT, and the first 6 inches of soil in the area exceeding the investigation level (i.e., greater than 6,000 cpm) would be removed either by hand tools or the mechanical equipment. The soil was then placed in the front-end loader bucket, which was lined with plastic. Once the bucket was filled, the liner was wrapped around the soil and sealed. The material was then transferred to the intermodal bins.

As stated above, when excavation activities started, the technical approach assumed that a discrete item would be identified within the required 12 inches of adjacent material surrounding the anomalous location. Once the discrete item was removed, the approved procedure required the soil to be scanned again and verified as cleared. Once the removal area was cleared, a confirmation sample would then be collected from the excavation.

However, as excavation activities progressed, scenarios were encountered that contradicted assumed subsurface conditions. Excavation of multiple locations revealed no discrete items in the excavations, and extended step-outs of the excavation within the anomalous location did not ultimately result in the removal of subsurface materials that exceeded investigation levels. In several cases, elevated readings were encountered as the excavations increased in depth. At other locations, discrete items were uncovered and removed; however, the surrounding soil continued to exhibit elevated readings beyond a 2- or 3-foot-bgs depth. Contaminated overburden from the process of removing impacted materials resulted in an additional 10 to 50 cubic yards, depending on location.

The DON was notified of the varying subsurface conditions, which were interpreted as radiological contamination that was dispersed throughout the soil matrix. These anomalous areas exceeding investigation levels may represent discrete items that potentially disintegrated through weathering, or were areas where contaminated grit material or liquids were disposed of. Section 3.0 provides a description of the post-excavation conditions at each location and of any radiological anomaly recovered at each excavation. Alternate interpretations suggested that elevated readings could be naturally occurring due to characteristics of geologic materials historically used as fill at the site. TtEC was obligated under the Work Plan to remove soils with readings above the investigation level (i.e., greater than 6,000 cpm). Therefore, a significant increase in the volume of soil required for removal was anticipated in comparison with initial estimates approved by the DON. In October 2007, TtEC received approval from the DON to restrict the size of the future excavations to approximately 3 feet square by 2 feet deep, due to unknown characteristics of the remaining soil. Provisional radiological data would then be collected and analyzed for further assessment of subsurface conditions.

In November 2007, based on the conditions noted in the previous paragraph, the DON concluded that removing all radiologically impacted surface soils from IR Site 1, outside of Area 1A, was not economically practical within the scope of this project. Therefore, with the DON's input, TtEC prepared a technical revision to the existing procedures to further characterize subsurface materials by in situ radiochemistry sampling. On November 3 and December 5, 2007, FCR15-023 and FCR15-024 were submitted, which presented an excavation and characterization sampling program designed to evaluate site conditions and minimize excavation of soils with readings that were marginally elevated above investigation levels. These procedures were also applied to IR Site 2 and IR Site 32. The program limited all excavation sizes to 3 feet wide by 3 feet long by 2 feet deep while following the excavation guidelines in the FCRs. The size was

limited to minimize the extent of removal in areas with dispersed contamination. Large volumes of radiologically contaminated soil removal would be extremely costly, were not covered by the basic scope of this project, and might not be the most prudent approach for remediation. The basic procedure specified identification of an anomalous area, excavation of the highest documented reading, and survey of the area surrounding the excavation with an NaI detector backpack unit to mark the area as having readings above investigation levels. Once the data were reviewed by the RSO, depending on the size of the investigation area, one bias location in the excavation and a number of random locations from the surrounding area within the marked limits were identified for sampling. The random locations were staked by the land surveyors prior to sampling. The bias samples were located by selecting the highest reading in the excavation and then surveyed by land surveyors after the sample had been collected.

Between approximately August 24 and November 16, 2007, 62 areas had been excavated in IR Site 1. A total of 32 discrete radiologically impacted items had been found in approximately 19 excavations. The locations of the work areas are shown on Figure 2-5.

The RSO approved the backfilling of the excavations upon completion of sampling events. The backfill material consisted of quarry fines from the Stevens Creek Quarry in Cupertino, California. The Stevens Creek material was approved by the DON after review of the chemical and radiological data. Analytical testing of this material included the following: VOCs, SVOCs, pesticides, PCBs, TPH-purgeable, TPH-extractable, metals, gamma isotopes, ^{90}Sr, and uranium-238 (^{238}U). These results are provided in Appendix G. The backfill was placed with a backhoe in approximately 8-inch loose lifts and compacted with the backhoe bucket. The backfill was mounded at the completion of the filling operation to eliminate ponding of water. Once the backfilling was completed, the RCTs would scan the surface and remove the rope area with signage from around the excavation.

Several excavations were backfilled in January 2008; however, inclement weather late that month and into March 2008 delayed the completion of the work. The excavations were covered in plastic and backfilling was delayed until the excavations drained. On March 13, 2008, limited work at IR Site 1 resumed. On March 24, 2008, the excavations were drained sufficiently to complete the backfilling operation. The excavations in IR Site 1 were completed on March 26, 2008.

2.4.6 IR Site 2 Removal and Backfill of Impacted Material Areas

Survey by towed array within IR Site 2 began October 7, 2007, in order to locate anomalous areas that had been previously identified. The intent of survey was to relocate areas of elevated readings within the entire boundary of IR Site 2. However, the DON agreed on October 11, 2007, that additional excavation activities would not be required inside the perimeter of the IR Site 2 berm after reanalyzing data and taking into consideration that the area is largely a seasonal wetland. Within the IR Site 2 berm, the eastern portion of the area is a former disposal area, and the

western area is considered a jurisdictional wetland (Figure 1-3). Due to the circumstances in IR Site 1, where anomalous areas of elevated readings did not produce discrete items, the DON indicated the need to reconsider closure options. By October 11, 2007, five excavations inside the berm had been initiated. On October 15, 2007, the five excavations were backfilled (without collecting soil samples) with Quarry Fines, and no further work inside the berm was conducted.

Work in IR Site 2 after October 11, 2007, was conducted in areas outside the berm area. Towed array work in IR Site 2 was completed on October 30, 2007, and excavations were completed by November 20, 2007. The excavation activities were in accordance with the procedures specified in FCR15-023 and FCR15-024, as described in the previous section when IR Site 1 was discussed. The FCRs are also included in Appendix L. During the work period, 43 anomalous locations were excavated, and 10 discrete items recovered from 12 of the excavations. The excavation locations containing discrete items are shown on Figure 2-6.

After completion of the sampling event at IR Site 2, the RSO approved the backfilling of the excavations. The backfill material consisted of quarry fines from the Stevens Creek Quarry in Cupertino, California. The Stevens Creek material was approved by the DON after review of the chemical and radiological data. Analytical testing of this material included the following: VOCs, SVOCs, pesticides, PCBs, TPH-purgeable, TPH-extractable, metals, gamma isotopes, ^{90}Sr, and ^{238}U. These results are provided in Appendix G. The backfill was placed with a backhoe in approximately 8-inch loose lifts and compacted with the backhoe bucket. The backfill was mounded at the completion of the filling operation to eliminate ponding of water, and surface scanned to verify the absence of radioactive contamination.

As stated above, several excavations were backfilled in October 2007; however, inclement weather in February and March 2008 delayed further work. The excavations were covered in plastic, and backfilling was delayed until the excavations drained. On March 13, 2008, limited work at IR Site 2 resumed. On March 24, 2008, the excavations were drained sufficiently to complete backfilling. On March 27, 2008, excavations and backfilling in IR Site 2 were completed.

2.4.7 IR Site 32 Removal and Backfill of Impacted Areas

The towed array survey to locate anomalous areas previously identified began on November 20, 2008, with the exception of the five locations at the western boundary of IR Site 32 completed in October 2007. Towed array work in IR Site 32 was completed on December 20, 2007.

Excavations delineated by backpack survey at IR Site 32 began on November 27, 2007, and continued through January 16, 2008, when inclement weather restricted work in the area. On March 31, 2008, excavation and delineation activities resumed and were completed on April 1, 2008. The excavation activities were in accordance with procedures specified in FCR15-024 (explained in the IR Site 1 discussion and included in Appendix L). During this work period,

101 anomalous locations were excavated, and 37 discrete items recovered from 29 of the excavations. The excavation locations are shown on Figure 2-7.

At the completion of the sampling event in IR Site 32, the RSO approved the backfilling of the excavations. The backfill material consisted of quarry fines from the Stevens Creek Quarry in Cupertino, California. The Stevens Creek material was approved by the DON after review of the chemical and radiological data. Analytical testing of this material included the following: VOCs, SVOCs, pesticides, PCBs, TPH-purgeable, TPH-extractable, metals, gamma isotopes, ^{90}Sr, and ^{238}U. These results are provided in Appendix G. The backfill was placed with a backhoe in approximately 8-inch loose lifts and compacted with the backhoe bucket. The backfill was mounded at the completion of the filling operation to eliminate ponding of water. Once the backfilling was completed, the RCTs would scan the surface and remove the rope area with signage from around the excavation.

Initiation of backfilling began in January 2008; however, inclement weather in February and March 2008 delayed further work. The remaining excavations were covered in plastic and backfilling was delayed until the excavations dried out. On March 13, 2008, limited work at IR Site 32 resumed. On March 24, 2008, the excavations were dried sufficiently to complete the backfilling operation. The excavations and backfilling in IR Site 32 were completed on April 10, 2008, except for the gravel area around Building 594. Those activities are discussed below.

2.4.8 IR Site 32 Removal and Backfill of Gravel Layer

At IR Site 32 a horseshoe-shaped gravel area was located adjacent to Building 594. This area was characterized in the 2004 and 2006 characterization surveys as being completely covered with material with readings slightly above the investigation levels for the project. The gravel area was approximately 750 feet long and 50 feet wide, and contained 6 to 10 inches of medium-sized gravel material. The RCTs and Radiological Affairs Support Office (RASO) suspected that the high readings from the material were due to naturally occurring elements in the gravel and attempted to find a background reference area on the base with which to compare the material. However, several attempts to find a suitable area failed.

Without a suitable reference area, the gravel material could not be definitively characterized as naturally occurring material. A procedure was developed with DON approval to investigate the site further by directing field crews to remove any anomalous areas with readings greater than 10,000 cpm within the delineated area. One such location (exceeding 10,000 cpm) at the northwest corner of the area was removed on November 27, 2007. On December 4 and 5, 2007, soil samples were collected at 10 locations randomly selected from 0 to 6 inches bgs and 6 to 12 inches bgs. The gravel area was then bladed, the loose gravel collected and placed in a bermed area on 20-mil PVC liner, and then the gravel covered with 10-mil plastic sheeting. The bermed stockpile area was located on the concrete taxiway immediately northeast of the gravel area. Approximately 800 cubic yards of material was removed from the IR Site 32 gravel area.

The intent of the removal operation was to determine through survey and sampling that the readings exhibited by the gravel were caused by naturally occurring elements in the material. Once this could be determined, the gravel would then be placed back into the excavation.

Materials directly beneath the removed gravel layer consisted of fine- to-medium grained silty sand with gravel. Beginning on December 12, 2007, the excavated gravel area was resurveyed with towed array instruments. Based on results of the survey, several anomalous areas were located. Anomalous areas are areas that exhibit radioactivity above the investigation level (6,000 cpm). Even though the sample results from the December 4, 2007, sampling of the overlying gravel layer indicated that the gravel was not impacted by radiological material, three discrete items were found subsurface after the gravel was removed from this area. They are shown on Figure 2-7 and in photographs in Appendix I. Between February and March 2008, TtEC presented the DON with several alternatives for the final disposition of the gravel material, including disposal of the material as radiologically impacted waste, backfill for the original excavation, or relocation on-site.

TtEC recommended that the gravel be used to backfill the Area 1A in IR Site 1 with potentially impacted oversized material, based on previous approval by the DON. The DON agreed to the proposal with the stipulation that the material be placed in an area that had not been associated with radiological removal activities. This excluded Area 1B containing the Disposal Trench and Area 1A containing the former Firing-Range Berm and the Debris Pit. The DON, with regulatory agency acknowledgement, approved the placement of the gravel in an area on the east side of the main IR Site 1 access road on April 17, 2008. With the DON's input, TtEC generated FCR15-029 to describe the location for gravel placement since it had not been previously specified in the TCRA Work Plan. The FCR is included in Appendix L. Beginning on April 21, 2008, and concluding on April 23, 2008, TtEC moved approximately 800 cubic yards of gravel material to the designated area and spread the material in a uniform lift.

On April 10, 2008, TtEC began backfilling of the area where the gravel material had been removed at Building 594. The backfill material consisted of quarry fines from the Stevens Creek Quarry in Cuppertino, California. The material had been approved by the DON after review of the chemical data including radiochemistry analysis. Backfilling operations were conducted using a front-end loader, smooth drum roller, and water truck. The loader spread the fill material in loose 4- to 6-inch lifts, and the soil area was moistened with water from the water truck and then compacted to an unyielding surface with the smooth drum roller. On April 17, 2008, backfilling operations were completed in the area.

2.5 POST-EXCAVATION SAMPLING

Post-excavation sampling included the collection and analysis of samples from removal excavations in conjunction with a 100 percent high-density gamma scan performed at these

areas. Radiochemistry results from discrete sample locations and post-excavation gamma scan data are provided in Appendix G and Appendix J. HPGe scans are discussed in Section 3.5.

2.5.1 IR Site 1 Disposal Trench

As discussed in previous sections, the Disposal Trench excavation was completed on September 25, 2007. On September 29, 2007, 10 soil samples were collected from the trench walls and floor at spaced locations in accordance with the SAP. Eight samples were collected from the wall and two samples from the floor of the excavation. Samples were approximately 25 feet apart and at discrete locations.

Soil sampling protocol included the collection of soil with disposable instruments and placement of the soil in a 250-mil plastic jar. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. Soil sample jars were required to be swiped for radioactive contamination before leaving the IR Site 1 RCA. The soil samples were then stored in magazine 353 at IR Site 2 until they were analyzed with the HPGe system. The samples were cleared on October 9, 2007, and sent to an off-site laboratory for ^{226}Ra analysis. The off-site laboratory results for ^{226}Ra are provided in Appendix G.

2.5.2 IR Site 1 Radiologically Impacted Area

Soil sampling activities at IR Site 1 included the collection of confirmation and characterization samples in and around the anomalous location excavations within those areas outside the 1A and 1B disposal areas.

Soil sampling began on October 2, 2007, in accordance with the procedures presented in the SAP. Soil sampling protocol at that time included the collection of soil from 0 to 6 inches below the ground surface with disposable instruments and the placement of the soil in a 250-mil plastic jar. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. Soil sample jars were required to be swiped for radiological contamination before they were removed from the IR Site 1 RCA. The soil samples were then stored in magazine 353 at IR Site 2 until they could be analyzed with the HPGe system.

On October 18, 2007, new soil sampling procedures were implemented in accordance with FCR15-023 and FCR15-024 (previously described and included in Appendix L). Based on the ongoing excavations, TtEC confirmed that many of the anomalous location excavations did not contain discrete items as originally predicted. Excavations were exceeding the original size as required and continued to exhibit field readings above investigation levels. The DON evaluated interpretations of field data that indicated impacted soils may exhibit naturally occurring radium levels and not man-made gamma emitters. However, the field data were not sufficient to confirm if the elevated radioactivity was naturally occurring or man-made. Further characterization of site soils by additional sampling and analysis protocol was proposed to provide quantifiable laboratory results to confirm this theory. FCRs were generated to provide guidelines on excavation sizes and

delineation of investigation level contours, requirements for the collection of bias characterization samples at the bottom of excavations, and random characterization samples on the surface within the investigation level contour limits. Sample analyses for thorium and uranium were also stipulated.

Beginning on October 18, 2007, at each designated location, a sample would be taken at 0 to 6 inches and 6 to 12 inches bgs. As before, if an excavation was cleared in accordance with the original SAP, a confirmation sample would be collected at the location. Several of the samples collected between October 2 and 17 were in fact confirmation samples and did not require further investigation. However, many of the samples were in the questionable areas and required a second sample to be taken from 6 to 12 inches bgs. The dual depth sampling procedure continued throughout the IR Site 1 sampling period.

To analyze for the additional constituents and have the sampling procedures in compliance with the SAP, a revised SAP was required. The DON approved the continued collection of soil in accordance with the new procedures but would not allow the samples to be sent to the laboratory until the revised SAP was finalized. On December 5, 2007, the Final Addendum 2 to the SAP was approved by the DON, and those designated samples that had been analyzed by the on-site HPGe system began shipment to an off-site laboratory for analysis.

Soil sample teams consisted of two to three sample technicians in addition to an RCT. Prior to sampling, the excavation had been completed and the investigation level contour designated. In addition, a land surveyor had staked the locations of the random samples as determined by the RTCs. As the team approached an excavation, a hand-held NaI detector was used to locate the highest reading in the excavation for the bias sample. Once the bias characterization sample was collected, the technicians would proceed to collect the random characterization samples. The soil sampling protocols for the characterization samples required the use of a 2-inch nondisposable stainless-steel hand auger to collect the dual samples. The sample technicians collected the 0- to 6-inch bgs sample with the auger and placed the soil in a 250-mil plastic jar. The process would be repeated for the 6- to 12-inch bgs sample. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. The hand auger was decontaminated between each dual sample location, and an equipment rinsate sample was collected daily in accordance with the SAP.

Sample jars were required to be swiped for radiological contamination before leaving the IR Site 1 RCA. The water and soil samples were stored in magazine 353 at IR Site 2 until soil samples were analyzed with the HPGe system.

At the conclusion of sampling, each excavation area was delineated with 4-foot steel stakes and yellow/magenta rope. Signs indicating radiological hazards were attached to the rope, and the area was designated as a secondary RCA within the IR Site 1 primary RCA.

Between October 2007 and April 2008, 920 soil samples were collected for analysis by EPA Method 901.1 Modified, for gamma-emitting radionuclides. Biased and random soil sample locations are shown on Figure 2-8. Results for ^{226}Ra from off-site laboratory analysis for biased and random soil samples locations are provided on Figures 2-9 and 2-10. Laboratory sample analytical results are presented in Appendix G.

2.5.3 IR Site 2 Radiologically Impacted Area

Soil sampling activities at IR Site 2 included the collection of confirmation and characterization samples in and around the anomalous location excavations within those areas outside the disposal and permanent wetland areas.

Soil sampling began on October 24, 2007, in accordance with the SAP and the new soil sampling procedures presented in FCR15-023 and FCR15-024 (previously described and included in Appendix L).

Soil sample teams consisted of two to three sample technicians in addition to an RCT. Prior to sampling, the excavation had been completed and the investigation level contour designated. In addition, a land surveyor staked the locations of the random samples as determined, with each excavation area then delineated with 4-foot steel stakes and yellow/magenta rope. Signs indicating radiological hazard were attached to the rope, and the area was designated as an RCA/RMA requiring access in accordance with the RWP.

As the team approached an excavation, the RCT, using the hand-held NaI detector, would locate the highest reading in the excavation for the bias sample. Once the bias characterization sample was collected, the RCT would proceed to collect the random characterization samples. The soil sampling protocols for the characterization samples required the use of a 2-inch nondisposable stainless-steel hand auger to collect the dual samples. The sample technicians would collect the 0- to 6-inch bgs sample with the auger and place the soil in a 250-mil plastic jar. The process would be repeated for the 6- to 12-inch bgs sample. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. The hand auger was decontaminated between each dual sample location in accordance with the SAP. An equipment rinsate sample was collected daily.

Sample jars were required to be swiped for radiological contamination before leaving the IR Site 2 RCA. The water and soil samples were then stored in magazine 353 at IR Site 2 until the soil samples could be analyzed with the HPGe system.

To analyze for the additional constituents and have the sampling procedures in compliance with the SAP, a revised SAP was required. On December 5, 2007, the Final Addendum 2 to the SAP was approved by the DON, and those designated samples that had been analyzed by the on-site HPGe system began being shipped to the off-site laboratory for analysis.

Between October 24 and December 19, 2007, soil samples were collected at anomalous locations throughout IR Site 2. Biased and random soil sample locations are shown on Figure 2-11. Results for ^{226}Ra from off-site laboratory analysis for biased and random soil samples locations are provided on Figures 2-12 and 2-13. Laboratory sample analytical results are presented in Appendix G.

2.5.4 IR Site 32 Radiologically Impacted Area

Soil sampling activities at IR Site 32 included the collection of confirmation and characterization samples in and around the "anomalous location" excavations, including a gravel area around Building 594. Five soil samples were collected on October 18, 2007, at the west boundary of the site followed by the collection of 20 samples in the gravel area (see Section 2.5.5) on December 4 and 5, 2007. Sampling was in accordance with the SAP and the new soil sampling procedures presented in FCR15-023 and FCR15-024. On January 8, 2008, FCR15-026 was implemented to revise the sampling protocol at IR Site 32. FCR15-026 identified specific biased sample locations in IR Site 32. FCR15-026 was generated because backpack delineation data in the area revealed that the field readings indicated a high potential for "man-made" gamma emitters. These readings showed characteristics consistent with what would be expected of ^{226}Ra contamination from past naval operations, and not characteristics of natural gamma emitters seen in IR Sites 1 and 2. Based this and in consultation with the DON, the requirement for random samples was eliminated in lieu of biased sampling for IR Site 32. (See FCR15-026 in Appendix L.)

On January 22, 2008, 13 samples were collected in accordance with the revised SAP and FCR15-026. Excavation, delineation, and sampling work was discontinued from January 23 until March 12, 2008, due to inclement weather. From March 27 to April 2, 2008, the remaining 180 samples were collected from the IR Site 32 area.

Soil sample teams at IR Site 32 consisted of two to three sample technicians in addition to an RCT. Each excavation area was delineated with 4-foot steel stakes and yellow/magenta rope. Signs indicating radiological hazards were attached to the rope, and the area was designated as a RCA/RMA requiring access in accordance with the RWP.

As the team approached an excavation, the RCT using the hand-held NaI detector would locate the highest reading in the excavation for the bias sample. The soil sampling protocols for the characterization samples required the use of a 2-inch nondisposable stainless-steel hand auger to collect the dual samples. The sample technicians would collect the 0- to 6-inch bgs sample with the auger and place the soil in a 250-mil plastic jar. The process would be repeated for the 6- to 12-inch bgs sample. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. The hand auger was decontaminated between each dual sample location in accordance with the SAP. An equipment rinsate sample was collected daily. Sample

jars were required to be swiped for radiological contamination before leaving the IR Site 32 RCA.

The water and soil samples were stored in magazine 353 at IR Site 2 until the samples were approved by the radiological group to be shipped off-site. Prior to the collection of the IR Site 32 soils, all soil samples were required to have been analyzed by the on-site HPGe spectroscopy system. After reviewing the protocol and previous HPGe sample results from IR Sites 1 and 2, the DON acknowledged that the IR Site 32 samples did not require HPGe analysis. TtEC prepared FCR15-030 to remove the HPGe analysis requirement for samples, and on April 22, 2008, the remaining soil samples were shipped to an off-site laboratory without HPGe analysis. Biased and random soil sample locations are shown on Figure 2-14. Results for ^{226}Ra from off-site laboratory analysis for biased and random soil samples locations are provided on Figures 2-15 and 2-16. Laboratory sample analytical results are presented in Appendix G.

2.5.5 IR Site 32 Gravel Area

As discussed above, the gravel area around Building 594 in IR Site 32 was composed of a 6- to 12-inch layer of gravel that exhibited elevated gamma readings (8,000 to 15,000 cpm). TtEC was unable to identify a suitable background area for gravel to determine if the gravel represented nonimpacted materials; therefore, the gravel was sampled and removed to a stockpile area.

On December 4 and 5, 2007, soil samples were collected at 10 random locations in the gravel layer. At each location, a sample was collected from 0 to 6 inches below the surface and 6 to 12 inches below the surface.

The soil sample team at IR Site 32 consisted of two technicians in addition to an RCT. The soil sampling protocols for the characterization samples allowed the use of disposable sampling equipment. The sample technicians would collect the 0- to 6-inch bgs sample with the sampling tool and place the soil in a 250-mil plastic jar. The process would be repeated for the 6- to 12-inch bgs sample. The soil samples were numbered and labeled in accordance with the SAP and a chain of custody filled out. The disposable sampling tool was discarded between each dual sample location in accordance with the SAP.

Sample jars were required to be swiped for radioactive contamination before leaving the IR Site 32 RCA. The soil samples were then stored in magazine 353 at IR Site 2 until they could be analyzed with the HPGe system. On December 17, 2007, the samples were shipped to the laboratory. Although the results of the laboratory analysis indicated the gravel gamma readings were characteristic of natural occurring emitters, subsequent investigations of the soil beneath the gravel layer indicated the underlying soil was radiologically impacted. While the overlying gravel was not considered to be radiologically impacted, it was not practical to consider the

material for free release. The gravel material was instead transported to IR Site 1 and spread in an approximately 6-inch lift in an area that was designated for future capping.

2.5.6 Stockpile Characterization

During the TCRA work activities, a total of 64 stockpiles of non-radiologically impacted soil materials, designated for off-site disposal, were accumulated at the site. A list of the stockpiles is presented in Table 2-1. The stockpiles were approximately 100 cubic yards and were located in the two designated RMAs approved by the DON and RSO for stockpiles.

As described in previous sections, material excavated from the former Firing-Range Berm and Debris Pit was mechanically screened, and the material was determined to be stockpiled as non-radiologically impacted. The stockpiles were designated as either containing coarse or fine material. Former Firing-Range Berm soils less than ¼ inch in size were designated as FRB-F. Former Firing-Range Berm soils ¼ to ¾ inch in size were designated as FRB-C. Debris Pit soils less than ¼ inch in size were designated as DP-F. Debris Pit soils ¼ to ¾ inch in size were designated as FRB-C.

Excavation of the Disposal Trench generated two 10-cubic-yard stockpiles that were also placed in the designated stockpile area. The Disposal Trench soils were not required to be mechanically screened but were primarily silty sand with gravels less than ¾ inch in size with varying amounts of debris.

In addition to the above materials, 100-cubic-yard stockpiles of bedding sands were also accumulated in the stockpile area. The bedding sands had been used in stockpile liner systems within the IR Site 1 area as the buffer sand between the 20-mil PVC liner and the various soils that were excavated from the former Firing-Range Berm and Debris Pit and processed through the survey pads and screening plants. As the stockpile liner systems inside IR Site 1 were dismantled, the sand was accumulated, surveyed with the towed array system, and then placed in the stockpile RMA area. Twelve 100-cubic-yard stockpiles of the bedding sand soil, designated as BSS for sampling purposes, were accumulated in the stockpile area.

The 64 stockpiles were sampled for waste characterization in accordance with the SAP. The soil sampling protocols for the characterization samples required the collection of soil samples at two random locations on each 100-cubic-yard stockpile and the two 10-cubic-yard stockpiles. A two-man sampling team used a 2-inch, nondisposable, stainless-steel hand auger to collect the samples. The soil samples were numbered, labeled, and placed on ice in accordance with the SAP. A chain of custody was filled out as the samples were collected. The hand auger was decontaminated between each sample location, and an equipment rinsate sample was collected daily. Sample jars were required to be swiped for radiological contamination before being removed from the stockpile area.

All soil samples collected from the stockpiles were shipped on ice to the laboratory on the same day of sampling. The soils were analyzed for metals, including mercury, and gamma spectroscopy. Ten percent of the samples were analyzed for alpha spectroscopy, ^{90}Sr, explosives, VOCs, SVOCs, PAHs, pesticides, PCBs, Title 22 metals, TPH-purgeable, and TPH-extractable. Soluble Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP) were analyzed as required.

Decontamination water samples were also packaged in ice, sent to the off-site laboratory, and analyzed for VOCs, SVOCs, PAHs, pesticides, PCBs, Title 22 metals, TPH-purgeable, TPH-extractable, cyanide, gamma spectroscopy, alpha spectroscopy, and ^{90}Sr. Additional testing for STLC and TCLP was never required.

Sample analytical results are presented in Appendix G.

2.5.7 LLRW Characterization

The DON's LLRW waste subcontractor was responsible for confirmation analysis of materials that the TtEC RSO and DON had determined to be radiologically impacted, requiring removal and off-site disposal. Once the waste was characterized as radiologically impacted, the material was turned over to the DoD's LLRW subcontractor.

2.6 POST-CHARACTERIZATION SURVEY

Once all construction equipment and material were removed from the project site, the ground surface impacted by TCRA activities was surveyed for gamma-emitting radionuclides using NaI scintillation detectors. The area of the ground surface that was surveyed is shown on Figure 2-17. The results are discussed in Section 3.0. The data obtained from this survey were compared to the data collected during post-excavation scans to ensure that radioactive materials had not been relocated or additional radioactive contamination introduced into the areas where removal actions were performed.

2.7 DEMOBILIZATION

Demobilization of the site consisted of two phases of work. The first phase involved the decontamination of all project equipment and tools, free-release surveys, and the removal of temporary site facilities including office trailers and storage containers. The first phase was begun in December 2007 and completed in January 2008. The second phase was completed in August 2008 after completion of IR Sites 1, 2, and 32 post-characterization surveys, which were initiated in June 2008. Although TtEC support facilities were located in the IR Sites 5 and 10 areas starting in January 2008, TtEC conducted regular inspections of the IR Sites 1, 2 and 32 areas to ensure that fences and signs were secured. TtEC maintained responsibility for the sites until November 2008, when the entire area was officially returned to the DON.

2.7.1 Decontamination of Equipment and Free-Release Surveying

Prior to removal from the site, equipment and material were decontaminated in accordance with Appendix D-9, Decontamination of Equipment and Tools, of the TCRA Work Plan (TtEC 2007b). Heavy equipment was decontaminated by removing soil and dirt attached to the equipment surfaces. Materials such as plastic liners were packaged and transported for off-site disposal at an approved disposal facility. All exterior surfaces of temporary facilities and hand tools located within support zones were cleaned to remove soil and debris per the procedures presented in the SAP.

Radiological release surveys were performed on equipment used inside the controlled areas to verify that radiological release limits were not exceeded. SOP 5, Release of Materials and Equipment from Radiologically Controlled Areas, provided in Appendix D of the TCRA Work Plan (TtEC 2007b), was followed for the unconditional release of equipment. Release surveys were completed in April 2008.

3.0 DATA ANALYSIS AND RESULTS

3.1 BACKGROUND REFERENCE AREAS

Background soil samples and ambient gamma background measurements were collected at systematic locations within the designated background area. Figure 2-2 identifies the locations of the background reference areas. These background reference areas were selected with concurrence from the DON. Only areas that the DON has concluded were not impacted by historical activities at former NAS Alameda were selected for background reference areas. Collection of the background measurements is discussed in Section 2.2.7, and the data are provided in Appendix D for the NaI measurements and Appendix G for the soil samples. The accuracy and representativeness of the background data set are detailed in Section 5.0.

Table 3-1 provides the static background measurement collected and the ^{226}Ra activity in the background reference soil samples. The data were reviewed for outliers and evaluated to determine if the sample results were from the same statistical distribution.

3.2 IR SITE 1

This section discusses the data and results associated with survey activities performed at IR Site 1.

3.2.1 Firing-Range Berm and Debris Pit

Scan surveys of the Firing-Range Berm and Debris Pit soils were performed using an NaI detector prior to each 6-inch lift being removed from the berm. These surveys were performed to locate any discrete items prior to the material being sent to the scanning pad. Soil was removed from the berm in 6-inch lifts and loaded into dump trucks. The truck then transported the soil to the screening pad where is it was emptied and spread into a 6-inch layer. The soil was then surveyed using NaI detectors to identify any elevated radioactivity. If elevated radioactivity was observed, the area was remediated. If a discrete item was encountered, it was segregated from the soil and stored separately.

Sixty-two discrete items were recovered during the Firing-Range Berm and Debris Pit excavations. A spectrum was collected from each discrete item recovered using an HPGe detector system to verify the presence of ^{226}Ra. Appendix E provides the gamma spectroscopy reports and spectrums. Appendix I provides a listing of the discrete items recovered during excavation of anomalous locations. Those items recovered during the Firing-Range Berm and Debris Pit excavations are identified as “FRB” and “Debris Pit” in Appendix I.

3.2.2 Disposal Trench

The area demarcated as the Disposal Trench was surveyed using NaI detectors and the excavation performed in 6-inch lifts. Surveys were performed at each 6-inch layer. One discrete item was recovered during the excavation. The majority of the radioactive material encountered was uniformly dispersed in the soil matrix. A post-remediation scan survey was performed and soil samples collected prior to backfilling the excavation site. The soil samples were analyzed for ^{226}Ra, and the results are provided in Table 3-2. As indicated by the results in the table, ^{226}Ra is present at concentrations greater than the average background concentration of ^{226}Ra measured in the background reference areas.

Figure 2-4 identifies the sample locations and provides the post-excavation scan survey of the Disposal Trench prior to being backfilled.

3.2.3 Discrete Item Removal

Discrete item removal was performed in areas outside of Area 1A that had been identified during prior characterization survey activities in 2004 and 2006. Figure 2-5 identifies the locations where each discrete item was recovered. The remediation approach was based on the assumption that these areas of elevated radioactivity were discrete items buried near the surface (i.e., less than 1 foot in depth). The assumption was confirmed at a few locations. However, there were a number of locations where the radioactivity was more uniformly dispersed and near-surface discrete sources were not encountered. To better address the change in field conditions, FCR 15-024 was developed to address sampling when field NaI readings indicate a high potential for dispersed radioactivity levels that could be the result of a type of fill material (e.g., variations in naturally occurring radioactivity). The new approach described in FCR 15-024 used NaI detectors to identify the boundary around the location being investigated where the gross gamma measurements exceeded 6,000 cpm (the site investigation level). The area with the highest reading within the 6,000 cpm boundary was then excavated to a depth no greater than 2 feet.

Once excavation was completed, biased samples were collected in the excavation area, and random samples were collected within the 6,000 cpm boundary but outside of the excavation area. Figure 2-8 identifies the various areas and the associated 6,000 cpm boundary. As can be seen from the figure, the areas varied in size from a few square feet to several thousand square feet.

Figure 3-1 provides the post-excavation NaI measurements at each excavation location. Table 3-3 provides a summary of the pre-excavation, post-excavation, and post-backfill NaI measurements at each discrete item removal location in IR Site 1. The table also identifies discrete items recovered and the respective location and depth. Appendix I provides a photograph of each discrete item.

Both random and biased post-excavation samples were collected at IR Site 1 and analyzed for ^{226}Ra. Biased samples were collected at the location with the highest observed count rate using an NaI detector. Random soil samples were collected at random locations around the excavation area. Figure 2-9 shows the biased soil sample locations. Figure 2-10 shows the random soil sample locations. Table 3-4 provides a summary of all soil sample results for IR Site 1.

Table 3-4 shows that the average ^{226}Ra concentration for the biased samples is about twice the background reference area concentration. The ^{226}Ra concentration for the random samples is close to the background reference area concentration. However, the maximum measured concentration for the random sample set is much greater than the background reference concentration (i.e., 13.9 pCi/g versus 0.79 pCi/g).

Table 3-5 shows that the average ^{90}Sr concentration for the biased samples is essentially equivalent to the background reference area concentration. The ^{90}Sr concentration for the random samples is less than the background reference area concentration. However, the maximum measured concentration for the biased sample set from sample 15-488 at sample location IR1-B-15b is 1.56 pCi/g, which is greater than the maximum measured concentration in the background reference area.

Table 3-3 shows that discrete items were not recovered in areas 3, 4, and 8 identified on Figure 2-5. These three areas all exhibited elevated NaI gamma measurements that remained constant as the excavation depth increased. The elevated measurements in these areas are thought to be a result of the type of soil in these locations (e.g., different fill material). Tables 3-6, 3-7, and 3-8 present a summary of the soil sample ^{226}Ra results for areas 3, 4, and 8, respectively.

Tables 3-6, 3-7, and 3-8 show that the average ^{226}Ra concentration for both the biased and random samples is close to the background reference level. These data suggest that the elevated measurements observed in these areas are from variations in naturally occurring radioactive material in the soil. The samples results do not indicate elevated levels of ^{226}Ra.

Tables 3-9, 3-10, and 3-11 show that the average ^{90}Sr concentrations for the random samples are less than the background reference area concentration. None of the sample results were greater than the method detection limit.

3.3 IR SITE 2

IR Site 2 activities focused on confirming elevated areas identified by the characterization surveys in 2004 and 2006 and removal of discrete items located outside the disposal area. Figure 2-6 identifies the areas where excavation activities were performed at IR Site 2. Figure 3-2 provides the post-excavation NaI measurements at each excavation location. Table 3-12 provides a summary of the pre-excavation, post-excavation, and post-backfill NaI measurements at each excavation location. The table also identifies discrete items recovered and the respective location and depth.

Ten discrete items were recovered from IR Site 2. Figure 2-6 identifies the locations where each discrete item was recovered. Both random and biased post-excavation samples were collected at IR Site 2 and analyzed for ^{226}Ra. Biased samples were collected at the location with the highest observed count rate using an NaI detector. Random soil samples were collected at random locations around the excavation area. Figure 2-12 shows the biased soil sample locations. Figure 2-13 shows the random soil sample locations. Table 3-13 provides a summary of the sample results.

Table 3-13 shows that the average ^{226}Ra concentration for both the biased and random samples is close to the background reference level. However, the maximum measured concentration for both sample sets is much greater than the background reference concentration. The maximum measured concentration for the biased sample was 3.48 pCi/g, and the maximum measured concentration for the random sample was 7.59 pCi/g.

Table 3-14 shows that the average ^{90}Sr concentration for the biased and random samples is less than the background reference area concentration. Only sample 15-878 reported a result (0.99 pCi/g) greater than the method detection limit.

3.4 IR SITE 32

IR Site 32 activities focused on confirming areas identified by the characterization surveys in 2004 and 2006 and removal of discrete items located outside of the disposal area. Figure 2-7 identifies the areas where excavation activities were performed at IR Site 32. Figure 3-3 provides the post-excavation NaI measurements at each excavation location. Table 3-15 provides a summary of the pre-excavation, post-excavation, and post-backfill NaI measurements at each excavation location. The table also identifies discrete items recovered and the respective location and depth.

Thirty-seven items were recovered from IR Site 32. Figure 2-7 identifies the locations where each discrete item was recovered. Both random and biased post-excavation samples were collected at IR Site 32 and analyzed for ^{226}Ra. Biased samples were collected at the location with the highest observed count rate using an NaI detector. Soil samples were collected at random locations around the excavation area. Figure 2-15 provides the biased soil sample locations. Figure 2-16 provides the random soil sample locations. Table 3-16 provides a summary of the sample results.

Table 3-16 shows that the average ^{226}Ra concentration for the biased samples is about twice the background reference area concentration. The ^{226}Ra concentration for the random samples is close to the background reference area concentration. However, the maximum measured concentration for the biased and random sample set is greater than the background reference concentration (i.e., 12.9 pCi/g and 1.06 pCi/g versus 0.79 pCi/g).

Table 3-17 shows that the average ^{90}Sr concentration for the biased and random samples is less than the background reference area concentration. None of the sample results were greater than the method detection limit.

3.5 FIELD GAMMA SPECTROSCOPY

Gamma energy analysis using a portable HPGe detector system was performed to characterize each discrete item recovered to qualitatively identify the presence of ^{226}Ra. The field gamma spectroscopy results confirmed that ^{226}Ra was the radionuclide of concern. The output reports for the gamma spectroscopy measurements are provided in Appendix E, and the discrete items are listed in Appendix I.

3.6 AIR SAMPLING

Airborne activity monitoring (continuous and grab samples) was conducted during the course of work in accordance with SOP 12, provided in Appendix D of the TCRA Work Plan, to control occupational exposures, establish PPE, and determine respiratory protection requirements, monitoring, and trending for airborne radioactive material. During the course of work, airborne concentrations did not exceed 10 percent of the applicable DAC value for ^{226}Ra (3.0E-11 microcurie per milliliter). Air sample logs can be referenced in the DON project files.

3.7 POST-CHARACTERIZATION SURVEY

A ground surface survey for gamma-emitting radionuclides was conducted after completion of construction activities to verify potential radiological impacts from TCRA activities. These areas were surveyed using a towed detector array of four NaI detectors. Figures 3-4, 3-5, 3-6, and 3-7 provide the final scan survey for IR Site 1, IR Site 2 (north), IR Site 2 (south), and IR Site 32, respectively. These figures show that radioactive material has not been relocated or additional contamination introduced into the areas used to perform the removal actions.

3.8 MATERIALS, EQUIPMENT, AND INVESTIGATION-DERIVED WASTE SCREENING

A radiological release survey was performed on equipment used inside the controlled areas to verify that radiological release limits were not exceeded. The amount of removable radioactive material per 100 cubic centimeters of surface area was determined by wiping the area with dry filter or soft absorbent paper and evaluating the wipe for alpha and beta-gamma activity using the sample in a low-background scaler. SOP 5, Release of Materials and Equipment from Radiologically Controlled Areas, provided in Appendix D of the TCRA Work Plan, was followed for the unconditional release of equipment. The following release criteria were applied to the release of equipment and material:

- Removable alpha contamination, determined by smearing with a dry filter: 20 dpm/ 100 square centimeters (cm^2)
- Fixed alpha contamination based on an area of not more than 100 cm^2: 100 dpm/ 100 cm^2
- Removable beta/gamma contamination, determined by smearing with a dry filter: 200 dpm/100 cm^2
- Fixed beta/gamma contamination based on an area of not more than 100 cm^2: 1,000 dpm/100 cm^2

Copies of materials and equipment release surveys are provided in the formal DON project files.

3.9 CONCLUSION

Items and soils contaminated with ^{226}Ra were identified and removed from IR Sites 1, 2, and 32. However, the horizontal and vertical extent of contamination was greater than expected and complete removal was not feasible. Current field conditions indicate that ^{226}Ra contamination is still present throughout the IR sites. Therefore, IR Sites 1, 2 and 32 will continue to be fenced off (including the shoreline along these sites), and access to these sites will be controlled. In addition, radiation surveys of personnel and equipment exiting the areas will be conducted when any intrusive activities are performed in these IR sites. Furthermore, the IR site fence line is intact and the proper radiological postings are present.

While the DON understands that the data presented in this report do not fully characterize and quantify radiological constituents for purposes other than this TCRA, the data collected do support the removal action (see the final TCRA Work Plan, Table B3-1, Appendix B, Summary of Data Quality Objectives [TtEC 2007b]).

The remaining radiological contamination within IR Sites 1, 2, and 32 will be addressed under the remedy selected in the corresponding ROD for each site.

4.0 WASTE MANAGEMENT

4.1 WASTE DESCRIPTIONS AND CLASSIFICATION

Waste streams associated with the removal activities at IR Sites 1, 2, and 32 are categorized and described as follows:

- Type 1 – Non-radiologically impacted contaminated soil (RCRA and non-RCRA hazardous waste) excavated during the removal action and bedding sand
- Type 2 – Non-radiologically impacted nonhazardous soil excavated during the removal action and bedding sand
- Type 3 – Non-radiologically impacted oversized debris (concrete and metal) and decontaminated metal drums (used during the TCRA for temporary PPE and soil storage purposes)
- Type 4 – Wastewater from sampling equipment decontamination
- Type 5 – Used polyethylene covers and liners from non-radiologically impacted soil stockpile pads
- Type 6 – Nonhazardous solid waste, such as trash and construction debris
- Type 7 – Demilitarized MPPEH
- Type 8 – Oversized (¾- to 6-inch) debris material from the mechanical screening operation, cut vegetation, and the IR Site 32 gravel that remained on-site
- Type 9 – LLRW including soil, point sources (discrete items), oversized debris (rock, wood, piping, concrete, and scrap metal), PPE, and polyethylene liners from soil stockpile pads in the RCA

The classification of the waste streams was determined by the Project Chemist, Regulatory Compliance Specialist, RSO, or the DON. The method of the classification of these materials is described below.

Type 1 and 2

The Type 1 and 2 materials were soil materials sampled and analyzed from the non-radiologically impacted soil stockpiles. The results of the analytical tests were reviewed by the Project Chemist, Regulatory Compliance Specialist, RSO, and DON. The stockpiles were designated as either RCRA hazardous, non-RCRA hazardous, or nonhazardous. The DON and the RSO reviewed the laboratory radiological data and verified the soils were non-radiologically impacted and could be removed from the site for disposal purposes.

The Type 1 and 2 materials also included bedding sand. The non-radiologically impacted excavated soils were placed on a stockpile pad system consisting of a 6-inch layer of bedding

sand over a 20-mil PVC liner. Depending on the results of the characterization of the soil, all the material composing the stockpile (plastic cover, excavated soil, bedding sand, and PVC liner) were classified the same. For example, if a soil pile was classified as a RCRA waste, the plastic cover, the soil, the bedding sand, and the plastic liner were all removed from the site and treated as RCRA waste.

Type 3

The Type 3 materials consisted of large pieces of concrete and metal removed from the site surface or the excavations, which could be tested by the RCTs on-site and free released.

During the removal process, large concrete material greater than 12 inches was segregated and stockpiled in the northern portion of the IR Site 1 RCA. As time permitted, individual concrete pieces were placed on plastic sheeting, given an "ID" by the RCT, had swipe samples collected/tested, and were scanned with hand-held radiological equipment. Based on this data, the Type 3 concrete pieces were determined by the DON to be non-radiologically impacted and were free-released. The DON allowed the concrete to be placed as riprap along the western shoreline of IR Site 2 immediately west of the former Firing-Range Berm outside the RCA boundary. Approximately 320 cubic yards of concrete was removed during this process.

In addition to concrete, some large sized metal debris including scrap metal, a former radio tower structure, and metal drums (used during the TCRA for temporary PPE and soil storage) were segregated at the sites. The RCTs were able to free release these materials in a manner similar to the concrete release. The free released metal was placed in a metal recycling bin and eventually taken to an off-site metal recycling facility. Approximately 1 ton of material was removed from the sites.

Type 4

The Type 4 materials consisted of decontamination water collected during the soil sampling activities. The results of the analytical test were reviewed by the Project Chemist, Regulatory Compliance Specialist, RSO, and DON. The Project Chemist reviewed the data for accuracy and supervised the transfer of data from the laboratory. The Regulatory Compliance Specialist reviewed the data with the Project Chemist and determined the water was nonhazardous. The RASO and the RSO reviewed the laboratory radiological data and verified the liquids were non-radiologically impacted and could be removed from the site for disposal purposes. A total of six 55-gallon drums were removed from the sites during the TCRA.

Type 5

The Type 5 material consisted of the used 10- and 20-mil polyethylene sheeting from non-radiologically impacted soil stockpile covers and liners, respectively. As described above, the non-radiologically impacted soils were placed on a stockpile pad system and characterized.

Depending on the results of the characterization of the soil, all the material composing the stockpile (plastic cover, excavated soil, bedding sand, and PVC liner) were classified the same. For example, if a soil pile was classified as a RCRA waste, the plastic cover, the soil, the bedding sand, and plastic liner were all removed from the site and treated as RCRA waste.

Type 6

The Type 6 material consisted of nonhazardous solid waste, such as trash and construction debris. Any nonhazardous waste generated outside the RCA was placed in proper refuse containers and removed on a regular basis by the City of Alameda waste contractor.

Type 7

The Type 7 material consisted of the demilitarized MPPEH collected and characterized during the TCRA by the UXO technicians. At the conclusion of the UXO activities, a total of fifteen, 55-gallon drums and one 2-gallon container were filled with 5X MPPEH scrap, which had been demilitarized. The total weight of the scrap was 2,199 pounds.

Type 8

The Type 8 waste included the oversized (¾- to 6-inch) debris material from the mechanical screening operation, cut vegetation, and the IR Site 32 gravel. As described in earlier sections, these materials were permitted to remain in the 1A disposal area of IR Site 1. The oversized debris was used to backfill the Debris Pit excavation and was spread in the former Firing-Range Berm area. The large tree removed from the Debris Pit area was felled in place, cut into large pieces, and consolidated in a pile. The gravel layer removed from IR Site 32 was placed in a designated area of IR Site 1.

Type 9

The Type 9 waste included all the materials that the RSO and DON had determined to be LLRW and could not be free-released. These items were placed directly into intermodal bins, drums, and B-25 boxes for off-site removal. The waste debris included soil, rock, wood, concrete, metal, plastic sheeting, PPE, and discrete items that were either excavated or used during the TCRA. A total of 88 intermodal bins, four 55-gallon drums, and one B-25 container were filled during the TCRA and transported off-site by the DON's waste broker to an approved facility that handled LLRW.

4.2 WASTE ACCUMULATION AND STORAGE

4.2.1 Soil Stockpiles

The soil stockpiles that contained the non-radiologically impacted materials (Type 1 and 2 waste) were located at two approved RMA areas at the IR Site 1 area. As soil was generated

from the TCRA, and after the soil material had been mechanically screened and surveyed for radiation and UXO, the material was placed in 100-cubic-yard stockpiles (except for the two 10-cubic-yard stockpiles from the Disposal Trench) in the RMAs. The stockpiles were placed on eight separate bermed stockpile liner systems (Type 5 waste), which consisted of 10- to 12-inch sandbag berms draped with 20-mil PVC liner and 6 inches of fine-grained bedding sand spread over the liner. Nine soil stockpiles were located in the Runway 13 area on one liner system, and the remaining 55 stockpiles were located on seven separate liner systems in the Runway 7 RMA between IR Site 1 and IR Site 2. Each stockpile had a unique name identifier painted on the plastic stockpile cover, documented as provided in Table 2-1. When the waste characterization results were verified, the stockpile cover was spray painted with an orange, green, or white patch to indicate whether the pile represented RCRA hazardous, non-RCRA hazardous, or nonhazardous materials, respectively.

4.2.2 Wastewater

Wastewater (Type 4 waste) collected from the TCRA included decontamination water from the waste characterization sampling activities. These waters were accumulated in 55-gallon closed-topped drums and stored in a bermed area within Runway 7 until the water was analyzed and approved for off-site removal.

4.2.3 Non-Radiologically Impacted Oversized Debris

Non-radiologically impacted oversized concrete debris (Type 3 waste) removed from the various excavations was placed as riprap along the IR Site 1 shoreline.

Non-radiologically impacted metal debris and decontaminated metal drums (used during the TCRA for temporary PPE and soil storage purposes) [Type 3 waste]) were placed in metal recycling bins for off site recycling purposes.

4.2.4 Non-Radiologically Impacted Solid Waste

Nonhazardous solid waste, such as trash and construction debris (Type 6 waste), was collected in appropriate containers and removed from the site by the City of Alameda Solid Waste Department on a regular basis.

4.2.5 Non-Radiologically Impacted Demilitarized MPPEH

During the TCRA, all MPPEH collected by the UXO technicians was identified as either 3X or 5X and accumulated daily in the field for transport to magazine 354. MPPEH was placed in 55-gallon drums for temporary storage in magazine 354 and inventoried at the end of each day in accordance with the ESS. At the conclusion of UXO excavation activities, the 3X material in magazine 354 was verified as being 5X, and all MPPEH was transferred to magazine 353. The 5X MPPEH was demilitarized (Type 7 waste), inspected, and weighed. Fifteen 55-gallon drums

and a 2-gallon container of MPPEH remained in storage at magazine 353 until transfer to an off-site recycling facility. Three practice bombs shown in Appendix K (P8220056) were demilitarized by crushing them and then were disposed of with the rest of the accumulated metals.

4.2.6 Radiological Point Sources

The radiological point sources (Type 9 waste) were identified as "discrete items" throughout the TCRA. These items when identified in the field were segregated from the soil material and given a unique ID. The item was described by the RCT, scanned by hand-held radiological equipment, placed in a plastic bag (if size appropriate), photographed, and inventoried. At the end of the work day, the discrete item was placed in a 55-gallon drum inside magazine 353. During the TCRA, each discrete item was analyzed by the on site HPGe equipment. Appendix I provides an inventory of the discrete items collected during the TCRA.

4.2.7 Radiologically Impacted Materials

The majority of the LLRW (Type 9 waste) collected at the site was placed directly into 20-cubic-yard intermodal roll-off bins with locking lids for off-site removal. The intermodal bins were provided by the waste broker and staged in the approved IR Site 1 RMA after receiving a receipt survey by the RCTs. During the TCRA, the intermodal bins would be transported to the active work areas as materials were being generated. A representative from the approved waste broker would observe and inventory the materials being placed into the intermodal bins. When the bins were full, they would be transported back to the RMA. During the TCRA, 88 intermodal bins were filled with LLRW materials for off-site disposal. In June 2008, the DON reached a decision to relocate bins remaining during the Post-Characterization Survey to a new RMA at IR Site 10. All intermodal bins were removed from the sites by August 2008.

For categorization purposes, other LLRW also included the oversized (¾- to 6-inch) debris material from the mechanical screening operation, cut vegetation, and the IR Site 32 gravel (Type 8 waste) that was allowed to remain on site. These materials were accumulated in the posted IR Site 1 area where they remain.

4.3 WASTE TRANSPORTATION AND DISPOSAL (NON-RADIOLOGICALLY IMPACTED MATERIALS)

TtEC was responsible for off-site shipping of RCRA, non-RCRA hazardous, and nonhazardous waste streams resulting from TCRA activities at IR Sites 1, 2, and 32 at Alameda Point. The landfill facility and the transporter and disposal contractor were subjected to the TtEC subcontractor qualification process. Under no circumstances did TtEC personnel sign hazardous waste manifests. Personnel having the required Department of Transportation (DOT) training performed all DOT functions.

The shipment of hazardous wastes off-site for disposal was in accordance with the DOT Hazardous Material Transportation regulations of 49 CFR, Parts 171 through 177, and 40 CFR, Part 262, Subpart B; and Title 22 *California Code of Regulations* (CCR) Section 66262. These regulations involve packaging, placarding, labeling, and manifesting requirements. The shipment was also in accordance with appropriate land disposal restriction (LDR) certification notices per 40 CFR, Part 268 and 22 CCR, Section 66268.

As of the date of this report, the non-radiologically impacted oversized concrete debris (Type 3 waste) material from the excavations remains as riprap along the IR Site 1 shoreline.

4.3.1 RCRA Hazardous Material

At the completion of the TCRA, a total of nineteen 100-cubic-yard stockpiles and one 10-cubic-yard stockpile of RCRA hazardous (lead) waste (Type 1 and 5 waste) were accumulated. Between November 8 and November 30, 2007, 2,700 tons of RCRA waste was transported to and disposed of at the Kettleman Hills Landfill in Bakersfield, California. The waste was lead impacted and required solidification at the landfill prior to disposal.

4.3.2 Non-RCRA Hazardous Material

At the completion of the TCRA, a total of thirty-six 100-cubic-yard stockpiles and one 10-cubic-yard stockpile of non-RCRA hazardous (lead) waste (Type 1 and 5 waste) were accumulated. Between November 6 and December 4, 2007, 5,000 tons of material was transported to and disposed of at the Kettleman Hills Landfill in Bakersfield, California.

4.3.3 Nonhazardous Material

At the completion of the TCRA, a total of seven 100-cubic-yard stockpiles of nonhazardous waste (Type 2, 4, and 5 waste) were accumulated. On November 5, 2007, a total of 757 tons of waste was transported to and disposed of at the Altamont Landfill in Livermore, California.

During the TCRA, a total of six drums of nonhazardous water were accumulated. On April 9, 2008, the drummed waste was transported to and disposed of at the Kettleman Hills Landfill in Bakersfield, California.

Also during the TCRA, a total of fifteen 55-gallon drums and a 2-gallon container of nonhazardous, demilitarized MPPEH were transferred to an off-site recycling facility (Timberline) on April 19, 2007.

In addition, a total of four 20-cubic-yard bins of non-radiologically impacted oversized metal debris (Type 3 waste) were transported to a local off-site recycling facility on a regular basis.

During the TCRA, normal solid waste refuse (Type 6 waste) was accumulated in a 3-cubic-yard container, which was transferred to an off-site landfill facility by the City of Alameda's licensed refuse vendor on a weekly basis. The project performance period was approximately 62 weeks.

4.4 WASTE TRANSPORTATION AND DISPOSAL (RADIOLOGICALLY IMPACTED MATERIALS)

As stated above, all radiologically impacted material designated by the DON and RSO for off-site disposal was controlled by the DON's waste broker. Waste was stored in intermodal bins and steel containers including 55-gallon drums and one B-25 box.

The oversized (¾- to 6-inch) debris material from the mechanical screening operation, cut vegetation, and the IR Site 32 gravel (Type 8 waste) remain as of the date of this report in the posted IR Site 1 area.

4.4.1 Intermodal Bins

At the completion of the TCRA, a total of 88 bins containing LLRW (Type 9 waste) were accumulated and transported to Waste Control Specialists, a treatment, processing, and storage facility for LLRW under license from the Texas Department of Health Services, located in Andrews County, Texas. The facility is also a permitted Part B facility under the oversight of the Texas Commission on Environmental Quality.

4.4.2 Steel Containers

At the completion of the TCRA, a total of four 55-gallon steel drums containing discrete items and one B-25 box containing metal pipes were accumulated (Type 9 waste). The B-25 box and the four drums of discrete items were transported to the U.S. Ecology Washington facility in Richland, Washington.

4.5 WASTE MANAGEMENT DOCUMENTATION

Table 2-1 documents the accumulation of non-radiologically impacted stockpiles at the site, dates sampled, waste characterization, clearance by DON as being non-radiologically impacted, and date of transport off-site.

All inventory documentation for LLRW was generated and maintained by the DON's LLRW subcontractor. The LLRW subcontractor maintains records that document site shipping containers, contents, and manifests for containers transported from the site.

4.5.1 Waste Manifests (Hazardous Waste Manifests and LDR Certification)

All hazardous waste loads transported from the site were accompanied by a Hazardous Waste Manifest. DON personnel were responsible for reviewing and signing all waste documentation,

including waste profiles, manifests, and LDR notifications (manifest packages). Prior to signing the manifest, the designated DON official ensured that transport and placarding requirements were met in accordance with 40 CFR, Parts 262.30 through 262.33, and 49 CFR, Parts 100 through 178.

The DON representative received the generator's copy of the manifest, signed by the driver, on a daily basis by the TtEC waste coordinator. The remaining copies were given to the transporter when the driver left the site. The manifest was then signed by the landfill operator and was to be returned to the DON's signatory official for the base's record-keeping requirements. Manifests can be referenced in the DON project files.

4.5.2 Waste Manifests (Nonhazardous Waste Manifests)

All waste characterized as nonhazardous was transported from the site under a Nonhazardous Waste Manifest. The DON representative received the generator's copy of the manifest, signed by the driver, on a daily basis by the TtEC waste coordinator. The remaining copies were given to the transporter when the driver left the site.

4.5.2.1 Demilitarized MPPEH Manifests

Each of the fifteen 55-gallon drums and the one 2-gallon container of scrap 5X MPPEH was accompanied by an MPPEH Safe-5X and Demilitarization Certification/Verification Manifest, and the lot was accompanied by a Demilitarization Chain of Custody Certification for UXO/OE Scrap when the drums were transported to the approved recycling facility. A Certificate of Destruction was returned to TtEC by the facility.

4.5.2.2 LLRW Manifests

Copies of the LLRW are maintained by the DON's LLRW waste subcontractor. Procedures for preparing the manifests and their disposition were determined by the DON and its subcontractor.

5.0 DATA QUALITY ASSESSMENT

This data quality assessment was prepared to evaluate the implementation of the sampling and analytical procedures detailed in the SAP in Appendix B of the TCRA Work Plan (TtEC 2007b). The sampling scope of work included radiological analyses to evaluate the level of contamination of previously identified radiological anomalies and MPPEH.

TestAmerica St. Louis conducted radiological analysis of the samples. TestAmerica is a state of California-certified and Navy-evaluated laboratory. Subsequently, a third-party validation company (Laboratory Data Consultants, Inc.) performed data validation on all post-excavation and background sample analyses except for waste characterization sample results. The results were validated with an EPA Level III-equivalent protocol for 90 percent of the samples and EPA Level IV-equivalent for 10 percent of the samples. The validation was conducted in accordance with Environmental Work Instruction #1, 3EN2.1, Chemical Data Validation (SWDIV 2001), the Quality Systems Manual for Environmental Laboratories (DoD 2006), and the QC criteria specified in the SAP (TtEC 2007b). Data not meeting method and/or SAP specifications were flagged as estimated ("J") or rejected ("R") as discussed herein.

A summary table of analytical results for the post-excavation soil samples described in Section 2.5 in the Post-Construction Report is included herein as Appendix G, Table G-1. The associated chain-of-custody records, laboratory analytical results, and data validation reports are included in Appendix F.

The following sections describe the fulfillment of the field QC sampling objectives and analytical QC objectives for this project.

5.1 FIELD QUALITY CONTROL SAMPLING OBJECTIVES

Field QC sampling objectives for the collection of post-excavation soil samples from IR Sites 1, 2, and 32 included the collection of field duplicates (1 per 10 samples) and equipment blanks (1 per day when nondisposable sampling equipment was used) in accordance with the SAP (TtEC 2007b). However, because samples were collected below ground, field duplicates were unable to be collected since the samples were being collected at depth. Therefore, field duplicates were not collected for this project. In addition, disposable sampling equipment was used for collection of most of the samples; however, there were 21 days in which nondisposable equipment was used, and one equipment blank per day was collected. Results for all the equipment blanks were not detected or below the detection limit for this project. Therefore, associated sample results were not qualified.

5.2 ANALYTICAL DATA QUALITY OBJECTIVES

The following sections describe the fulfillment of the analytical data quality objectives in terms of precision, accuracy, representativeness, completeness, and comparability parameters, as described in the SAP (TtEC 2007b).

5.2.1 Precision and Accuracy

In accordance with the analytical methods, the Quality Systems Manual for Environmental Laboratories (DoD 2006), and the SAP (TtEC 2007b) specifications, the following parameters were assessed by the third-party validation company as applicable to analyses:

- Technical holding times and preservation
- Instrument performance checks
- Initial and continuing calibration verifications
- Method blanks
- Tracer compound
- Laboratory control samples
- Laboratory duplicates
- Target compound identification
- Compound quantitation
- System performance

5.2.1.1 Technical Holding Times and Preservation

Sample holding times and preservation requirements were checked against QC criteria, and all QC requirements were met.

5.2.1.2 Instrument Performance Checks

Instrument performance checks were completed, and all QC requirements were met.

5.2.1.3 Initial and Continuing Calibration Verifications

Percent relative standard deviations and relative response factors of the initial calibration and percent differences of the continuing calibration met the QC requirement for all samples except those results highlighted in yellow in Appendix G, Table G-1. These results were flagged "J/UJ" for affected compounds.

5.2.1.4 Method Blanks

Sample concentrations were compared to concentrations detected in the method blanks. For sample concentrations either not detected or less than 5 times blank contaminant concentrations, associated results were flagged "U" (not detected). For sample concentrations detected but greater than 5 times blank contaminant concentrations, sample results were not affected. Results affected by method blank contamination are highlighted in blue in Appendix G, Table G-1.

5.2.1.5 Tracer Compounds

Recoveries for all tracer compounds were within QC limits for all analytes except for those results highlighted in purple in Appendix G, Table G-1 and flagged "UJ."

5.2.1.6 Laboratory Control Samples

Laboratory control samples were within QC limits for all analyses except for those results highlighted in pink in Appendix G, Table G-1 and flagged "J/UJ."

5.2.1.7 Laboratory Duplicates

The laboratory duplicate error ratio was within QC limits for all analyses except for potassium-40 as highlighted in orange in Appendix G, Table G-1 and flagged "J."

5.2.1.8 Target Compound Identification

All target analytes were correctly identified.

5.2.1.9 Compound Quantitation

Compound quantitation was within QC limits.

5.2.1.10 System Performance

System performance met all QC requirements, and no discrepancies were reported.

5.2.2 Representativeness

Representative data were obtained through selection of sampling locations and analytical parameters to meet the data quality objectives of this project. Proper collection and handling of samples, and the use of established field and laboratory procedures as described in the SAP (TtEC 2007b) were followed.

5.2.3 Completeness

The percent completeness is defined as the percentage of measurements that are judged to be valid. The completeness goal is to generate a sufficient amount of valid data to meet project objectives. Completeness is calculated and reported for each method, matrix, and analyte combination. The number of valid results divided by the number of possible individual analyte results, expressed as a percentage, determines the completeness of the data set. For completeness requirements, valid results are all results not qualified with an "R" flag for rejected. The requirement for completeness is 90 percent for soil samples. The percent completeness for the soils is 100 percent for this project, thereby meeting the completeness goals for this project.

5.2.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Sample data should be comparable with other measurements for similar samples and sample conditions. The objective for the quality assurance (QA)/QC program is to produce data with the greatest possible degree of comparability. The number of matrices that are sampled and the range of field conditions encountered are considered in determining comparability. Comparability is achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions, and using standard and comprehensive reporting formats.

5.3 OVERALL ASSESSMENT OF DATA

The data collected during field activities are valid and usable and have been qualified for analytical parameters that did not meet criteria as described above in Section 1.2. All samples were collected in accordance to the criteria listed in the SAP (TtEC 2007b), and all results were qualified based on guidelines described above. The analytes were found to be of appropriate quality to support the data evaluation in this report.

6.0 PROJECT DOCUMENTATION

6.1 PHOTOGRAPHIC LOG

Photographs were taken to document field activities. The photographs illustrate typical examples of the work performed during the radiological excavation and removal at IR Sites 1, 2, and 32, and the former Radiological Shack area. Work included UXO and geophysical surveys, soil and waste sampling, excavation, and backfill. The photographs and logs are presented in Appendix K.

6.2 FIELD CHANGE REQUESTS

Variances to the final TCRA Work Plan (TtEC 2007b) were necessary to address unforeseen circumstances encountered during field activities at IR Sites 1, 2, and 32, and the former Radiological Shack area. Appendix L provides a description of these approved field changes.

6.3 NOSSA AUDIT

On May 9 and 10, 2007, the NOSSA conducted an audit of the munitions response project to assess compliance with applicable explosives safety and environmental requirements related to the management of MPPEH. The audit was done as a part of NOSSA's oversight authority delegated by Chief of Naval Operations Instruction 8020.15. The areas audited are listed in the following sections.

The project was operating under in Interim Permission to Proceed letter (March 15, 2007) provided by NOSSA pending the DoD Explosives Safety Board approval of the ESS, which occurred on October 15, 2007. The letter was transmitted by NOSSA to the BRAC Project Management Office (PMO) on January 14, 2008.

Two documents were audited, specifically:

- Final ESS, Revision 2, of March 9, 2007, for IR Site 1, Former Naval Air Station Alameda, Alameda Point, Alameda, California
- Final TCRA Work Plan, of March 2, 2007, for IR Sites 1, 2, and 32, Former Naval Air Station Alameda, Alameda Point, Alameda, California

There were no discrepancies found during the audit of the project documents.

6.3.1 Work Activities

The following work activities within the project were audited:

- MPPEH removal operations
- Data management
- Environmental protection
- Explosives safety practices
- Explosives storage
- Explosives transportation
- Geophysical instrument operations
- Mechanical excavation and screening
- Occupational health and safety
- Worker qualifications
- Worker training
- Contractor QC program
- Government QA program

6.3.2 Audit Findings

NOSSA audit findings are provided in Appendix M. Below is a summary of findings documented during the audit:

- Several metal parts of magazine M353 were not properly grounded/bounded due to damaged grounding wire.
- Potential hazards associated with MPPEH were not identified in the project Health and Safety Plan.
- Recovered MPPEH was not being documented with photographs.
- The 6-inch screen utilized in conjunction with the trommel for separation of MPPEH from excavated spoils was damaged, thereby allowing up to 14-inch-diameter material to enter the trommel hopper during screening activities.
- Nonconforming conditions reported in Daily QC reports were not reflected in the QC Acceptance Sampling Log; this finding was corrected during the audit.
- No method was in place to identify debris lots for QC acceptance or rejection; this finding was corrected during the audit.
- The risks associated with recovering MPPEH had not been addressed; this finding was corrected during the audit.
- Access protocols for authorized visitors did not comply with the ESS.

- UXO technicians were not able to monitor all of the oversize material as it exited the trommel, and the screening plant configuration was not in accordance with the ESS. This finding was corrected during the audit.
- The exclusion zone was not being managed in accordance with the ESS, specifically a patrol boat was not used during scheduled work activities to prevent recreational boaters from entering the limits of the exclusion zone.
- Limits of the exclusion zone on land were not clearly marked for personnel recognition.
- The explosive transportation vehicle did not have all required equipment. This finding was corrected during the audit.

6.3.3 Conclusions

NOSSA's stated conclusion after the audit included the following:

> *"Overall, the UXO contractor is executing operations in a safe and effective manner. However the discrepancies noted above are of concern to NOSSA. BRAC PMO West should analyze the root cause for each, direct the contractor to take appropriate corrective action, and identify both in a response to this audit report."*

NOSSA further required satisfactory responses to the audit discrepancies before it would provide final verification that the munitions response actions were adequately completed. The responses were provided in a letter from BRAC PMO to NOSSA dated July 16, 2007.

The Audit Report and Audit Response are provided in Appendix M.

6.4 DEMILITARIZATION VERIFICATION

Each of the fifteen 55-gallon drums and the one 2-gallon container of scrap 5X MPPEH were accompanied by an MPPEH Safe-5X and Demilitarization Certification/Verification Manifest and a Demilitarization Chain of Custody Certification for UXO/OE Scrap when transported to the approved recycling facility. A Certificate of Destruction was returned to TtEC by the facility. Demilitarization verification is provided in Appendix N.

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7.0 REFERENCES

BEI (Bechtel Environmental, Inc.). 2005. Work Plan for Remedial Investigation IR Site 32, Northwest Ordnance Storage Area, Alameda Point, Alameda, California.

DoD (Department of Defense). 2006. Quality Systems Manual for Environmental Laboratories. January.

E&E (Ecology and Environment). 1983. Initial Assessment Study of Naval Air Station, Alameda, California, Final Report. Prepared for Navy Assessment and Control of Installation Pollutants and Naval Energy and Environmental Support Activity, Port Hueneme, California.

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TtEMI (Tetra Tech EM Inc.). 1999. OU-3 Remedial Investigation Report, Final, Alameda Point, Alameda, California. Volumes I–III.

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_____. 2005b. Final Installation Restoration Site 2 Radiological Characterization Survey Report. Revision 0. Alameda Point, Alameda, California. DCN: FWSD-RAC-05-1504. August 5.

Weston (Weston Solutions, Inc.). 2007. Historical Radiological Assessment, Volume II. Alameda Naval Air Station. Use of General Radioactive Materials, 1941–2005. June.

TABLES

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TABLE 2-1

STOCKPILE INVENTORY

Stockpile Number	Stockpile Completed Date	Sample Collected Date	3rd Survey	Non-hazardous	Hazardous Classification	Radiologically Impacted	Sent to RASO for Approval	Approved by RASO for Disposal	Date of Removal from Site
DP-C-SP1	6/12/2007	6/12/2007	7/31/2007	No	RCRA Haz Lead	No	10/8/2007	10/22/2007	11/21/2007
FRB-F-SP2	6/7/2007	6/11/2007	7/31/2007	No	Non-RCRA Haz Lead	No	10/2/2009	10/3/2007	11/20/2007
FRB-F-SP3	6/7/2007	6/11/2007	7/31/2007	No	Non-RCRA Haz Lead	No	10/2/2009	10/3/2007	11/21/2007
FRB-C-SP4	6/11/2007	6/14/2007	8/1/2007	Yes	NA	No	10/8/2007	10/19/2007	11/5/2007
FRB-F-SP5	6/11/2007	6/12/2007	8/1/2007	No	Non-RCRA Haz Lead	No	10/2/2009	10/3/2007	11/19/2007
FRB-F-SP6	6/11/2007	6/12/2007	8/1/2007	No	Non-RCRA Haz Lead	No	10/2/2009	10/3/2007	11/21/2007
FRB-F-SP7	6/12/2007	6/14/2007	8/16/2007	No	RCRA Haz Lead	No	10/2/2007	10/3/2007	11/21/2007
FRB-F-SP8	6/12/2007	6/14/2007	8/16/2007	No	RCRA Haz Lead	No	10/2/2007	10/3/2007	11/26/2007
FRB-F-SP9	6/12/2007	6/14/2007	8/15/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/26/2007
FRB-F-SP10	6/15/2007	6/25/2007	8/15/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/26/2007
DP-F-SP11	6/15/2007	6/25/2007	8/15/2007	No	RCRA Haz Lead	No	10/8/2007	10/22/2007	11/27/2007
FRB-F-SP12	6/15/2007	6/25/2007	8/15/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/27/2007
FRB-F-SP13	6/15/2007	6/25/2007	8/14/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/27/2007
FRB-F-SP14	6/18/2007	6/25/2007	8/14/2007	No	Non-RCRA Haz Lead	No	10/8/2007	10/19/2007	11/9/2007
FRB-C-SP15	6/15/2007	6/25/2007	8/14/2007	No	Non-RCRA Haz Lead	No	10/8/2007	10/19/2007	11/26/2007
FRB-F-SP16	6/18/2007	6/25/2007	8/2/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/28/2007
FRB-F-SP17	6/18/2007	6/25/2007	8/2/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/28/2007
FRB-F-SP18	6/18/2007	6/25/2007	8/2/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/13/2007
FRB-F-SP19	6/18/2007	6/25/2007	8/2/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/28/2007
FRB-F-SP20	6/25/2007	6/26/2007	8/6/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/13/2007
DP-F-SP21	6/25/2007	6/26/2007	8/7/2007	No	Non-RCRA Haz Lead	No	10/8/2007	10/22/2007	11/13/2007
FRB-F-SP22	6/25/2007	6/26/2007	8/7/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/28/2007
FRB-F-SP23	6/26/2007	6/27/2007	8/8/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/29/2007
FRB-C-SP24	6/27/2007	6/27/2007	8/6/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/29/2007
FRB-F-SP25	6/26/2007	6/27/2007	8/8/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/8/2007
FRB-F-SP26	6/26/2007	6/27/2007	8/8/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/8/2007
FRB-F-SP27	6/27/2007	7/11/2007	8/8/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/19/2007
FRB-F-SP28	6/28/2007	7/11/2007	8/13/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/9/2007
FRB-F-SP29	7/6/2007	7/11/2007	7/6/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/9/2007
FRB-C-SP30	7/6/2007	7/16/2007	7/6/2007	No	Non-RCRA Haz Lead	No	10/8/2007	10/19/2007	11/13/2007
DP-F-SP31	7/10/2007	7/16/2007	7/10/2007	No	Non-RCRA Haz Lead	No	10/8/2007	10/22/2007	11/15/2007
FRB-F-SP32	7/10/2007	7/16/2007	7/10/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/15/2007
FRB-F-SP33	7/11/2007	7/17/2007	7/11/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/15/2007
FRB-F-SP34	7/12/2007	7/17/2007	7/12/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/15/2007
FRB-F-SP35	7/18/2007	7/19/2007	7/18/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/14/2007

TABLE 2-1

STOCKPILE INVENTORY

Stockpile Number	Stockpile Completed Date	Sample Collected Date	3rd Survey	Non-hazardous	Hazardous Classification	Radiologically Impacted	Sent to RASO for Approval	Approved by RASO for Disposal	Date of Removal from Site
FRB-F-SP36	7/19/2007	7/19/2007	7/19/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/14/2007
FRB-F-SP37	7/19/2007	7/23/2007	7/19/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/14/2007
FRB-F-SP38	7/23/2007	7/25/2007	7/23/2007	No	RCRA Haz Lead	No	10/23/2007	10/24/2007	11/29/2007
FRB-F-SP39	7/24/2007	7/25/2007	7/24/2007	No	RCRA Haz Lead	No	10/31/2007	10/31/2007	11/30/2007
FRB-F-SP40	7/25/2007	7/30/2007	7/25/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/19/2007
FRB-F-SP41	7/25/2007	7/30/2007	7/25/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/19/2007
FRB-F-SP42	7/26/2007	7/31/2007	7/26/2007	No	RCRA Haz Lead	No	10/23/2007	10/24/2007	11/30/2007
FRB-F-SP43	7/26/2007	7/31/2007	7/26/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/16/2007
FRB-F-SP44	7/27/2007	7/31/2007	7/27/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/16/2007
FRB-F-SP45	7/27/2007	7/31/2007	7/27/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/16/2007
FRB-F-SP46	7/28/2007	7/31/2007	7/28/2007	No	Non-RCRA Haz Lead	No	10/23/2007	10/23/2007	11/16/2007
FRB-C-SP47	7/30/2007	7/31/2007	7/30/2007	No	RCRA Haz Lead	No	10/8/2007	10/19/2007	11/8/2007
FRB-F-SP48	7/30/2007	8/6/2007	7/30/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/20/2007
FRB-F-SP49	7/31/2007	8/6/2007	7/31/2007	No	RCRA Haz Lead	No	10/23/2007	10/23/2007	11/20/2007
BSS-SP50	8/22/2007	8/30/2007	1S	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/6/2007
BSS-SP51	8/22/2007	8/30/2007	1S	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/6/2007
BSS-SP52	8/24/2007	8/30/2007	1S	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/6/2007
BSS-SP53	8/24/2007	8/30/2007	1S	No	Non-RCRA Haz Lead	No	10/23/2007	10/24/2007	11/6/2007
BSS-SP54	8/24/2007	9/4/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007
BSS-SP55	8/27/2007	9/4/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007
BSS-SP56	8/27/2007	9/4/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007
BSS-SP57	8/27/2007	9/4/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007
DTS-SP58	8/27/2007	9/6/2007	3S	No	RCRA Haz Lead	No	10/25/2007	10/25/2007	11/30/2007
DTS-SP59	8/28/2007	9/6/2007	3S	No	Non-RCRA Haz Lead	No	10/25/2007	10/25/2007	11/8/2007
BSS-SP60	8/28/2007	9/6/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007
FRB-F-SP61	8/28/2007	9/6/2007	3S	No	Non-RCRA Haz Lead	No	10/25/2007	10/25/2007	11/7/2007
BSS-SP62	8/29/2007	9/17/2007	1S	No	Non-RCRA Haz Lead	No	10/25/2007	10/25/2007	11/7/2007
BSS-SP63	8/30/2007	9/17/2007	1S	No	Non-RCRA Haz Lead	No	10/25/2007	10/25/2007	11/7/2007
BSS-SP64	8/30/2007	9/17/2007	1S	Yes	NA	No	10/25/2007	10/25/2007	11/5/2007

Abbreviations and Acronyms:

BSS – Bedding Sand Stockpile
C – coarse
DP – Debris Pit
F – fine
FRP – Firing-Range Berm
Haz – hazardous
NA – not applicable
RASO – Radiological Affairs Support Office
RCRA – Resource Conservation and Recovery Act
SP – Stockpile

TABLE 3-1

BACKGROUND REFERENCE AREA

	NaI Ambient Gamma (cpm)	^{226}Ra Soil Concentration (pCi/g)
Average (N = 30)	5,292	0.538
Standard deviation	379	0.134
Maximum value	6,494	0.790
Minimum value	3,987	0.253

Abbreviations and Acronyms:

cpm – counts per minute
N – number (of samples)
NaI – sodium iodide
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-2

IR SITE 1 DISPOSAL TRENCH POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS

	Disposal Trench (pCi/g)	Background Reference Area (pCi/g)
Average (N = 10)	1.729	0.538
Standard deviation	2.008	0.134
Maximum value	6.070	0.790
Minimum value	0.380	0.253

Abbreviations and Acronyms:
IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-3

IR SITE 1 DISCRETE ITEM REMOVAL SUMMARY

Location ID	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
1A	135,000	10,000	5,300	HS104	1A, B	4
1B	355,000	10,000	5,100	HS104	1A, B	4
2	12,000	5,000	5,600[a]	None	—	2
3A	6,500	7,000	7,300[a]	None	3A, B	2
3B	7,300	7,000	6,100	None	3A, B	2
3C	8,100	8,300	5,500	None	3C, D, E	2
3D	8,100	8,300	5,400	None	3C, D, E	2
3E	8,200	8,300	7,300	None	3C, D, E	2
4A	18,000	9,000	5,500	None	—	2
4B	7,000	8,000	5,900	None	4B, C	2
4C	7,100	8,000	6,100	None	4B, C	2
5A	186,000	10,000	5,300	HS67,93–100,103,106, 109,110,113,114,119	5A, B	2
5B	186,000	10,000	5,300	HS67,93–100,103,106, 109,110,113,114,119	5A, B	2
5C	26,000	40,000	6,200	None	—	2
6A	12,000	6,700	5,600	HS65	—	2
6B	6,200	7,200	6,300	None	—	2
7A	6,600	10,000	5,100	None	—	2
7B	6,600	10,000	5,700	None	—	2
7C	6,600	10,000	5,800	None	—	2
7D	6,600	10,000	5,800	None	—	2
8A	6,500	6,650	5,100	None	—	2
8B	6,500	6,370	5,700	None	—	2
8C	6,500	6,380	4,800	None	—	2
8D	6,500	6,780	5,600	None	—	2
8E	6,500	6,830	5,800	None	—	2
8F	6,500	6,530	5,300	None	—	2
8G	6,500	6,550	5,500	None	—	2
8H	6,500	6,790	5,900	None	—	2
8I	6,500	6,550	5,100	None	—	2
8J	6,500	6,370	5,600	None	—	2
8K	6,500	6,310	5,200	None	—	2
8L	6,500	6,480	6,500[b]	None	—	2
8M	6,500	6,890	6,000	None	—	2
9	8,300	7,500	5,400	None	—	2
11	6,500	6,500	4,500	HS82	—	2

TABLE 3-3

IR SITE 1 DISCRETE ITEM REMOVAL SUMMARY (Continued)

Location ID	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
12	376,000	6,500	6,400	HS81	—	2
13A	6,600	5,000	6,100[a]	None	—	1
13B	13,000	7,000	5,800	HS92	—	2
14	6,700	5,000	5,700[a]	HS68	—	1
15	6,700	6,500	5,800	None	—	2
16	12,000	8,000	5,600	HS69	—	2
17	21,000	6,200	5,800	HS80	—	2
18A	17,000	6,100	6,000	HS71	—	2
18B	15,600	6,200	5,500	HS72	—	2
18C	9,400	6,200	5,600	HS73	—	2
19	8,000	6,500	6,600[b]	None	19, 20	2
20	11,000	6,500	6,000	HS78	19, 20	2
21	17,000	6,200	5,700	None	—	2
22	16,000	7,000	5,800	HS 75,76,77	—	2
23	24,000	7,000	5,600	HS79	—	2
24	18,000	7,500	4,700	None	—	2
25	38,000	7,000	6,300	HS74	—	2
26A	6,300	5,750	5,700	None	—	1
26B	6,100	7,800	5,700	None	—	2
27A	6,100	5,600	5,700[a]	None	—	1
27B	6,300	5,600	5,700[a]	None	—	1
AB-1	7,100	8,400	5,900	None	—	1
A28	100,000	6,100	4,800	HS111	—	2
A92 cluster	6,700	8,000	7,000	None	A92–95, 97–99	2
A114	13,000	350,000	6,400	HS112,115	—	2
A134	15,000	8,000	5,600	None	—	2
A135	12,000	8,000	5,700	HS150	—	2

Notes:

[a] The average reference background for soil at Alameda was determined to be 5,292 cpm with a standard deviation (or sigma) of 379 cpm. Backfill material would be expected to have radiation levels up to "background plus 2 sigma" or 6,050 cpm. This "post-backfill" radiation level is likely higher than that measured "post-excavation" due to the naturally occurring background radioactivity in the fill material.

[b] The radiation survey instrumentation used in these measurements is calibrated to the industry standard tolerance of ±20%. Although the "post-backfill" radiation level appears higher than the measured "post-excavation" radiation level, this is within acceptable radiation survey instrumentation variances.

Abbreviations and Acronyms:

bgs – below ground surface
cpm – counts per minute
ID – identification
IR – Installation Restoration

TABLE 3-4

IR SITE 1 POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	102	308	30
Average	1.23	0.582	0.538
Standard deviation	3.38	1.086	0.134
Maximum value	23.8	13.9	0.79
Minimum value	0.21	0.058	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N = number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-5

IR SITE 1 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	13	32	3
Average	0.13	0.05	0.17
Standard deviation	0.45	0.18	0.07
Maximum value	1.56	0.46	0.25
Minimum value	-0.25	-0.27	0.11

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N = number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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TABLE 3-6

IR SITE 1 AREA 3 POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	6	18	30
Average	0.630	0.458	0.538
Standard deviation	0.014	0.138	0.134
Maximum value	0.640	0.710	0.790
Minimum value	0.620	0.210	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-7

IR SITE 1 AREA 4 POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	4	18	30
Average	0.251	0.417	0.538
Standard deviation	0.079	0.113	0.134
Maximum value	0.610	0.610	0.790
Minimum value	0.430	0.200	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-8

IR SITE 1 AREA 8 POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	26	25	30
Average	0.401	0.409	0.538
Standard deviation	0.084	0.104	0.134
Maximum value	0.550	0.670	0.790
Minimum value	0.210	0.220	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-9

IR SITE 1 AREA 3 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	2	3
Average	-0.1	0.17
Standard deviation	0.19	0.07
Maximum value	0.04	0.25
Minimum value	-0.23	0.11

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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TABLE 3-10

IR SITE 1 AREA 4 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	3	3
Average	-0.02	0.17
Standard deviation	0.05	0.07
Maximum value	0.03	0.25
Minimum value	-0.07	0.11

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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TABLE 3-11

IR SITE 1 AREA 8 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	3	6	3
Average	0.02	0.04	0.17
Standard deviation	0.05	0.16	0.07
Maximum value	0.08	0.16	0.25
Minimum value	-0.02	-0.27	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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TABLE 3-12

IR SITE 2 DISCRETE ITEM REMOVAL SUMMARY*

Location Identification	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
1	7,600	10,000	6,300	None	—	2
2	8,600	9,000	6,300	None	—	2
3	18,000	12,000	5,900	HS90	—	2
4	6,300	9,000	5,900	None	—	2
5	8,300	14,000	6,300	HS89	—	2
6	11,000	10,000	5,800	HS88	—	2
7	13,000	25,000	6,100	HS87	—	2
8	9,800	10,000	6,300	None	8, 9	2
9	11,000	10,000	5,200	None	8, 9	2
10	48,000	9,000	5,700	HS86	—	2
11A	13,000	8,500	5,700	None	—	2
11B	7,900	8,600	5,400	HS84	—	2
12	9,900	7,100	4,600	HS85	—	2
13	15,000	8,000	5,600	None	—	2
160	6,300	11,000	5,700	None	—	2
171	6,700	7,000	5,900	None	—	2
172	6,200	11,000	6,200	HS 101,102	—	2
182	6,600	10,000	5,200	None	—	2
183	6,200	8,000	5,400	None	183–185	2
184	6,100	8,000	6,400	None	183–185	2
185	6,500	8,000	4,500	None	183–185	2
187	6,100	8,000	6,600	None	—	2
188	6,100	7,000	7,200[a]	None	188,189	2
189	6,100	7,000	5,000	None	188,189	2
190	6,100	8,000	7,000	None	190–192	2
191	6,100	8,000	6,100	None	190–192	2
192	6,200	8,000	6,700	None	190–192	2
200	6,100	8,000	5,500	None	—	2
230	7,600	7,000	5,600	None	230–233	2
278	6,200	7,000	6,100	None	—	2
279	6,100	7,000	5,800	None	279, 280	2
280	6,100	7,000	5,600	None	279, 280	2
282	9,000	9,500	5,600	HS 105	282–284, 292	2
283	7,000	9,500	5,100	HS 105	282–284, 292	2
284	12,000	9,500	5,700	HS 105	282–284, 292	2
292	6,200	9,500	5,800	HS 105	282–284, 292	2
341	6,100	6,700	5,900	None	—	2
342	6,100	7,000	5,900	None	—	2

TABLE 3-12

IR SITE 2 DISCRETE ITEM REMOVAL SUMMARY (Continued)

Location Identification	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
343	6,300	7,000	5,800	None	—	2
344	6,100	8,000	5,800	None	—	2
348	6,700	6,500	5,800	None	—	2
349	12,000	7,000	6,200	None	—	2
Rad Shack	7,000	8,000	4,800	None	—	2

Notes:

[a] The radiation survey instrumentation used in these measurements is calibrated to the industry standard tolerance of ±20%. Although the "post-backfill" radiation level appears higher than the measured "post-excavation" radiation level, this is within acceptable radiation survey instrumentation variances.

Abbreviations and Acronyms:

bgs – below ground surface
cpm – counts per minute
IR – Installation Restoration

TABLE 3-13

IR SITE 2 POST-EXCAVATION ^{226}RA SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	68	184	30
Average	0.559	0.571	0.538
Standard deviation	0.499	0.716	0.134
Maximum value	3.48	7.59	0.79
Minimum value	0.13	0.183	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-14

IR SITE 2 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	9	19	3
Average	0.16	0.11	0.17
Standard deviation	0.30	0.33	0.07
Maximum value	0.63	0.99	0.25
Minimum value	-0.17	-0.3	0.11

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

IR – Installation Restoration
N – number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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TABLE 3-15

IR SITE 32 DISCRETE ITEM REMOVAL SUMMARY

Location Identification	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
1	7,500	6,100	5,800	None	—	2
2	6,100	6,100	6,200[b]	None	—	2
3	6,200	6,200	5,800	None	—	2
4A	6,800	8,000	5,700	HS70	—	2
4B	6,300	6,700	5,700	None	—	2
5	19,000	8,000	5,800	None	—	2
6	480,000	8,000	5,900	HS83	—	2
7	43,000	12,000	3,800	HS107 HS146	—	2
36	41,000	9,000	4,600	HS108	—	2
37	11,000	7,000	4,600	None	37–40 one hole	2
41	17,000	7,000	5,200	None	41–42 one hole	2
43	11,000	7,000	5,400	None	43–45 one hole	2
47	31,000	7,000	5,700	None	—	2
48	7,000	5,500	5,800[a]	None	48–49 one hole	1
50	15,000	5,500	5,700[a]	None	—	1
51	6,700	5,500	5,700[a]	None	—	1
54	30,000	7,000	5,800	HS120	54, 55, 57 one hole	2
56	7,200	7,000	5,800	None	—	2
60	13,000	9,000	5,400	HS121	—	2
61	6,300	7,000	4,300	None	—	2
62	8,000	9,000	5,400	HS148	—	2
63	83,000	22,000	5,200	HS124 HS126 HS127 HS144	63–64, 68–70, 73–77 one hole	2
65	7,300	24,000	5,200	HS122	—	2
66	6,100	5,500	5,300	None	—	2
67	6,400	7,000	6,400	None	—	2
69	6,500	10,000	4,400	None	69–70 one hole	2
71	6,300	7,000	5,600	HS128	71, 72, 83 one hole	3
73	10,000	11,000	6,300	None	73–74 one hole	3
75	7,300	12,000	5,900	HS144	—	2
76	83,000	22,000	5,100	HS124	76–77 one hole	2
79	11,000	7,000	5,600	HS123	—	2
80	6,400	8,000	6,000	None	—	2
81	6,700	8,000	5,900	None	81–82 one hole	2
84	16,000	7,000	5,900	HS125	—	2

TABLE 3-15

IR SITE 32 DISCRETE ITEM REMOVAL SUMMARY (Continued)

Location Identification	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
85	8,000	8,000	4,900	None	—	2
86	6,200	7,000	6,200	None	—	2
87	7,300	7,000	5,400	None	—	2
88	8,200	9,000	5,600	None	—	2
89	6,300	7,000	5,200	None	—	2
90	8,100	8,000	5,600	None	—	2
91	8,000	8,000	5,600	None	—	2
92	6,300	8,000	4,900	None	—	2
93	7,200	8,000	6,100	None	—	2
94	6,400	7,000	5,400	None	—	2
95	6,900	350,000	4,500	HS129 HS130	—	3
96	6,200	10,000	5,300	None	—	2
97	6,300	9,000	5,000	None	—	2
98	6,400	7,000	5,600	None	—	2
99	7,300	9,000	6,100	None	—	2
100	7,700	9,000	5,800	None	—	2
101	7,500	9,000	5,700	None	—	2
102	7,800	9,000	6,000	None	—	2
103	7,400	9,000	4,600	None	—	2
104	7,700	9,000	6,800	None	—	2
105	7,400	9,000	6,100	None	—	2
106	6,700	8,000	5,500	None	—	2
107	7,700	8,000	5,500	None	—	2
108	6,600	8,000	5,300	None	—	2
109	6,200	7,000	4,800	None	109–110 one hole	2
111	7,200	8,000	6,400	None	—	2
112	6,700	8,000	5,200	None	—	2
113	7,100	9,000	5,500	None	—	2
114	7,100	8,000	5,500	None	—	2
115	7,900	7,000	5,500	None	—	2
116	6,100	9,000	6,600	None	116–117 one hole	2
118	7,100	8,000	6,500	None	—	2
119	7,700	8,000	6,800	None	—	2
120	7,200	8,000	6,700	None	—	2
121	18,000	5,500	4,100	None	—	1
126	13,000	7,000	5,200	HS139	126–128 one hole	2
129	6,500	8,000	5,300	None	129–130 one hole	2
131	13,000	7,000	5,600	HS143	131–132 one hole	2

TABLE 3-15

IR SITE 32 DISCRETE ITEM REMOVAL SUMMARY (Continued)

Location Identification	Pre-Excavation (cpm)	Post-Excavation (cpm)	Post-Backfill (cpm)	Discrete Item	Combined Areas	Excavation Depth (feet bgs)
133	40,000	10,000	7,900	HS141 HS142	—	3
134	7,800	8,000	8,300[b]	None	—	2
135	6,600	8,000	6,400	None	—	2
136	8,600	9,000	5,500	None	—	2
137	7,000	9,000	8,000	HS137	—	2
138	8,400	9,000	9,100[b]	HS140	—	2
139	11,000	20,000	8,100	HS138 HS134 HS135	—	4
140	6,200	10,000	6,500	None	—	3
141	6,200	8,000	5,500	HS136	—	2
142	6,800	5,500	4,000	None	—	1
143	30,000	8,000	5,700	None	—	2
144	7,300	8,000	5,700	None	144–145 one hole	2
149	11,000	5,500	5,400	None	—	1
150	250,000	8,000	5,500	HS132 HS133	—	2
150A	6,200	8,000	4,700	None	—	2
150B	9,400	8,000	5,100	HS131	—	2
151	8,000	8,000	5,700	None	151–152 one hole	2
157	100,000	70,000	5,700	HS149 HS151	—	3
158	24,000	15,000	5,200	HS147	—	2
159	9,300	28,000	6,400	HS145	—	2
172	6,800	8,000	6,300	None	172, 173	2
G5	15,140	6,000	6,000	None	—	2
G6	11,980	6,000	6,200[b]	None	—	2
G7	13,260	6,000	3,900	None	—	2
G8	12,290	7,500	4,200	HS 152	—	2
G9	10,190	10,000	4,900	None	—	2
G10	10,720	66,000	4,100	None	G10, G12	2
G11	16,020	7,800	3,600	None	—	2
32X	50,000	7,500	5,600	HS-153	—	2

TABLE 3-15

IR SITE 32 DISCRETE ITEM REMOVAL SUMMARY (Continued)

Notes:

[a] The average reference background for soil at Alameda was determined to be 5,292 cpm with a standard deviation (or sigma) of 379 cpm. Backfill material would be expected to have radiation levels up to "background plus 2 sigma" or 6,050 cpm. This "post-backfill" radiation level is likely higher than that measured "post-excavation" due to the naturally occurring background radioactivity in the fill material.

[b] The radiation survey instrumentation used in these measurements is calibrated to the industry standard tolerance of ±20%. Although the "post-backfill" radiation level appears higher than the measured "post-excavation" radiation level, this is within acceptable radiation survey instrumentation variances.

Abbreviations and Acronyms:

bgs – below ground surface
cpm – counts per minute
IR – Installation Restoration

TABLE 3-16

IR SITE 32 POST-EXCAVATION ^{226}Ra SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	186	32	30
Average	1.063	0.504	0.538
Standard deviation	1.81	0.219	0.134
Maximum value	12.9	1.06	0.79
Minimum value	0.18	0.058	0.253

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

N – number (of samples)
pCi/g – picocuries per gram
^{226}Ra – radium-226

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TABLE 3-17

IR SITE 32 POST-EXCAVATION ^{90}Sr SOIL SAMPLE RESULTS*

	Biased Sample (pCi/g)	Random Samples (pCi/g)	Background Reference Area (pCi/g)
N	19	3	3
Average	-0.06	0.16	0.17
Standard deviation	0.41	0.19	0.07
Maximum value	0.37	0.36	0.25
Minimum value	-1.57	-0.01	0.11

Notes:

***** Population distribution and outlier analyses were not explicitly performed. Summary statistics are provided to give a general indication of the range and variance of the sample results. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results.

Abbreviations and Acronyms:

N – number (of samples)
pCi/g – picocuries per gram
^{90}Sr – strontium 90

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FIGURES

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N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

FIGURES 1-1 THROUGH 1-3

FIGURES 2-1 THROUGH 2-3

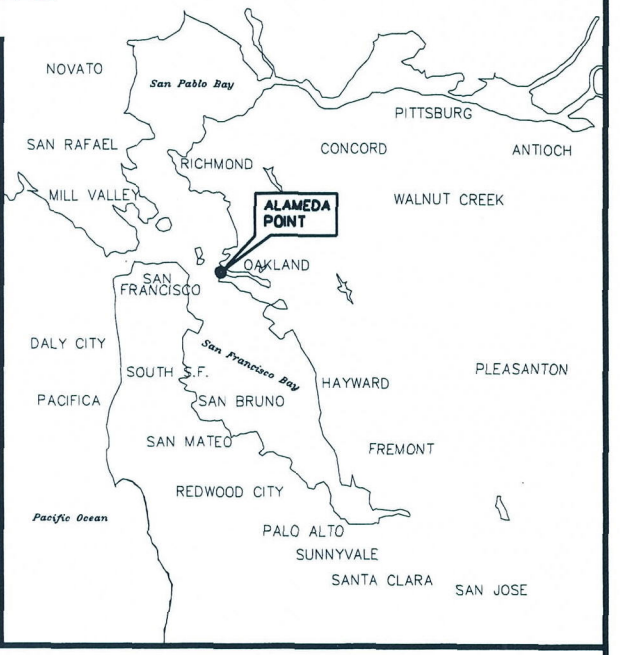
FOR ADDITIONAL INFORMATION, CONTACT:

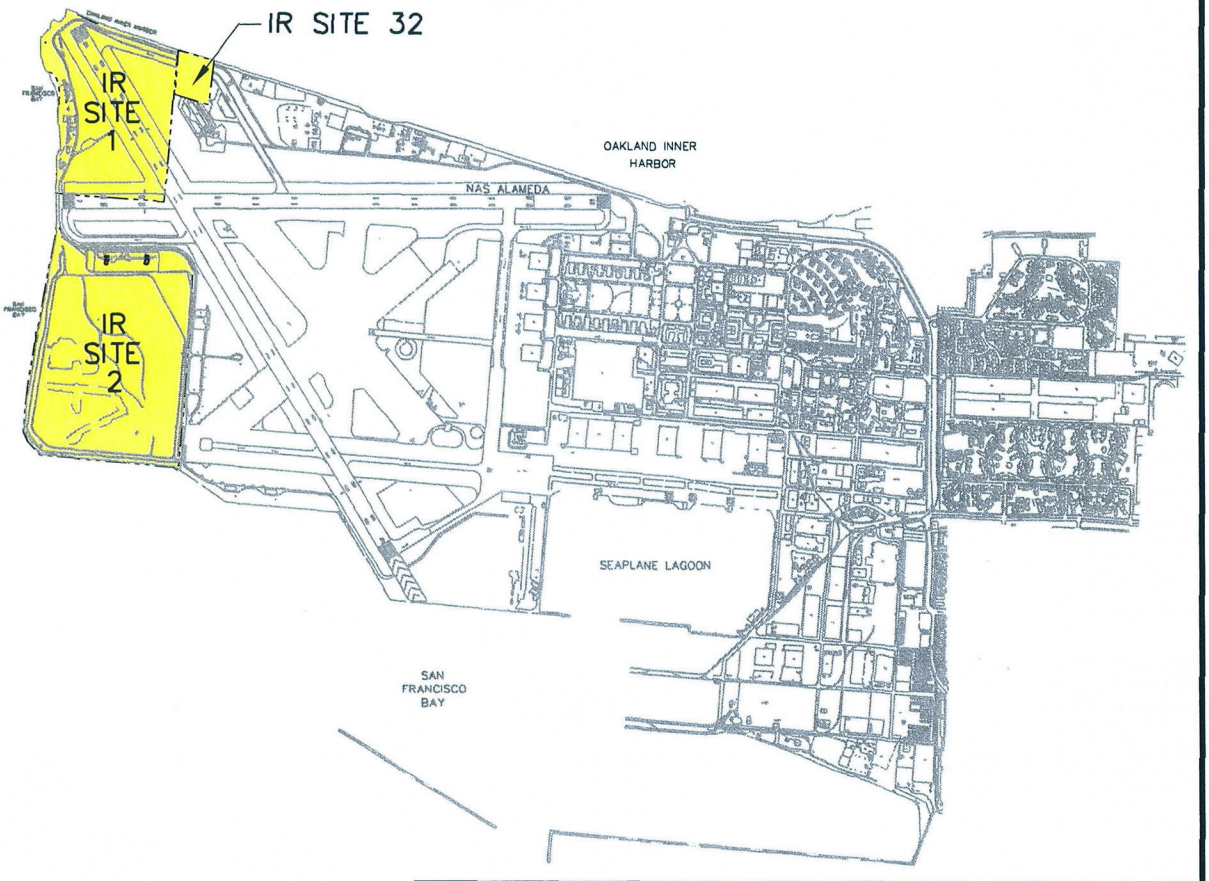
DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

SENSITIVE

NOT TO SCALE





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N.T.S.

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1,2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

Figure 1-1

SITE VICINITY MAP

ALAMEDA POINT – ALAMEDA, CALIFORNIA

TETRA TECH EC, INC.

DRAWING NO: 000711.DWG
DCN: ECSD-2201-0028-0009
CTO: #0028
APPROVED BY: KW
CHECKED BY: JD
REVISION: 0
DRAWN BY: MD
DATE: 10/10/08

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PLOT/UPDATE: AUGUST 5, 2009 12:50:22

SENSITIVE

SENSITIVE

DRAWN BY: MD	CHECKED BY: JD	APPROVED BY: KW	DCN: ECSD-2201-0028-0009	DRAWING NO: 000712.DWG
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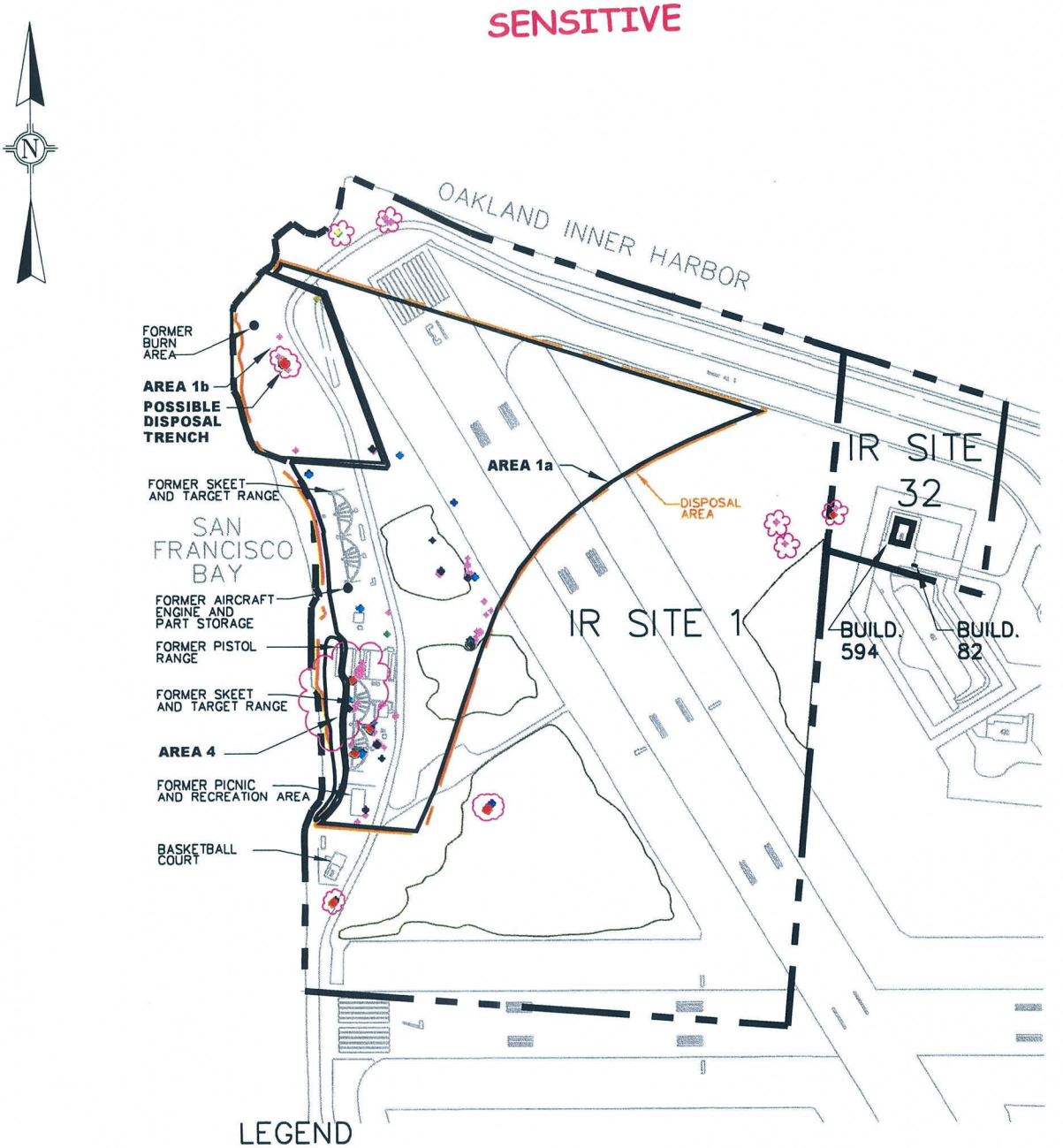

SOURCE:
OU-3 REMEDIAL INVESTIGATION REPORT, FINAL BY TETRA TECH EM INC., PUBLISHED IN RANCHO CORDOVA IN 1999.

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SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1,2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

Figure 1-2

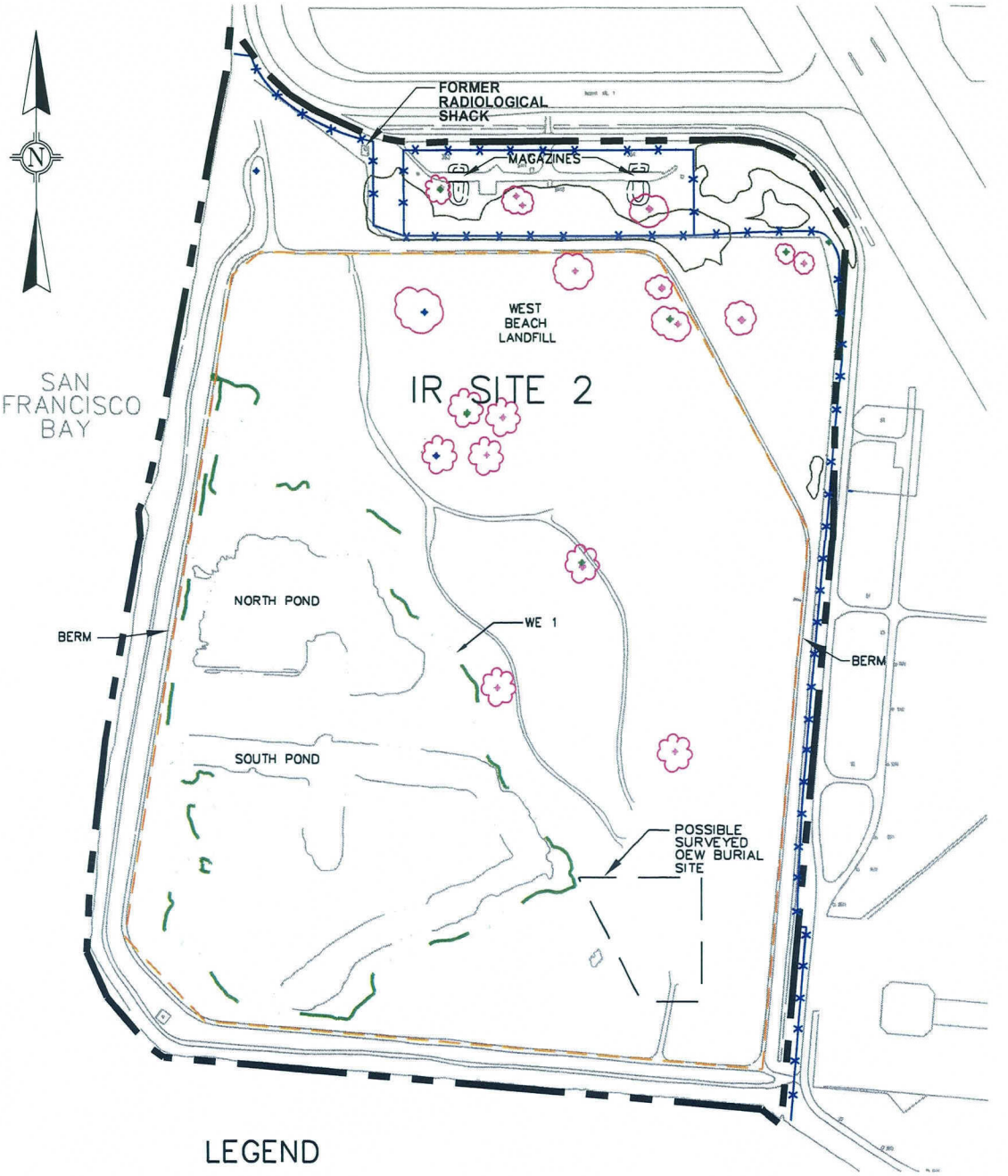
IR SITE 1 POTENTIAL EXCAVATION AREAS

ALAMEDA POINT – ALAMEDA, CALIFORNIA

TETRA TECH EC, INC.

SENSITIVE

SENSITIVE



LEGEND

- IR SITE 2 BOUNDARY
- FENCE LINE
- PERMANENT WETLAND BOUNDARY
- BERM
- WE — WETLAND
- OEW — ORDNANCE AND EXPLOSIVE WASTE POTENTIAL EXCAVATION AREA

NET CPM VALUES

- 4K–10K
- 10K–15K
- 15K–20K

500 250 0 500

SCALE IN FEET

DRAWN BY: MD | CHECKED BY: JD | APPROVED BY: KW | DCN: ECSD-2201-0028-0009 | DRAWING NO: 000713.DWG

DATE: 10/10/08 | REVISION: 0 | CTO: #0028

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PLOT/UPDATE: AUGUST 08 2009 13:00:42

BASE REALIGNMENT AND CLOSURE
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SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1,2, AND 32
FORMER NAVAL AIR STATION ALAMEDA
Figure 1-3

IR SITE 2 AND POTENTIAL EXCAVATION AREAS

ALAMEDA POINT – ALAMEDA, CALIFORNIA

TETRA TECH EC, INC.

SENSITIVE

SENSITIVE

BASE REALIGNMENT AND CLOSURE
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POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

FIGURE 2-1

GEOPHYSICAL SURVEY OF IR SITE 1 DISPOSAL TRENCH AND DEBRIS PIT
ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: GFG
ECSD-2201-0028-0009
FILE NUMBER: 090364L4987.mxd

TETRA TECH EC INC.

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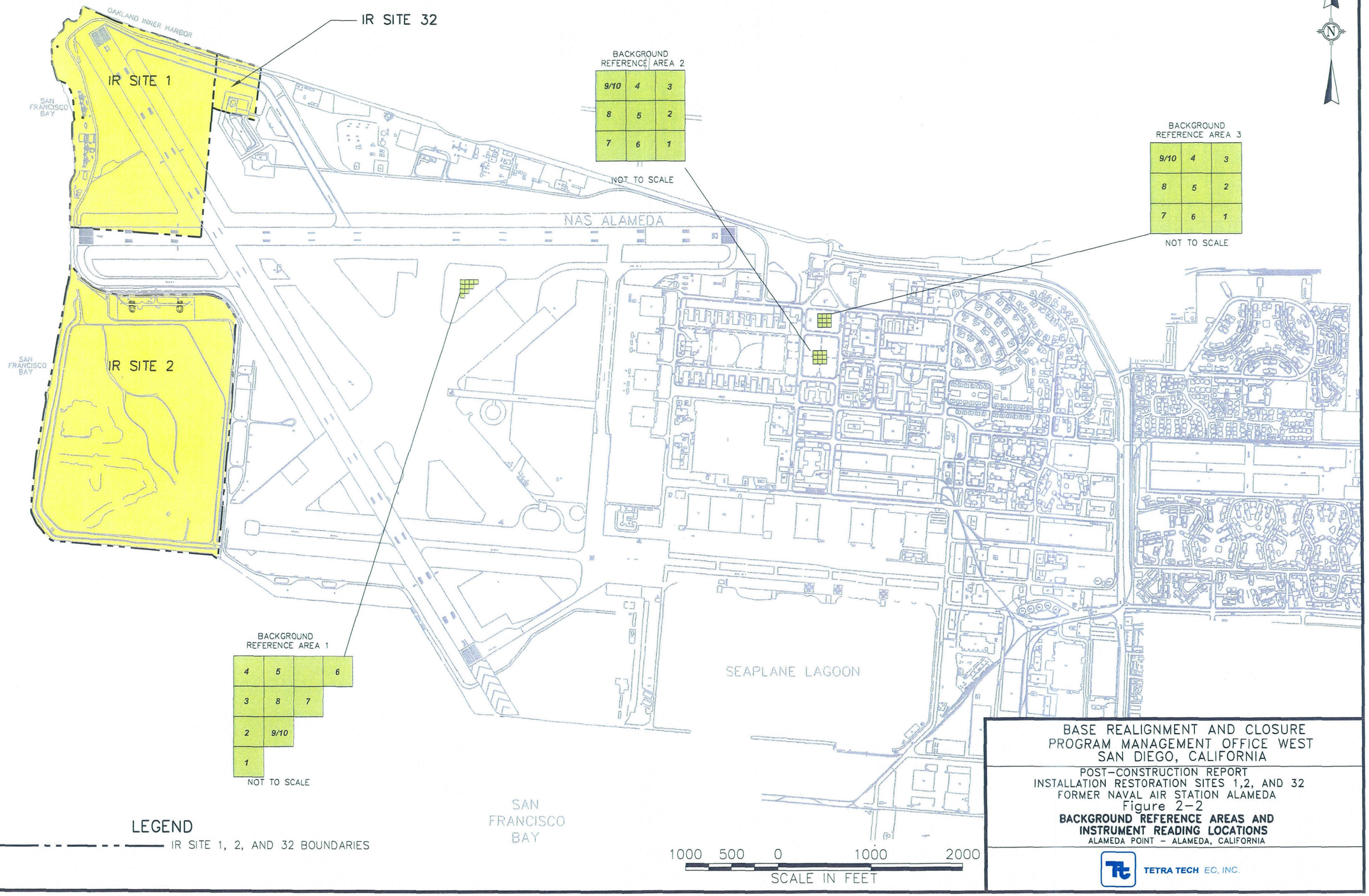
DCN: ECSD-2201-0028-0009
CTO: #0028
APPROVED BY: KW
CHECKED BY: JD
REV: REVISION 0
DRAWN BY: MD
DATE: 10/10/08



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POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1,2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

Figure 2-2

BACKGROUND REFERENCE AREAS AND INSTRUMENT READING LOCATIONS

ALAMEDA POINT - ALAMEDA, CALIFORNIA

TETRA TECH EC, INC.

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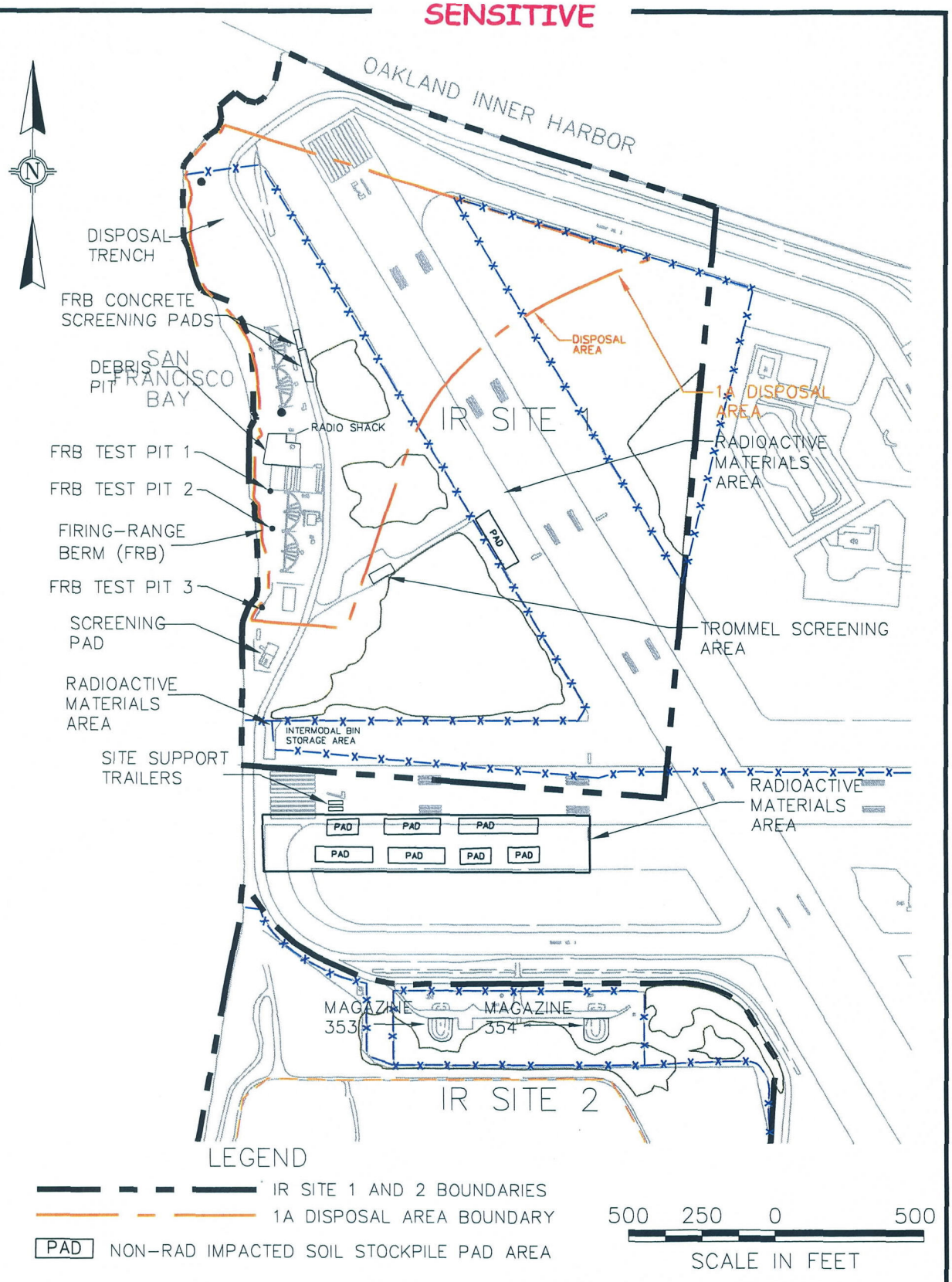
CHECKED BY: VR	REVISION:	
DRAWN BY: MD	DATE: 12/16/08	



NOTES:
FRB = FIRING-RANGE BERM

Figure 2-3
IR SITE 1 GENERAL FEATURES

IR SITES 1, 2 AND 32
ALAMEDA POINT – ALAMEDA, CALIFORNIA

TETRA TECH EC, INC.

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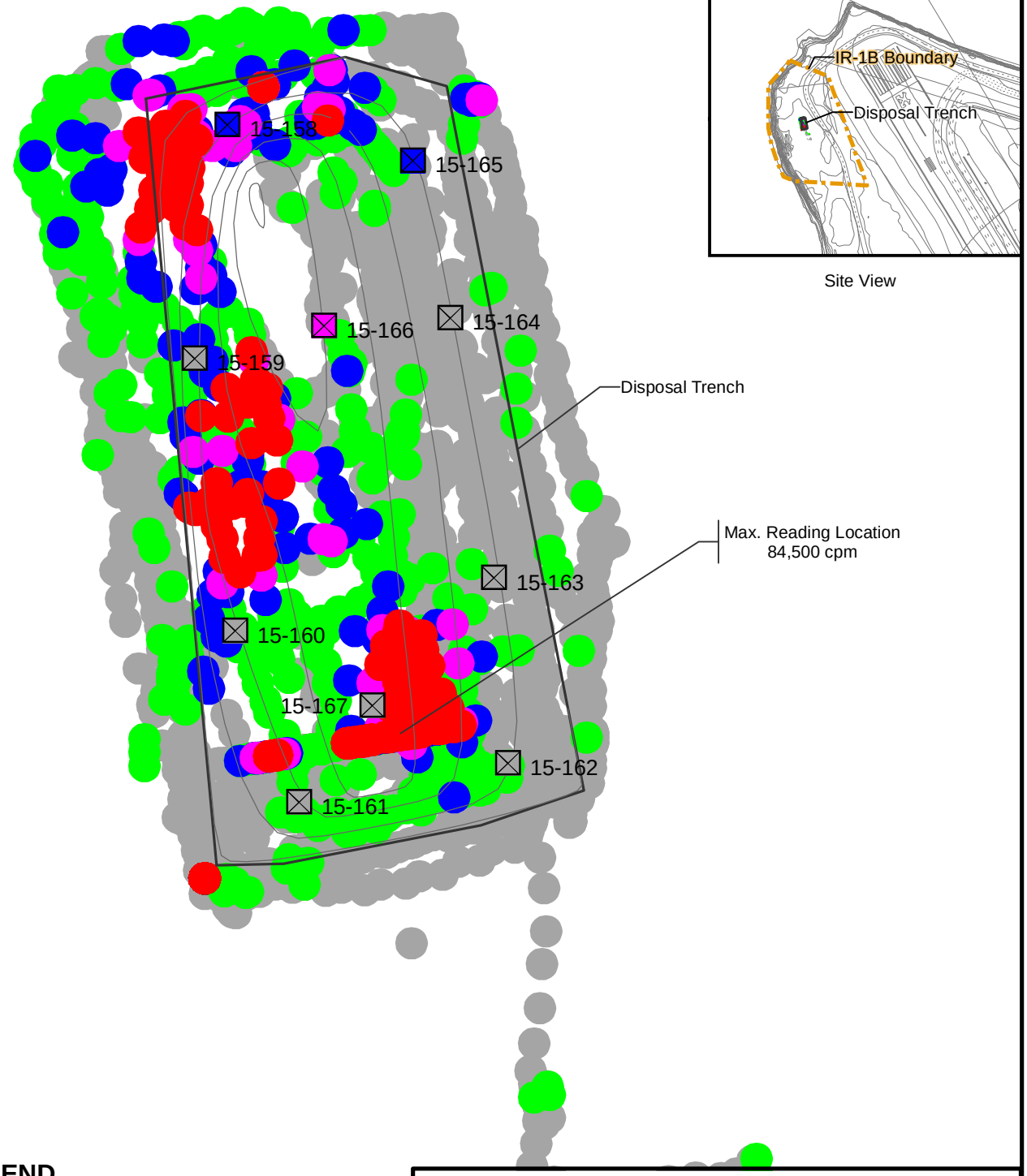


LEGEND

Gross CPM	Ra-226 pCi\g
< 6174 (<IL)	< 1
6174 - 7056	1 - 2
7056 - 7938	2 - 5
7938 - 8820	5 - 10
> 8820	> 10

N

5 0 5 10 Feet

Scale: 1" = 10'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

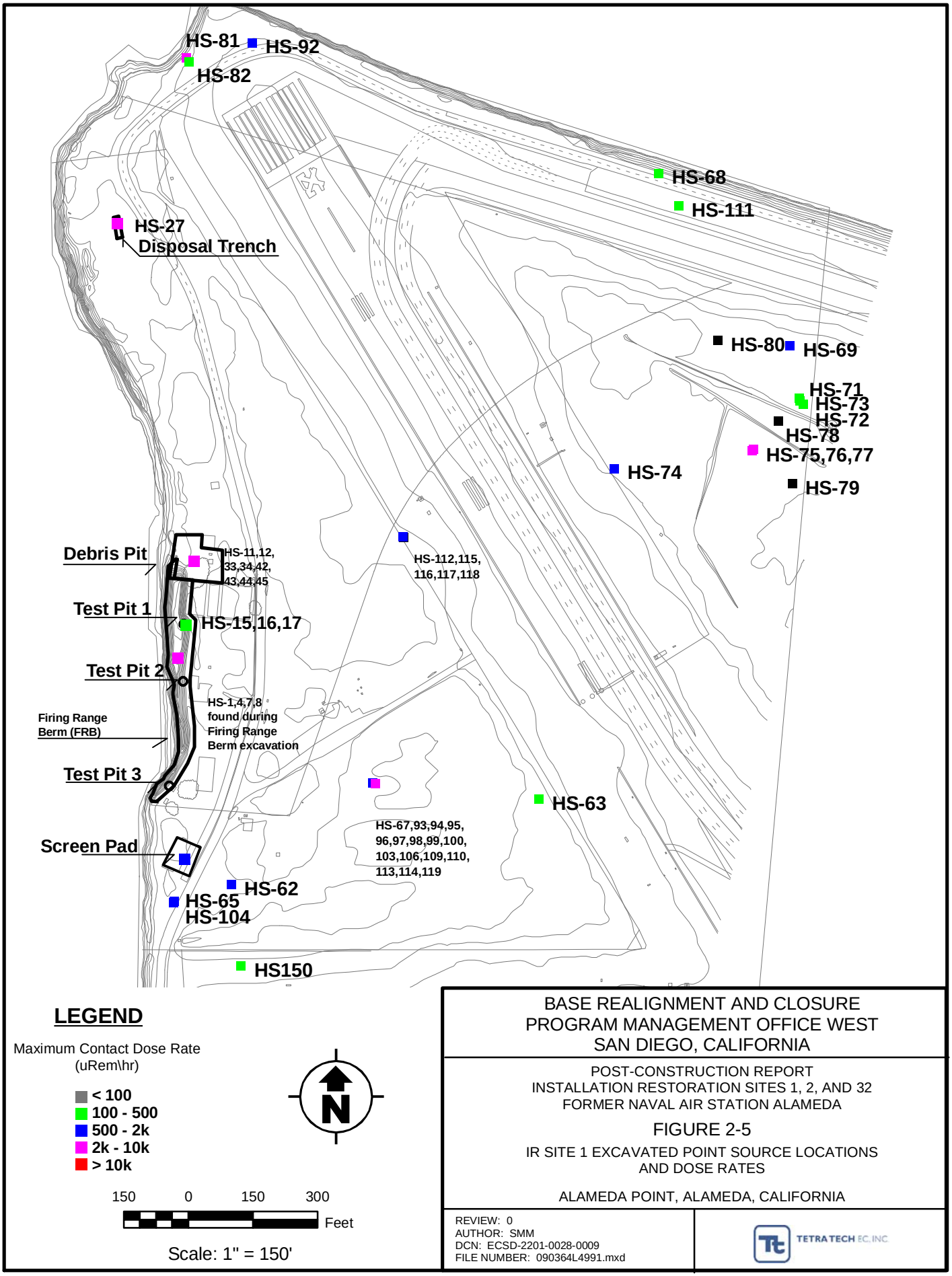
FIGURE 2-4

IR SITE 1 DISPOSAL TRENCH POST-EXCAVATION
GAMMA AND SOIL SAMPLE LOCATIONS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4990.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Contact Dose Rate
(uRem\hr)

- < 100
- 100 - 500
- 500 - 2k
- 2k - 10k
- > 10k

N

150 0 150 300

Feet

Scale: 1" = 150'

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POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

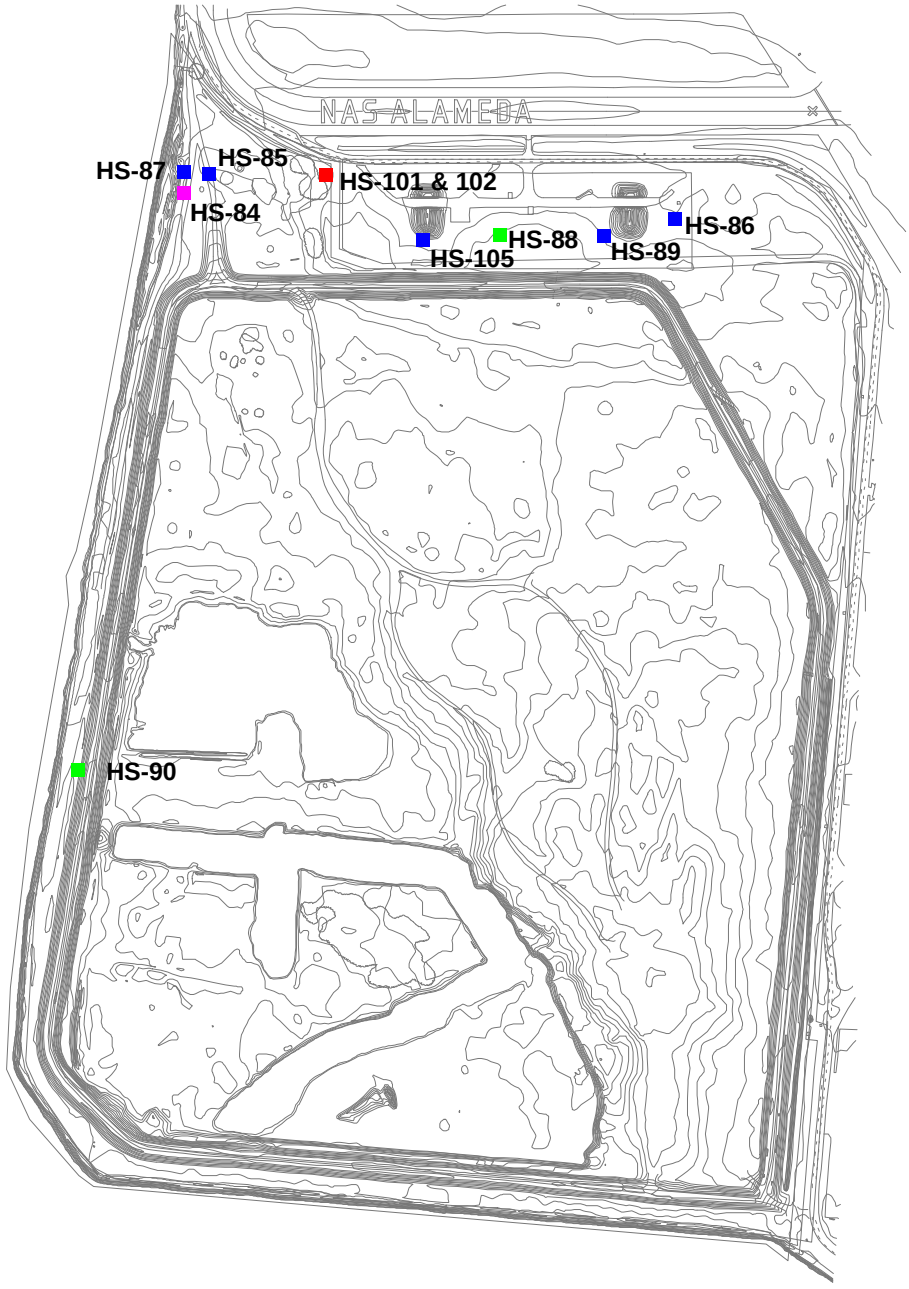
FIGURE 2-5

IR SITE 1 EXCAVATED POINT SOURCE LOCATIONS
AND DOSE RATES

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4991.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Contact Dose Rate
(uRem\hr)

- **< 100**
- **100 - 500**
- **500 - 2k**
- **2k - 10k**
- **> 10k**

N

250 0 250 500 Feet

Scale: 1" = 500'

BASE REALIGNMENT AND CLOSURE
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POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

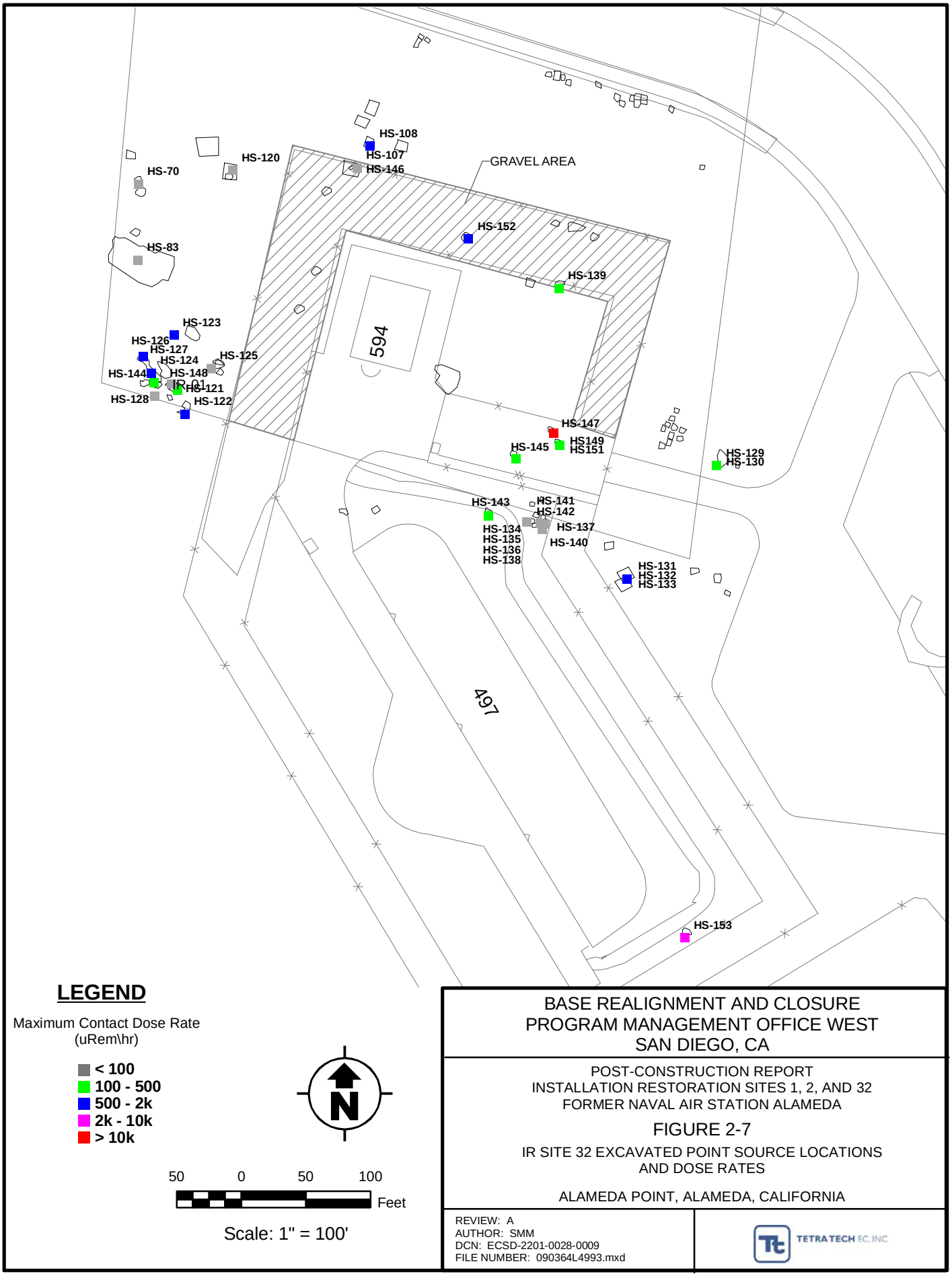
FIGURE 2-6

IR SITE 2 EXCAVATED POINT SOURCE LOCATIONS
AND DOSE RATES

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4992.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Contact Dose Rate
(uRem\hr)

- < 100
- 100 - 500
- 500 - 2k
- 2k - 10k
- > 10k

N

50 0 50 100
Feet

Scale: 1" = 100'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

FIGURE 2-7

IR SITE 32 EXCAVATED POINT SOURCE LOCATIONS
AND DOSE RATES

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4993.mxd

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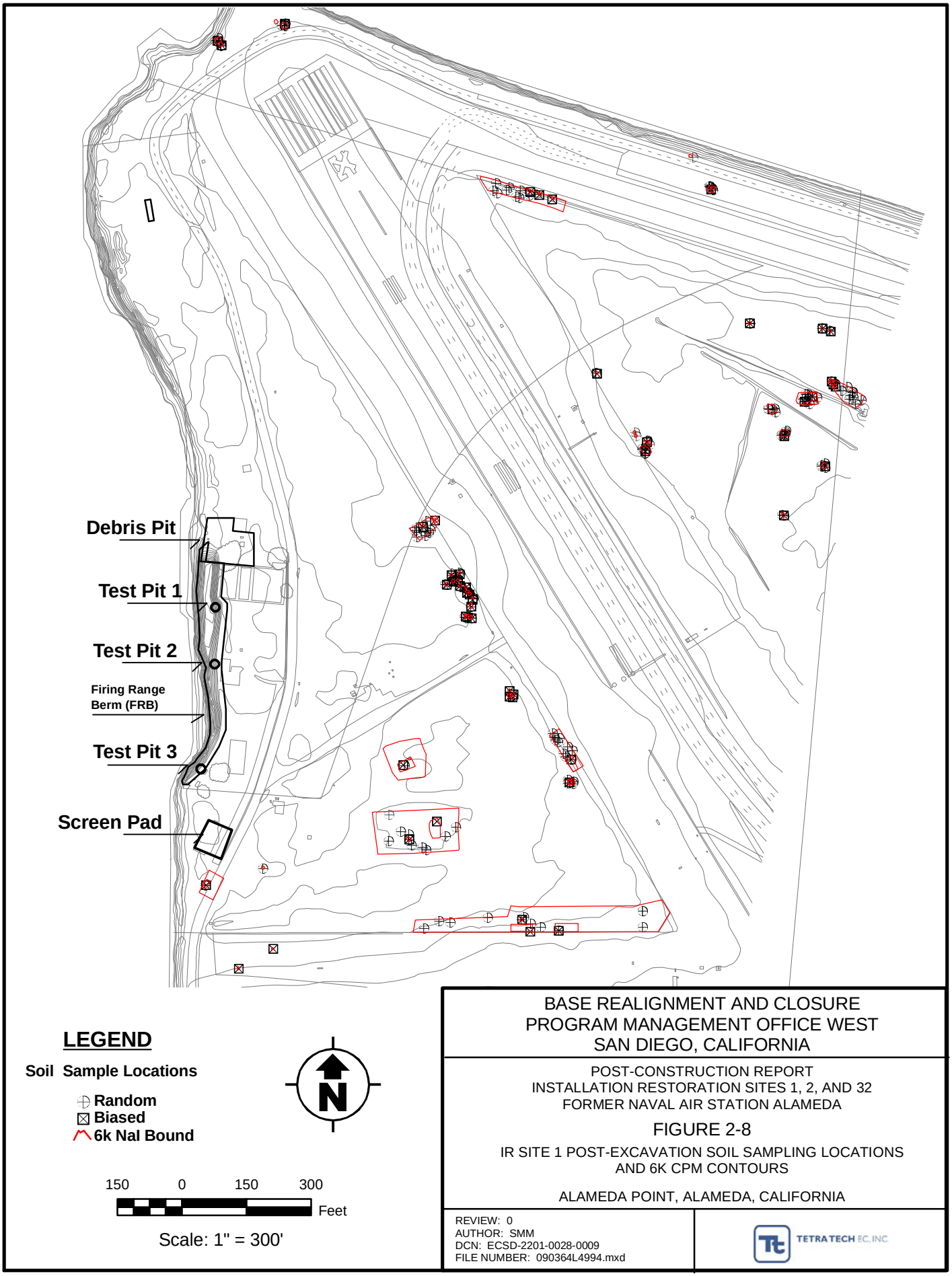


BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

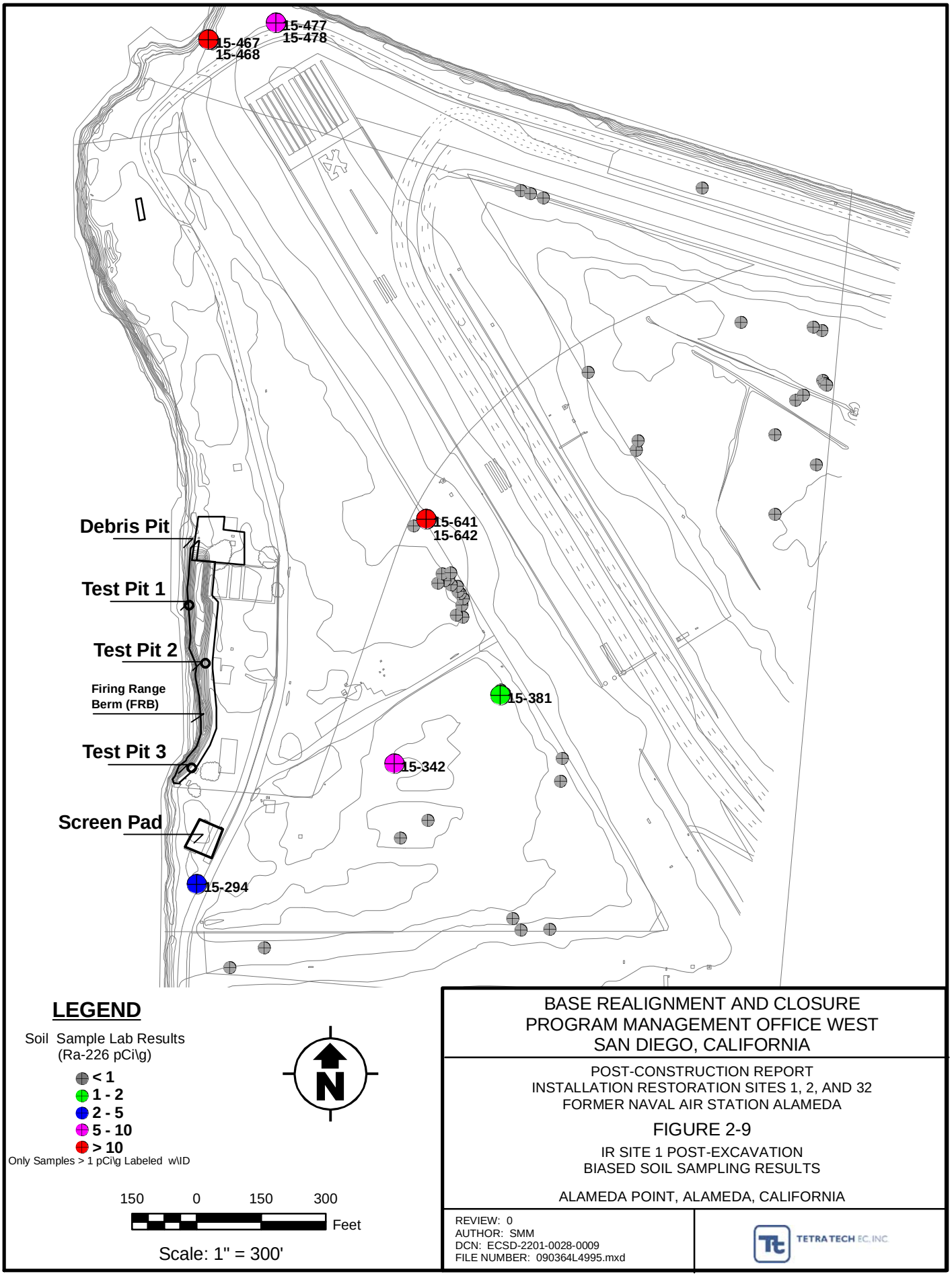
FIGURE 2-8

IR SITE 1 POST-EXCAVATION SOIL SAMPLING LOCATIONS
AND 6K CPM CONTOURS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4994.mxd

TETRA TECH EC, INC.



BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

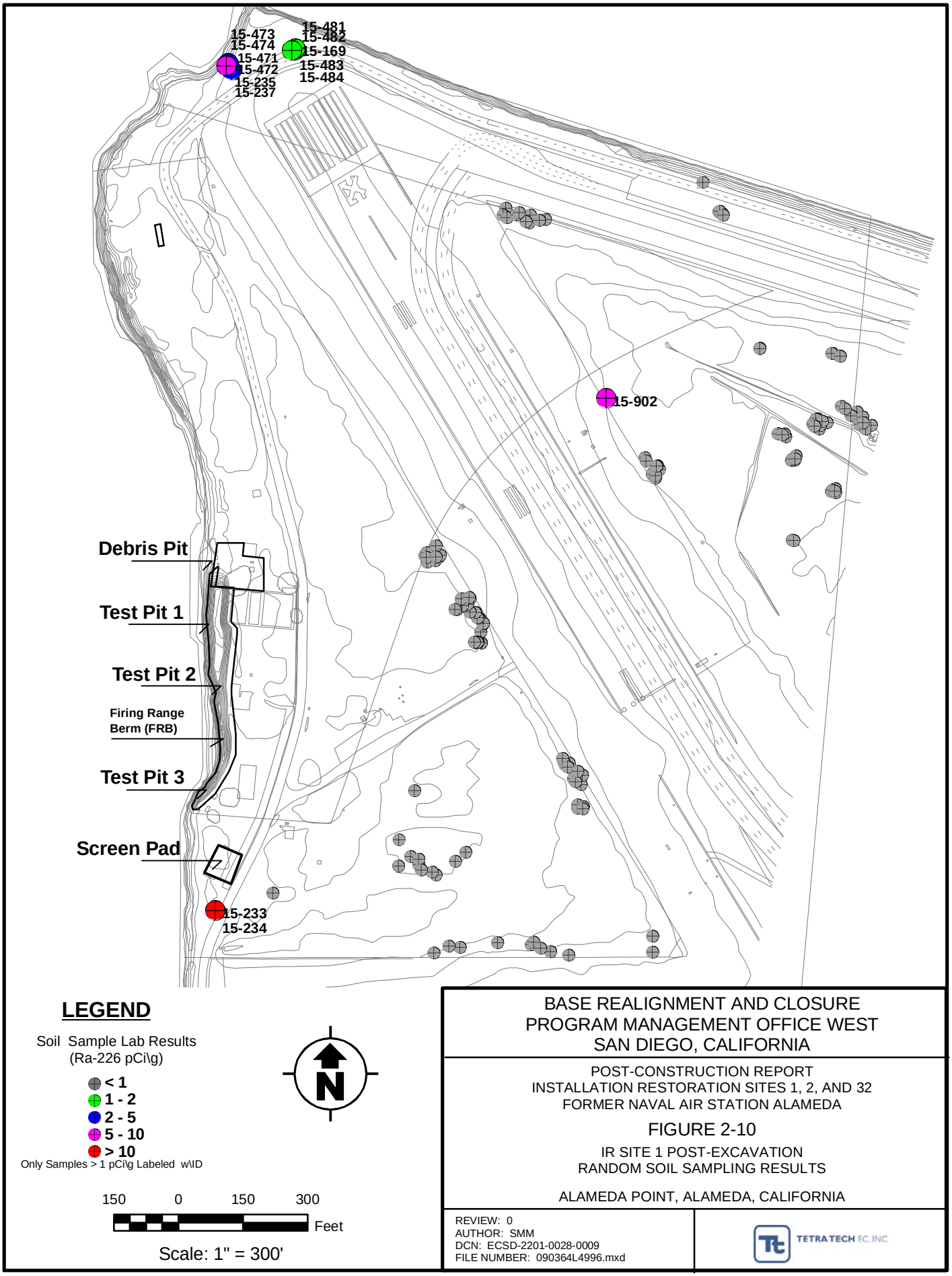
FIGURE 2-9

IR SITE 1 POST-EXCAVATION
BIASED SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4995.mxd

TETRA TECH EC, INC.



BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

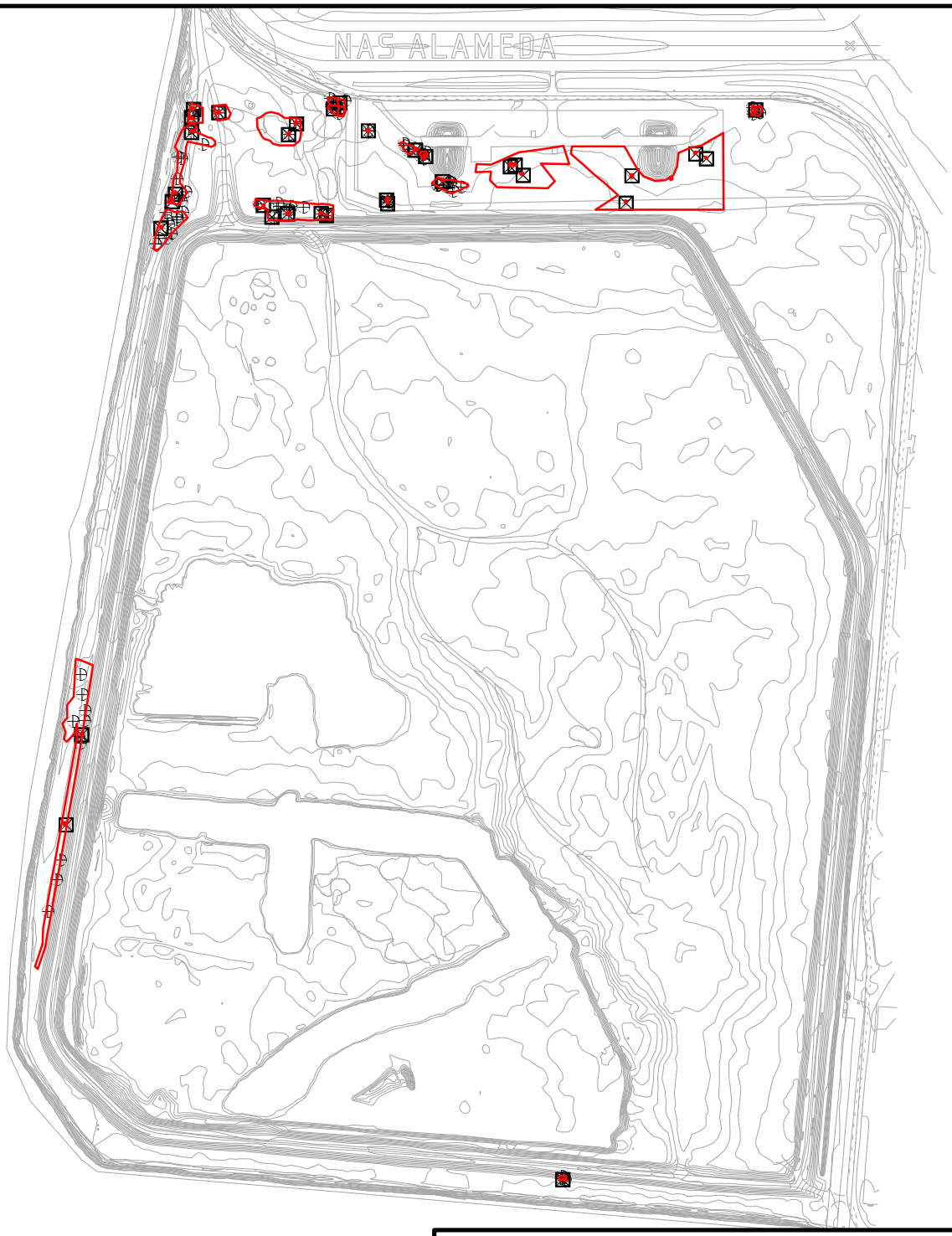
FIGURE 2-10

IR SITE 1 POST-EXCAVATION
RANDOM SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4996.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Locations

- **Random**
- **Biased**
- **6k Nal Bound**

N

200 0 200 400

Feet

Scale: 1" = 400'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

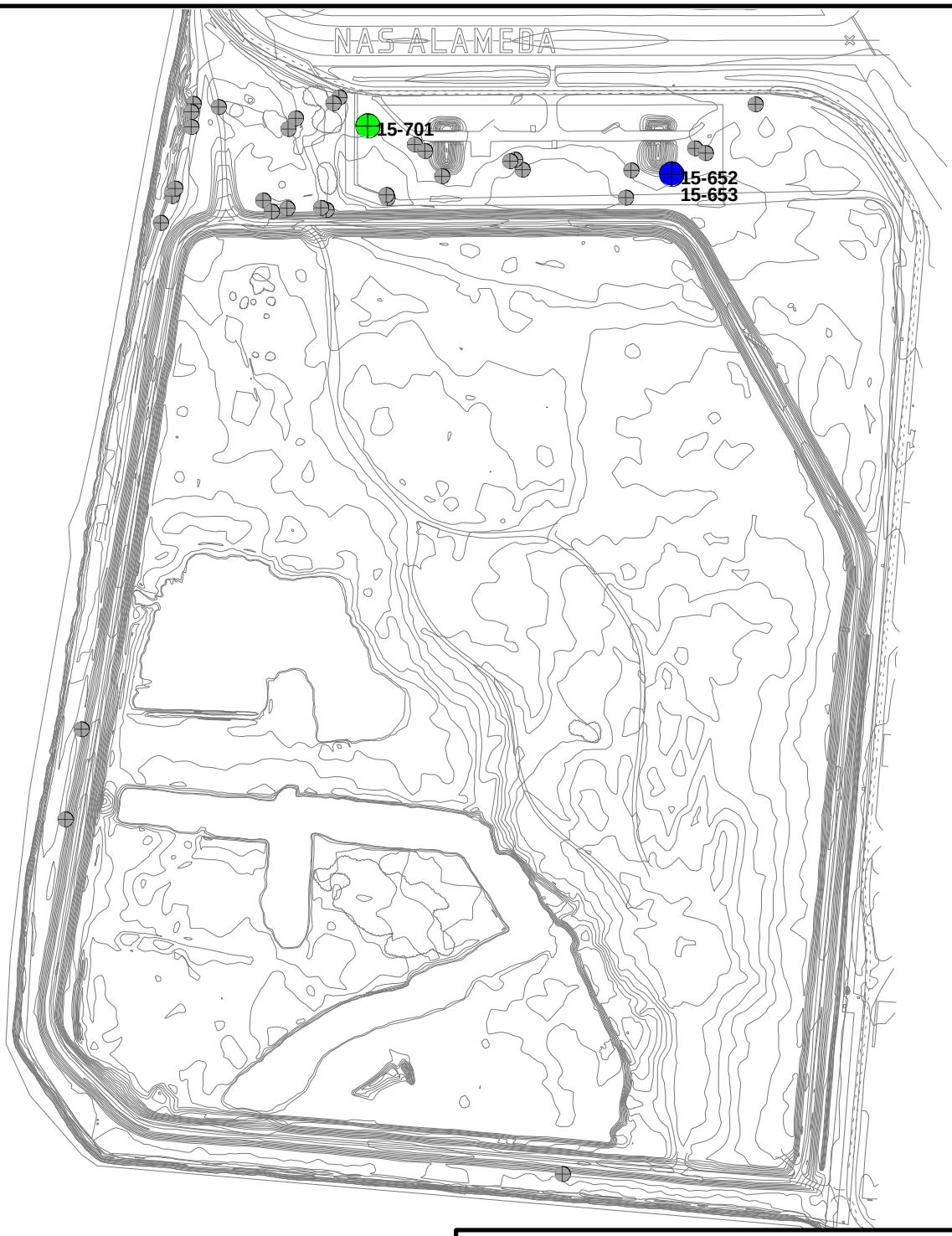
FIGURE 2-11

IR SITE 2 POST-EXCAVATION SOIL SAMPLING LOCATIONS
AND 6K CPM CONTOURS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4997.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Lab Results
(Ra-226 pCi\g)

- < 1
- 1 - 2
- 2 - 5
- 5 - 10

Only Samples > 1 pCi\g Labeled w\ID

N

200 0 200 400
Feet

Scale: 1" = 400'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

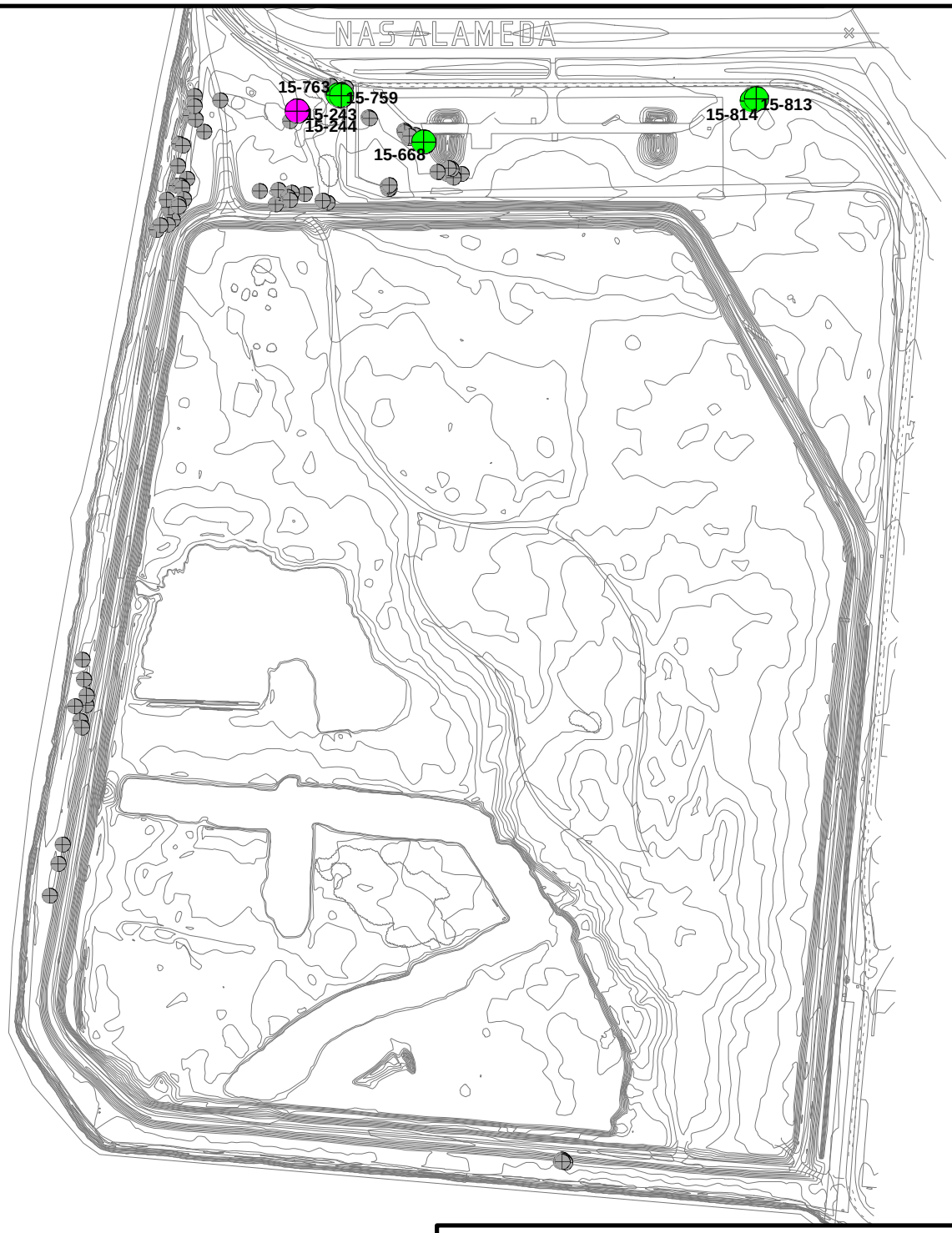
FIGURE 2-12

IR SITE 2 POST-EXCAVATION
BIASED SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4998.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Lab Results
(Ra-226 pCi\g)

- < 1
- 1 - 2
- 2 - 5
- 5 - 10

Only Samples > 1 pCi\g Labeled w\ID

N

200 0 200 400
Feet

Scale: 1" = 400'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

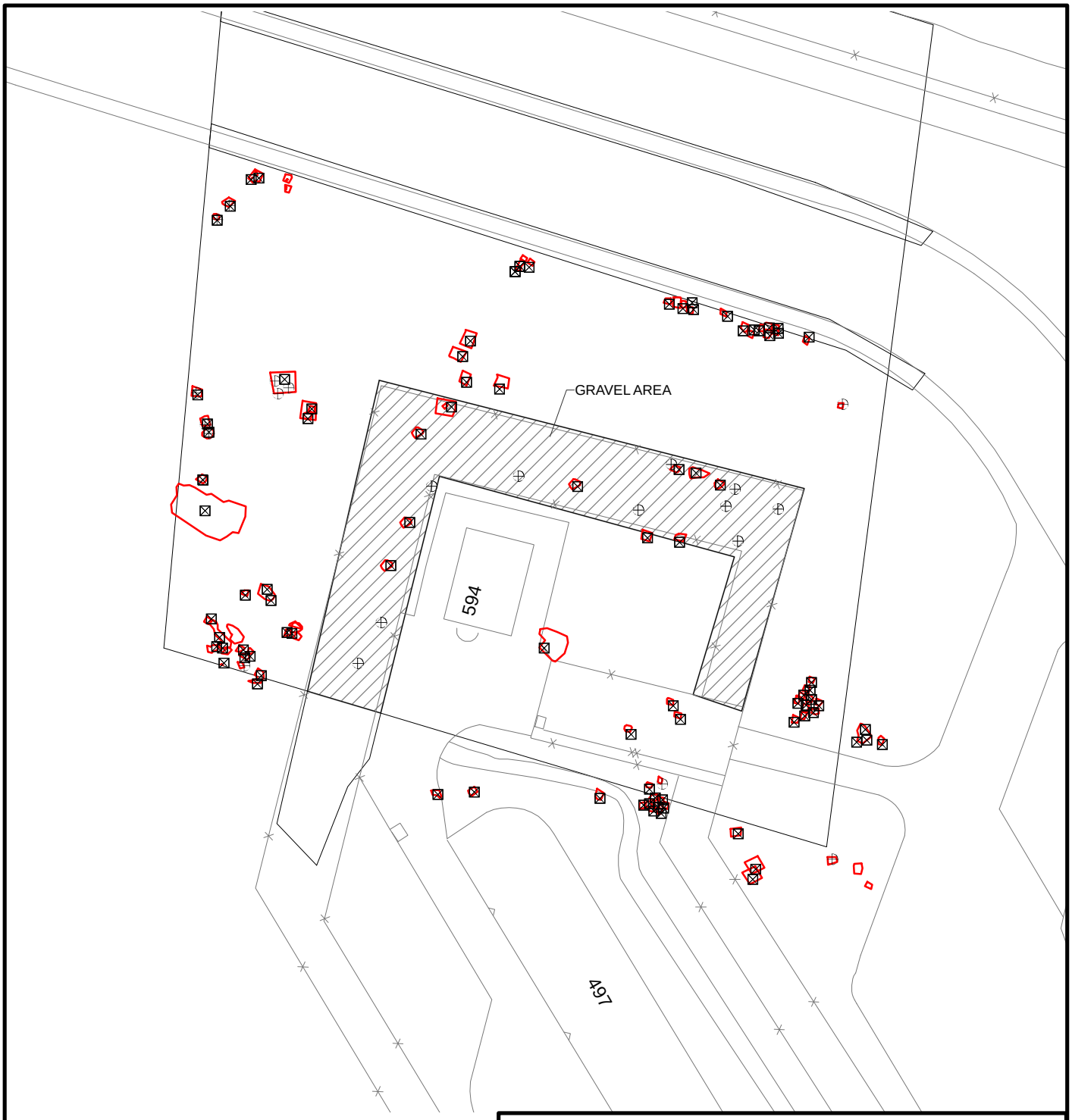
FIGURE 2-13

IR SITE 2 POST-EXCAVATION
RANDOM SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4999.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Locations

- **Random**
- **Biased**
- **6k Nal Bound**

N

50 0 50 100

Feet

Scale: 1" = 100'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

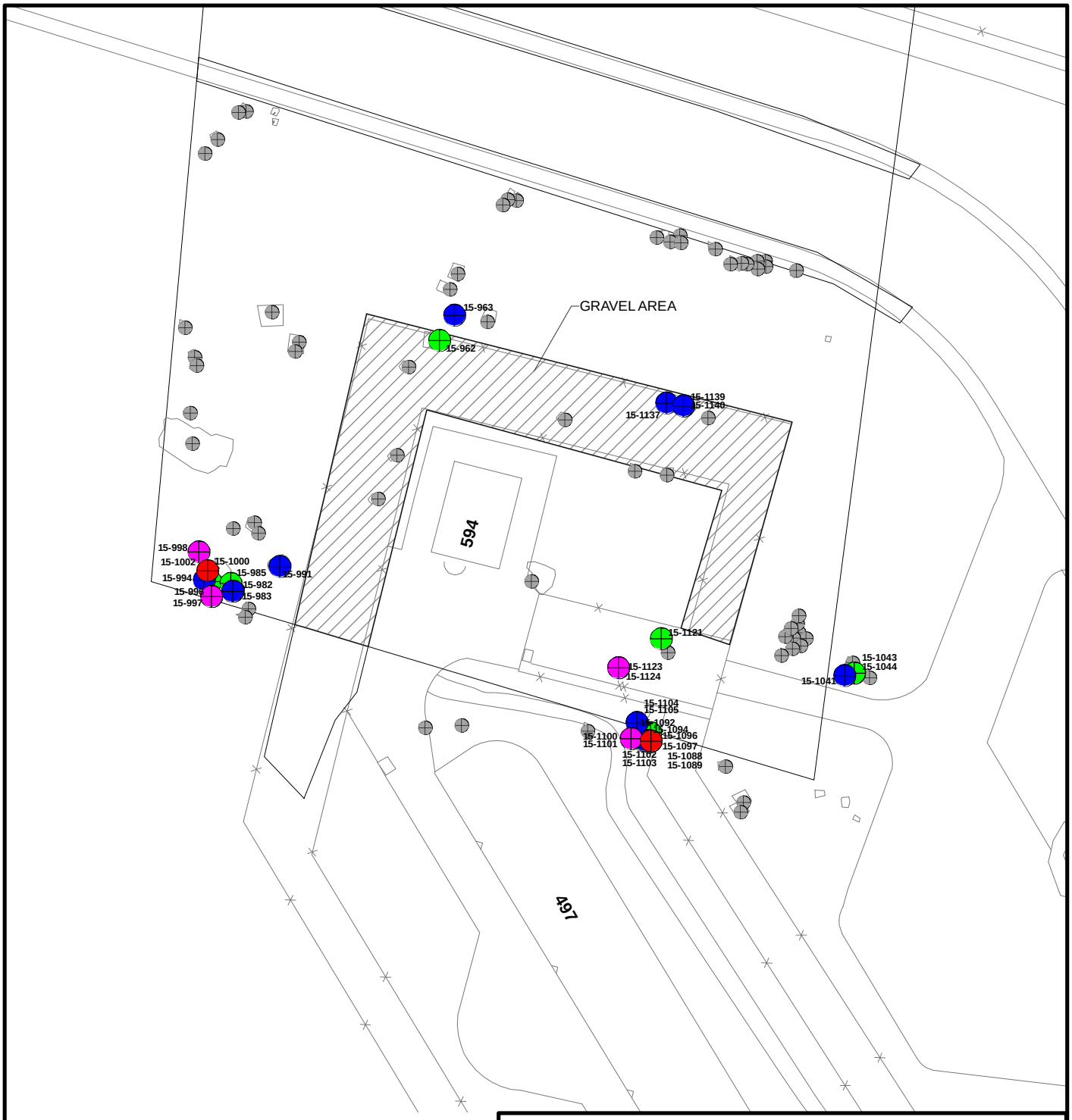
FIGURE 2-14

IR SITE 32 POST-EXCAVATION SOIL SAMPLING LOCATIONS
AND 6K CPM CONTOURS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5000.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Lab Results
(Ra-226 pCi\g)

- < 1
- 1 - 2
- 2 - 5
- 5 - 10
- > 10

N

50 0 50 100 Feet

Scale: 1" = 100'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

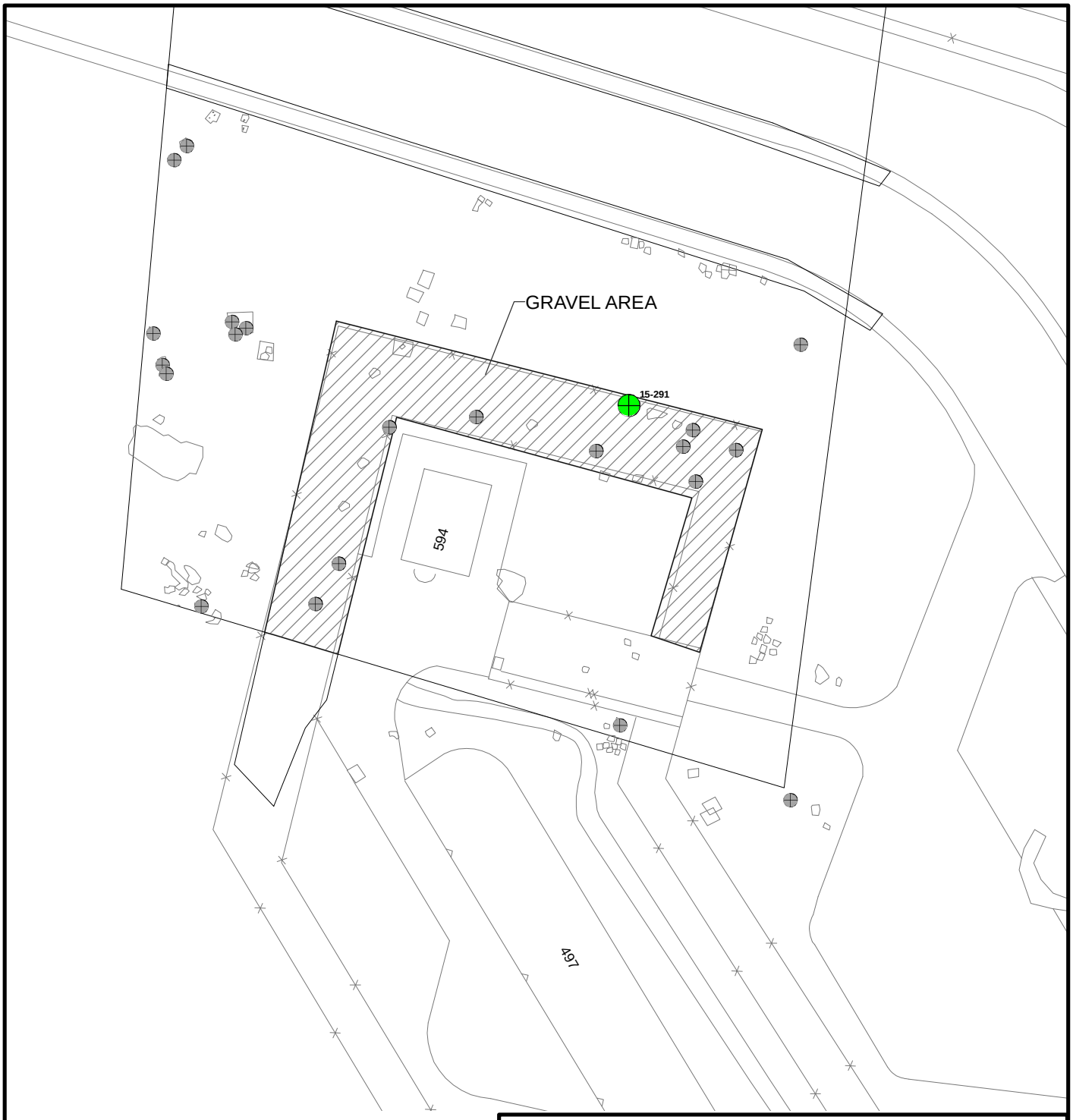
FIGURE 2-15

IR SITE 32 POST-EXCAVATION
BIASED SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5001.mxd

TETRA TECH EC, INC.



LEGEND

Soil Sample Lab Results
(Ra-226 pCi\g)

- < 1
- 1 - 2
- 2 - 5
- 5 - 10
- > 10

Only Samples > 1 pCi\g Labeled w\ID

N

50 0 50 100 Feet

Scale: 1" = 100'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

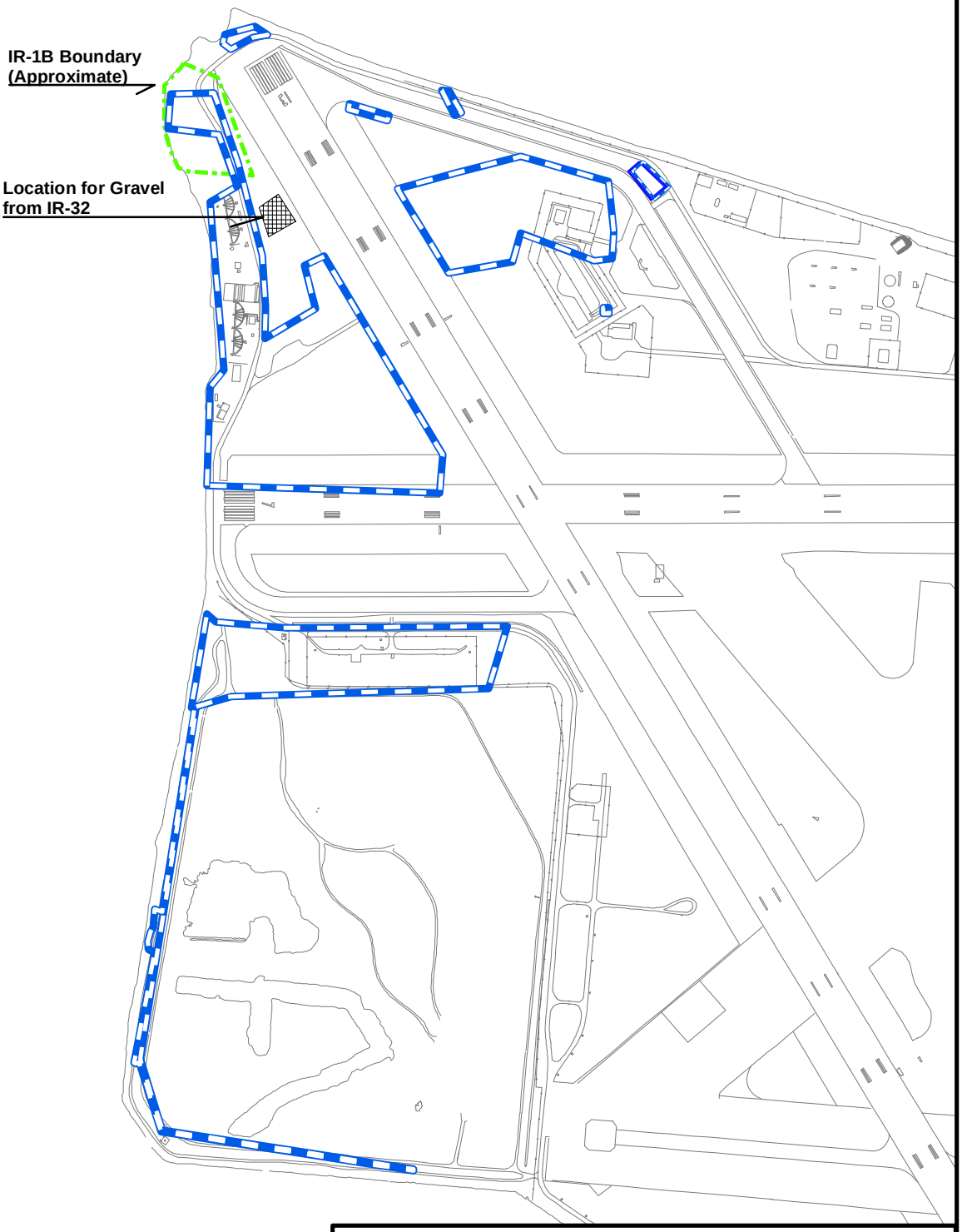
FIGURE 2-16

IR SITE 32 POST-EXCAVATION
RANDOM SOIL SAMPLING RESULTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5002.mxd

TETRA TECH EC, INC.



LEGEND

Bound of Final Gamma Scan

N

400 0 400 800

Feet

Scale: 1" = 800'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

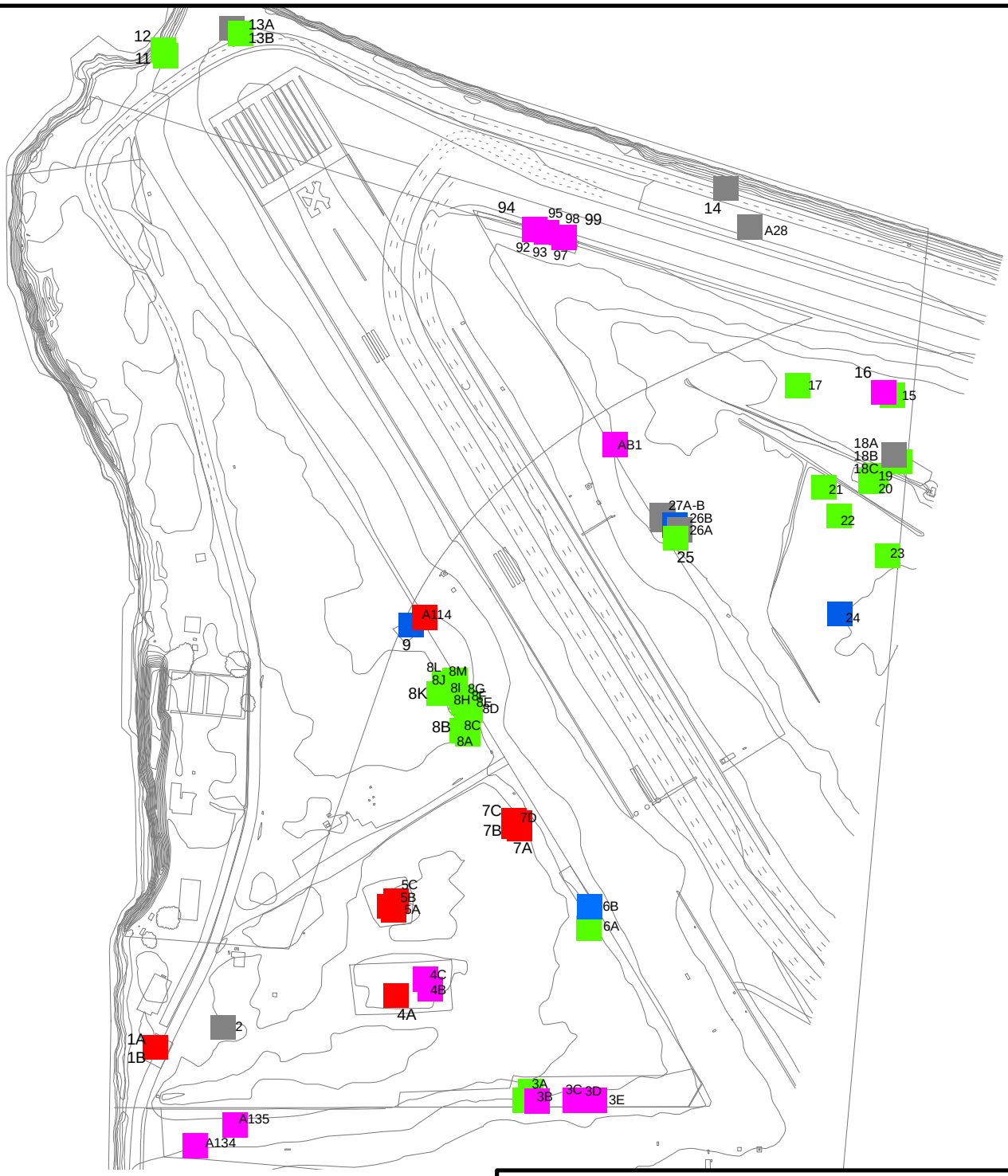
FIGURE 2-17

POST-CHARACTERIZATION GAMMA SURVEY BOUNDARIES

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5003.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Field NaI Reading
(Gross CPM)\

- **< 6174 (< IL)**
- **6174 - 7056**
- **7056 - 7938**
- **7938 - 8820**
- **> 8820**

N

150 0 150 300

Feet

Scale: 1" = 300'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

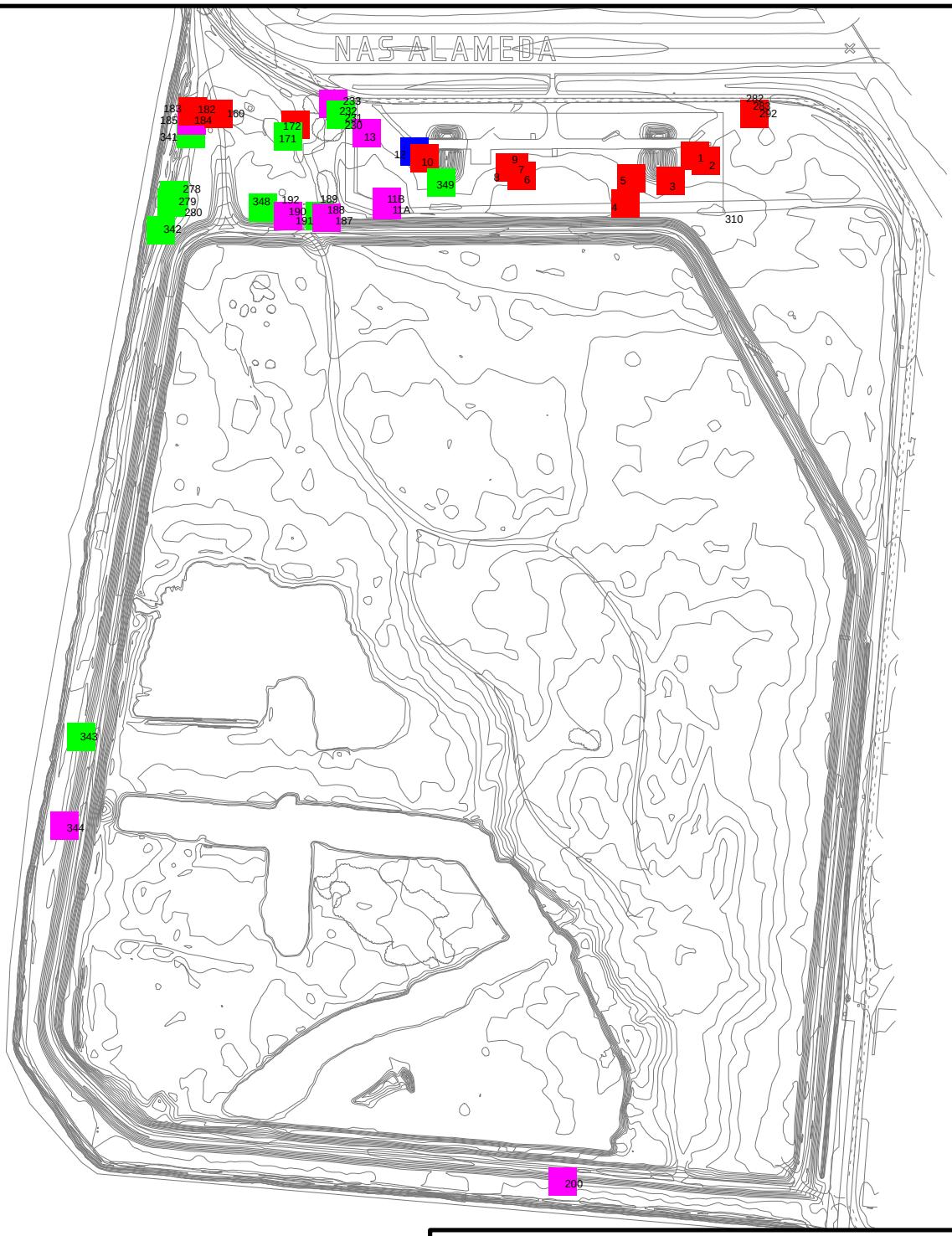
FIGURE 3-1

IR SITE 1 POST-EXCAVATION
GAMMA SCAN MEASUREMENTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5004.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Field NaI Reading
(Gross CPM)

- **< 6174 (<IL)**
- **6174 - 7056**
- **7056 - 7938**
- **7938 - 8820**
- **> 8820**

N

200 0 200 400
Feet

Scale: 1" = 400'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

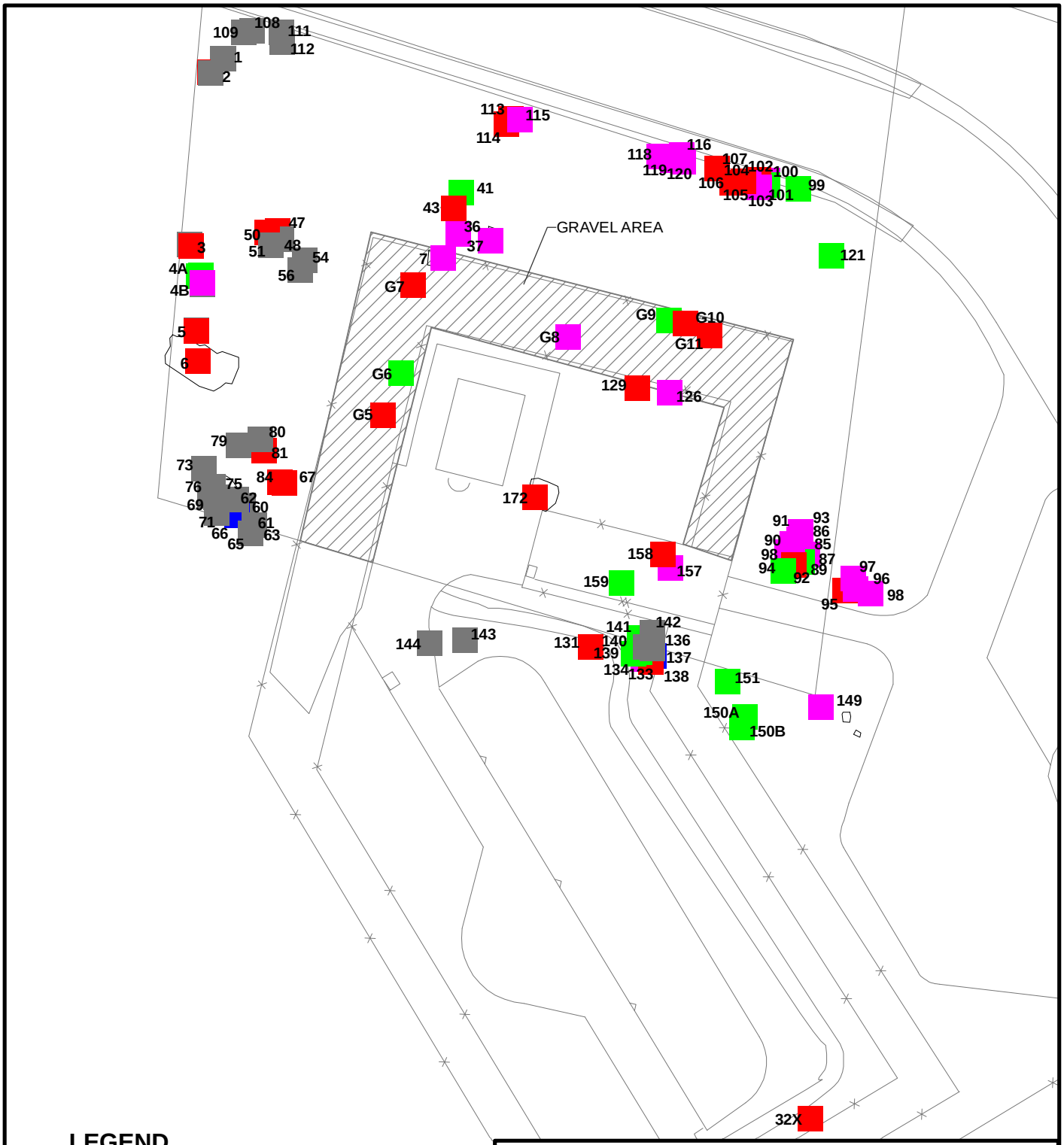
FIGURE 3-2

IR SITE 2 POST-EXCAVATION
GAMMA SCAN MEASUREMENTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5005.mxd

TETRA TECH EC, INC.



LEGEND

Maximum Field NaI Reading
(Gross CPM)

- < 6174 (<IL)
- 6174 - 7056
- 7056 - 7938
- 7938 - 8820
- > 8820

N

50 0 50 100 Feet

Scale: 1" = 100'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

FIGURE 3-3

IR SITE 32 POST-EXCAVATION
GAMMA SCAN MEASUREMENTS

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L5006.mxd

TETRA TECH EC, INC.

Disposal Trench

Debris Pit

Test Pit 1

Test Pit 2

Firing Range
Berm (FRB)

Test Pit 3

Screen Pad

Detail Area

Location Map

LEGEND

ROAD

AREAS NOT SCANNED
DUE TO OBSTRUCTIONS

GAMMA (CPM)

- 0-4,000
- 4,000-7,500
- 7,500-10,000
- 10,000-15,000
- >15,000

100 0 100 200 Feet

Scale: 1" = 120'

N

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

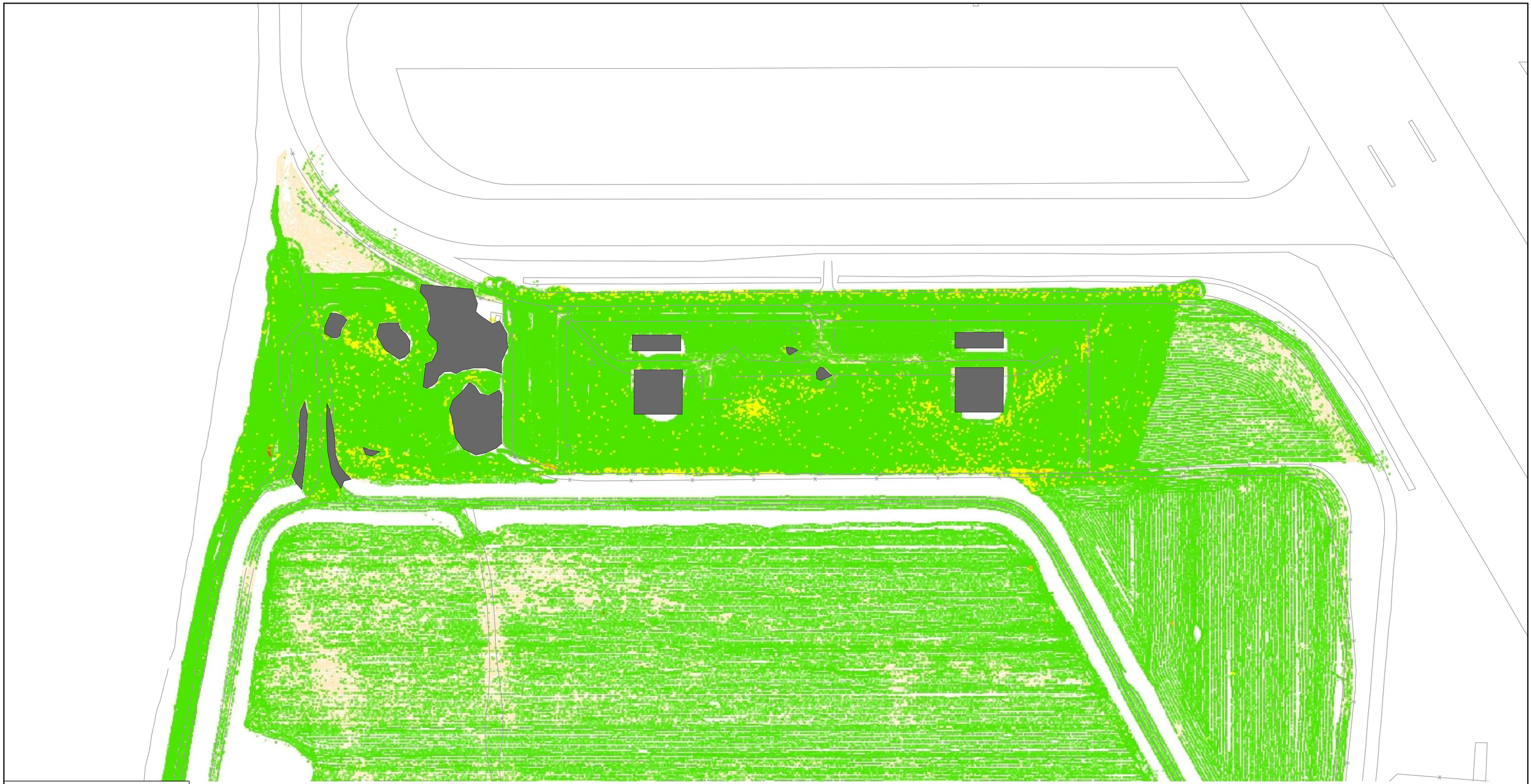
FIGURE 3-4

CUMULATIVE GAMMA SCAN IR SITE 1/IR SITE 32

ALAMEDA POINT, ALAMEDA, CALIFORNIA

REVIEW: A
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4975.mxd

TETRA TECH EC, INC.



LEGEND

ROAD

AREAS NOT SCANNED DUE TO OBSTRUCTIONS

GAMMA (CPM)

- 0-4,000
- 4,000-7,500
- 7,500-10,000
- 10,000-15,000
- >15,000

50 0 50 100 Feet

Scale: 1" = 75'

N

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

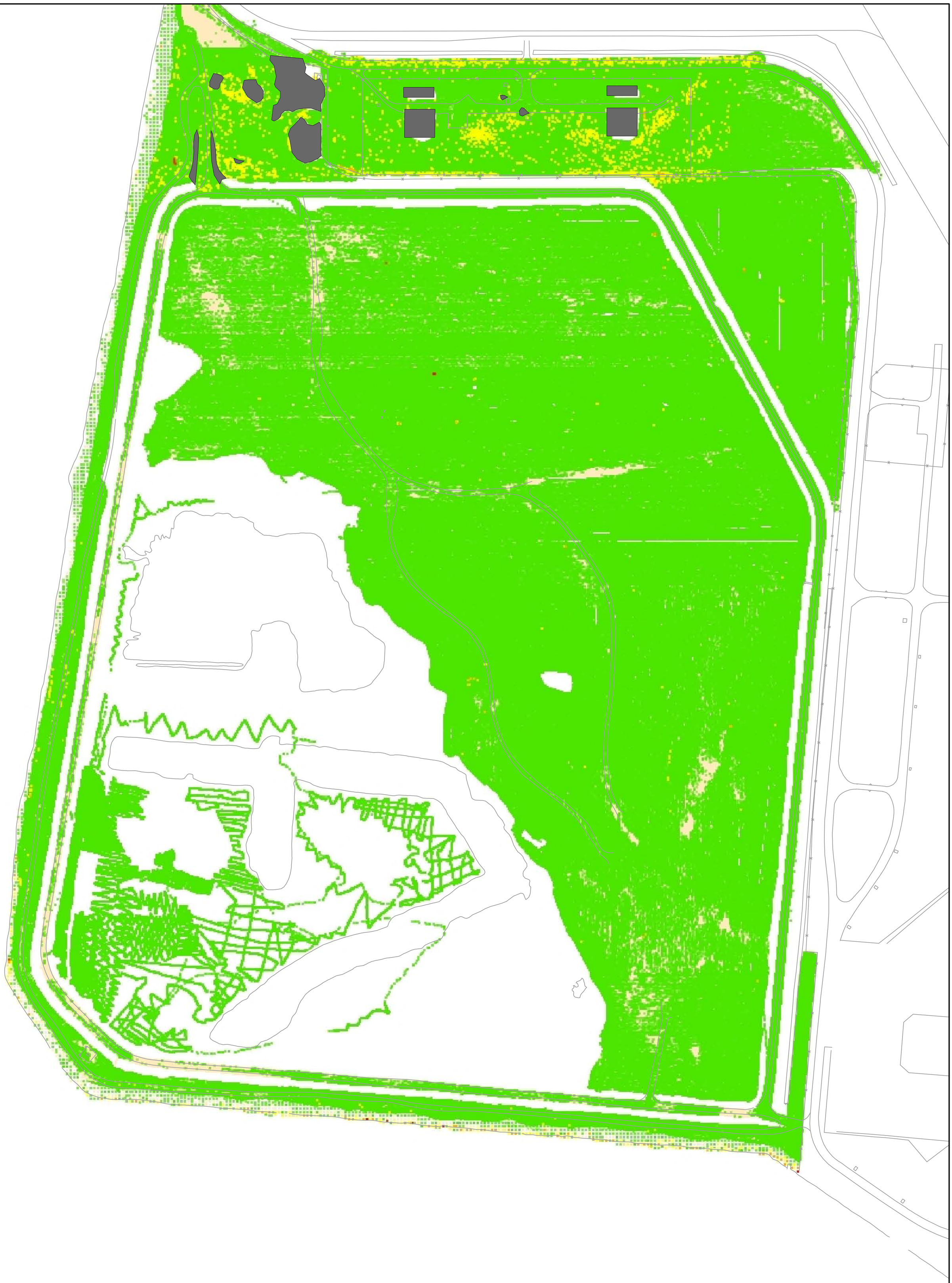
POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

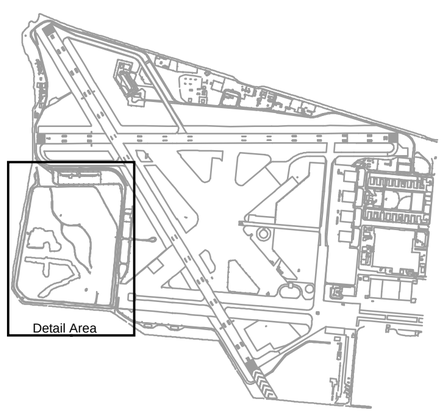
FIGURE 3-5

CUMULATIVE GAMMA SCAN IR SITE 2 NORTH
ALAMEDA POINT, ALAMEDA , CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4981.mxd

TETRA TECH EC, INC.





Location Map

LEGEND

- ROAD
- AREAS NOT SCANNED DUE TO OBSTRUCTIONS

GAMMA (CPM)

- 0-4,000
- 4,000-7,500
- 7,500-10,000
- 10,000-15,000
- >15,000

100 0 100 200 Feet

Scale: 1" = 120'

N

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

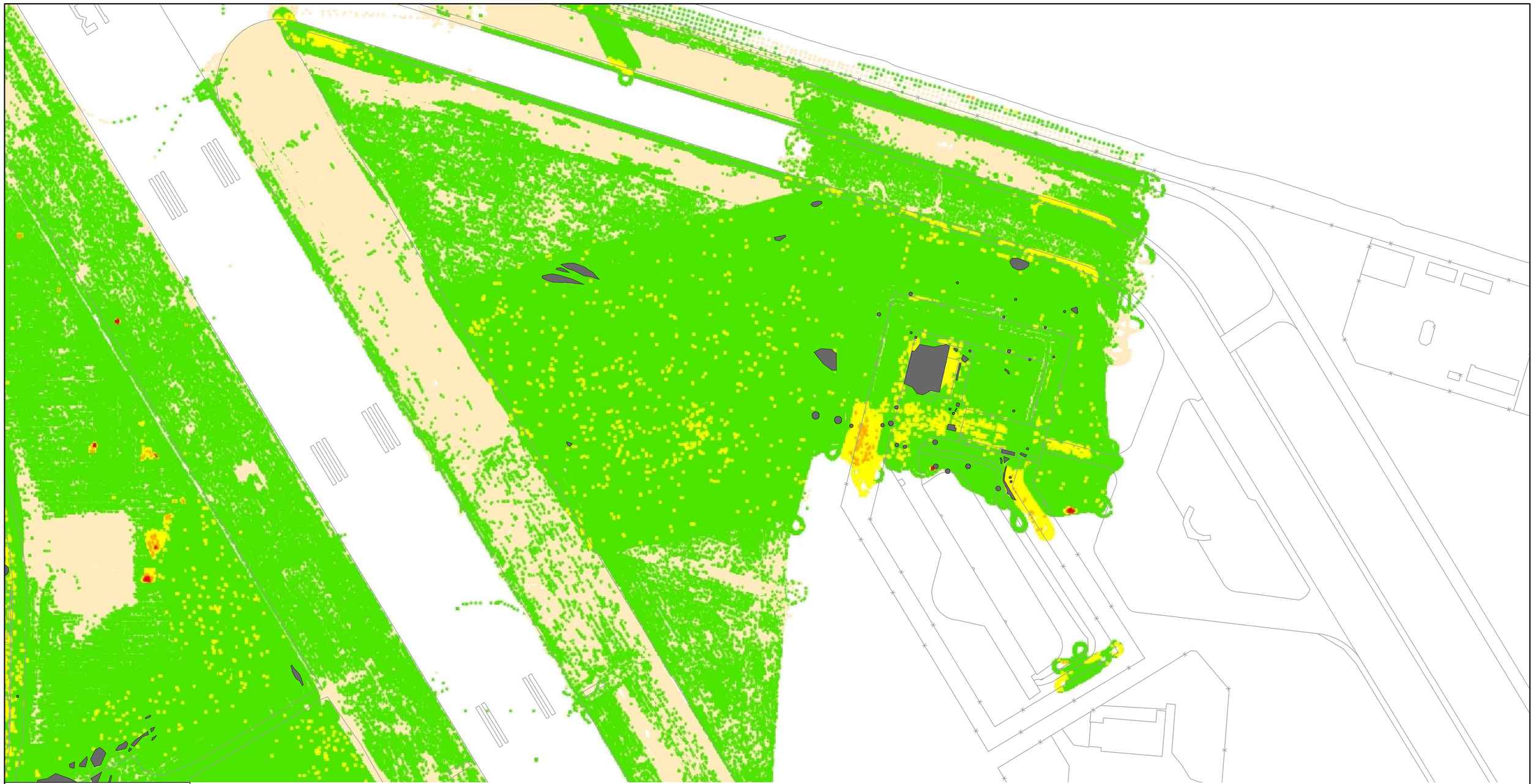
POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

FIGURE 3-6

CUMULATIVE GAMMA SCAN IR SITE 2 SOUTH
ALAMEDA POINT, ALAMEDA , CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4982.mxd

TETRA TECH EC, INC.



LEGEND

- ROAD
- AREAS NOT SCANNED DUE TO OBSTRUCTIONS

GAMMA (CPM)

- 0-4,000
- 4,000-7,500
- 7,500-10,000
- 10,000-15,000
- >15,000

35 0 35 70 Feet

Scale: 1" = 75'

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

POST-CONSTRUCTION REPORT
INSTALLATION RESTORATION SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA

FIGURE 3-7

CUMULATIVE GAMMA SCAN IR SITE 32
ALAMEDA POINT, ALAMEDA , CALIFORNIA

REVIEW: 0
AUTHOR: SMM
DCN: ECSD-2201-0028-0009
FILE NUMBER: 090364L4983.mxd

TETRA TECH EC, INC

APPENDIX A

LAND SURVEY DATA
(Available on CD only)

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N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

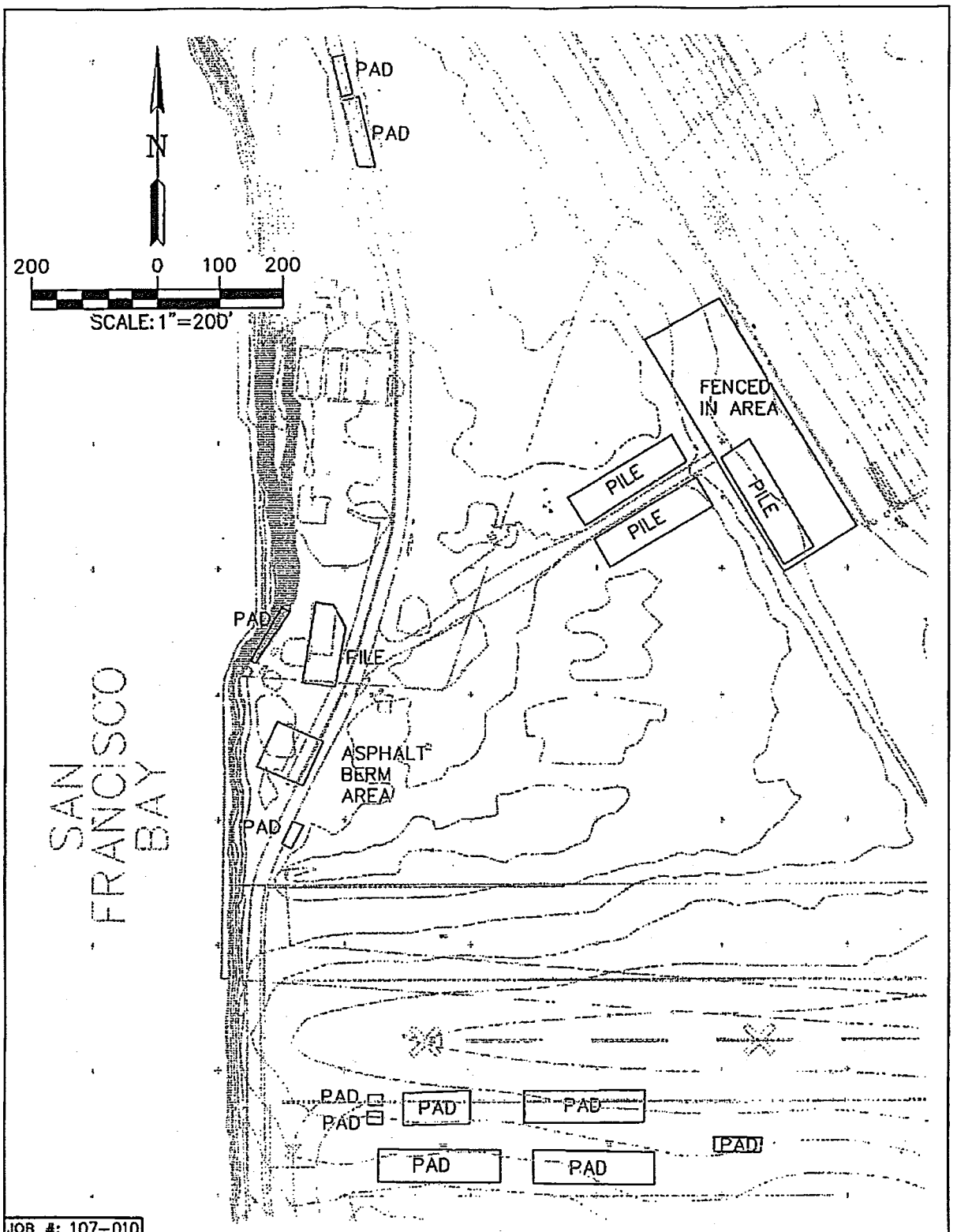
PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

PADS AND FENCE LOCATIONS

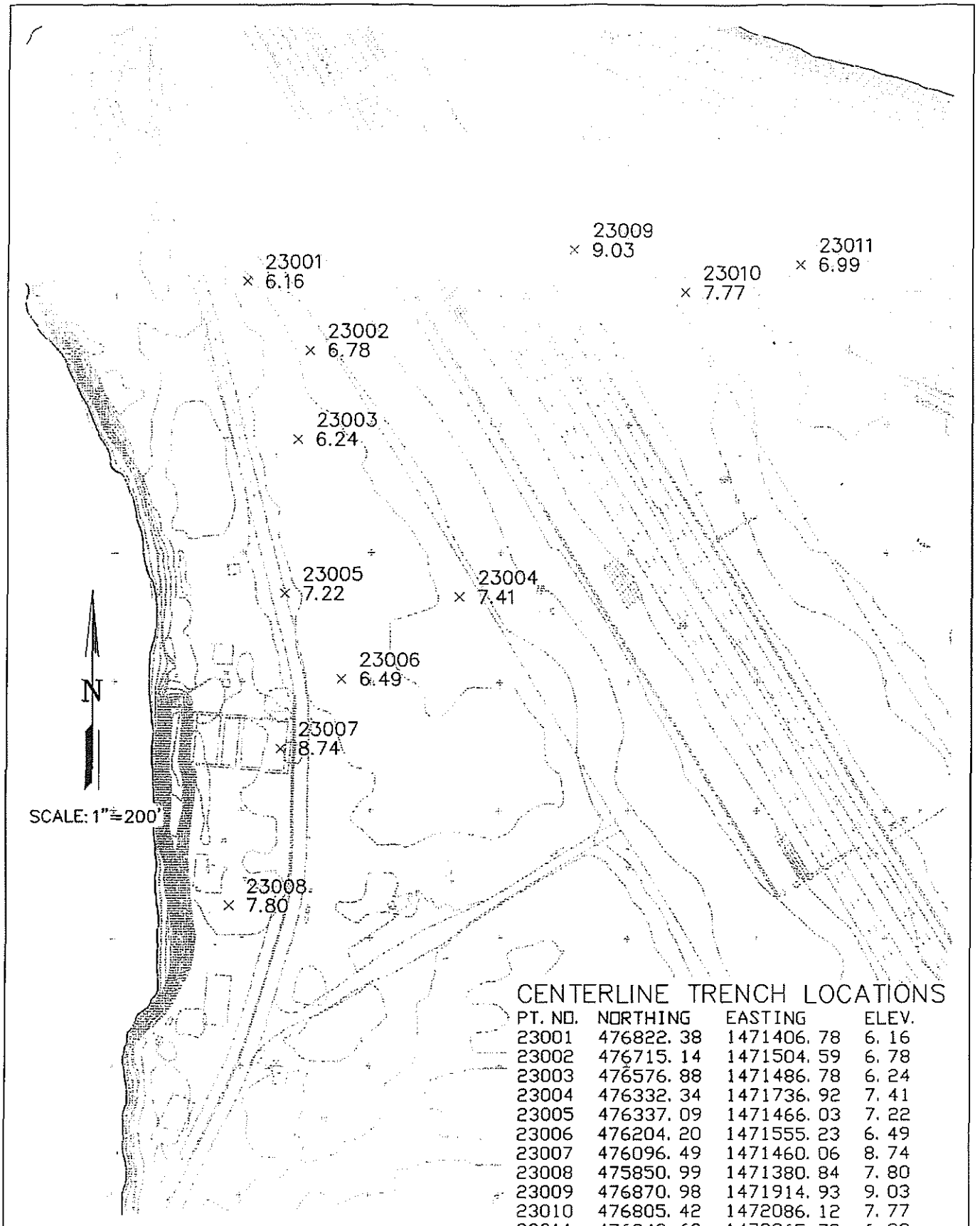
FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil



JOB #: 107-010 DATE: 10-09-07 SCALE: 1"=200' SHEET 1 OF 1	ALAMEDA PADS AND FENCE LOCATIONS	COAST SURVEYING, INC. 15031 PARKWAY LOOP, SUITE B TUSTIN, CA 92780-6527 (714) 918-6266



CENTERLINE TRENCH LOCATIONS

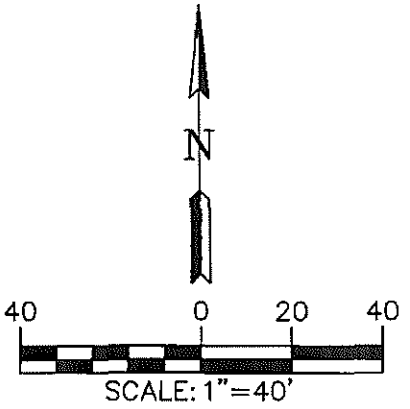
PT. NO.	NORTHING	EASTING	ELEV.
23001	476822.38	1471406.78	6.16
23002	476715.14	1471504.59	6.78
23003	476576.88	1471486.78	6.24
23004	476332.34	1471736.92	7.41
23005	476337.09	1471466.03	7.22
23006	476204.20	1471555.23	6.49
23007	476096.49	1471460.06	8.74
23008	475850.99	1471380.84	7.80
23009	476870.98	1471914.93	9.03
23010	476805.42	1472086.12	7.77
23011	476848.68	1472265.72	6.99

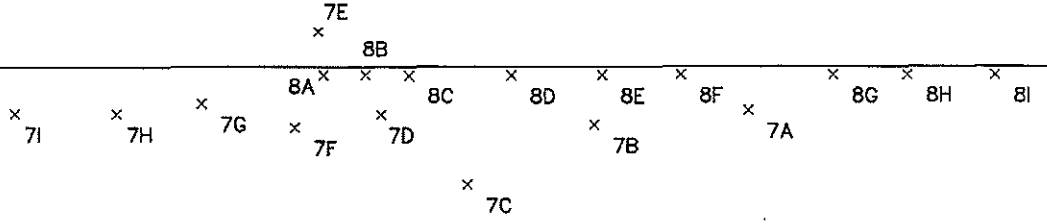
JOB #: 107-010
DATE: 10/09/07
SCALE: 1"=200'
SHEET 1 OF 1

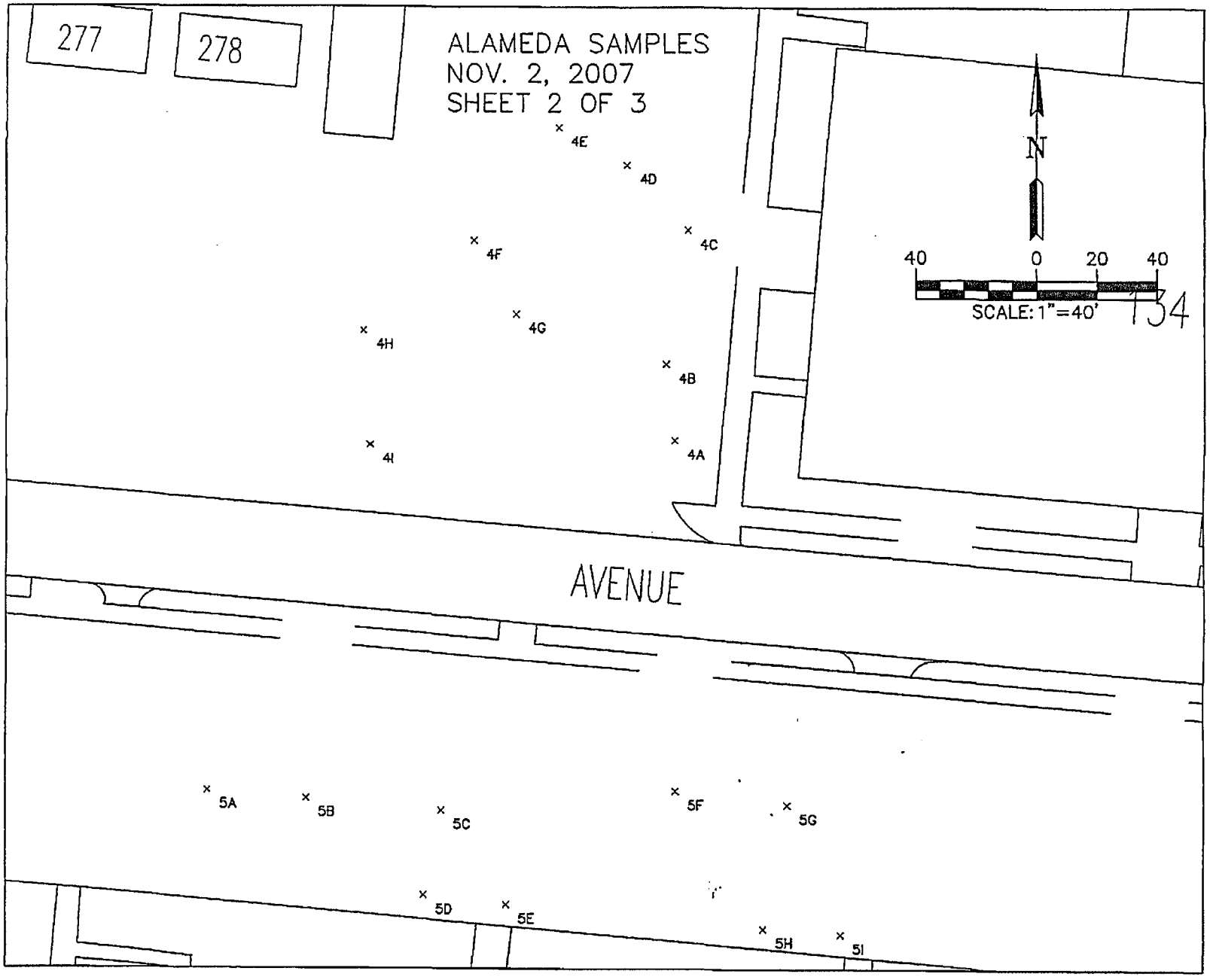
ALAMEDA
EXPLORATORY TRENCHES

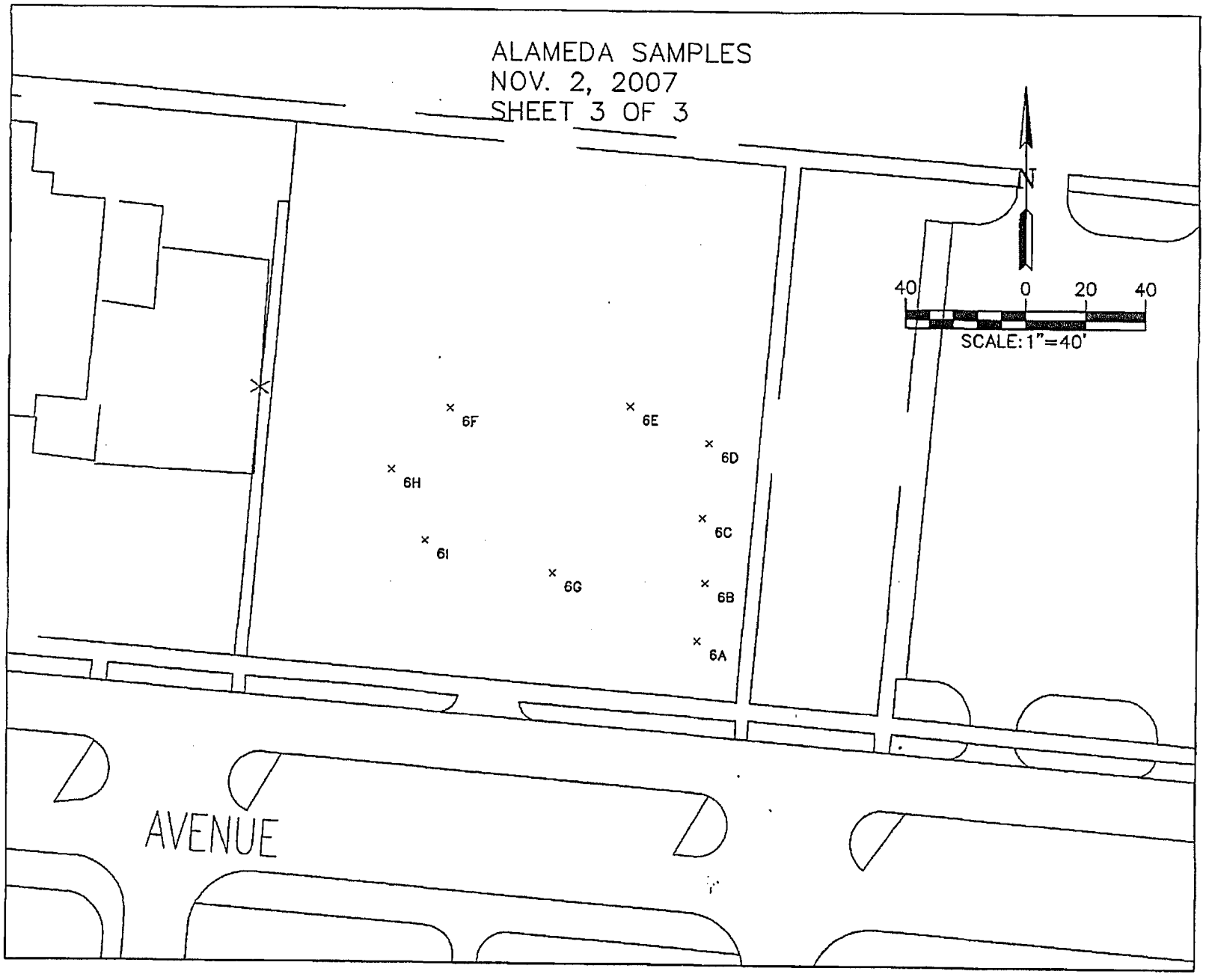
COAST SURVEYING, INC.
15031 PARKWAY LOOP, SUITE B
TUSTIN, CA 92780-6527 (714) 918-6266

ALAMEDA SAMPLES
NOV. 2, 2007
SHEET 1 OF 3

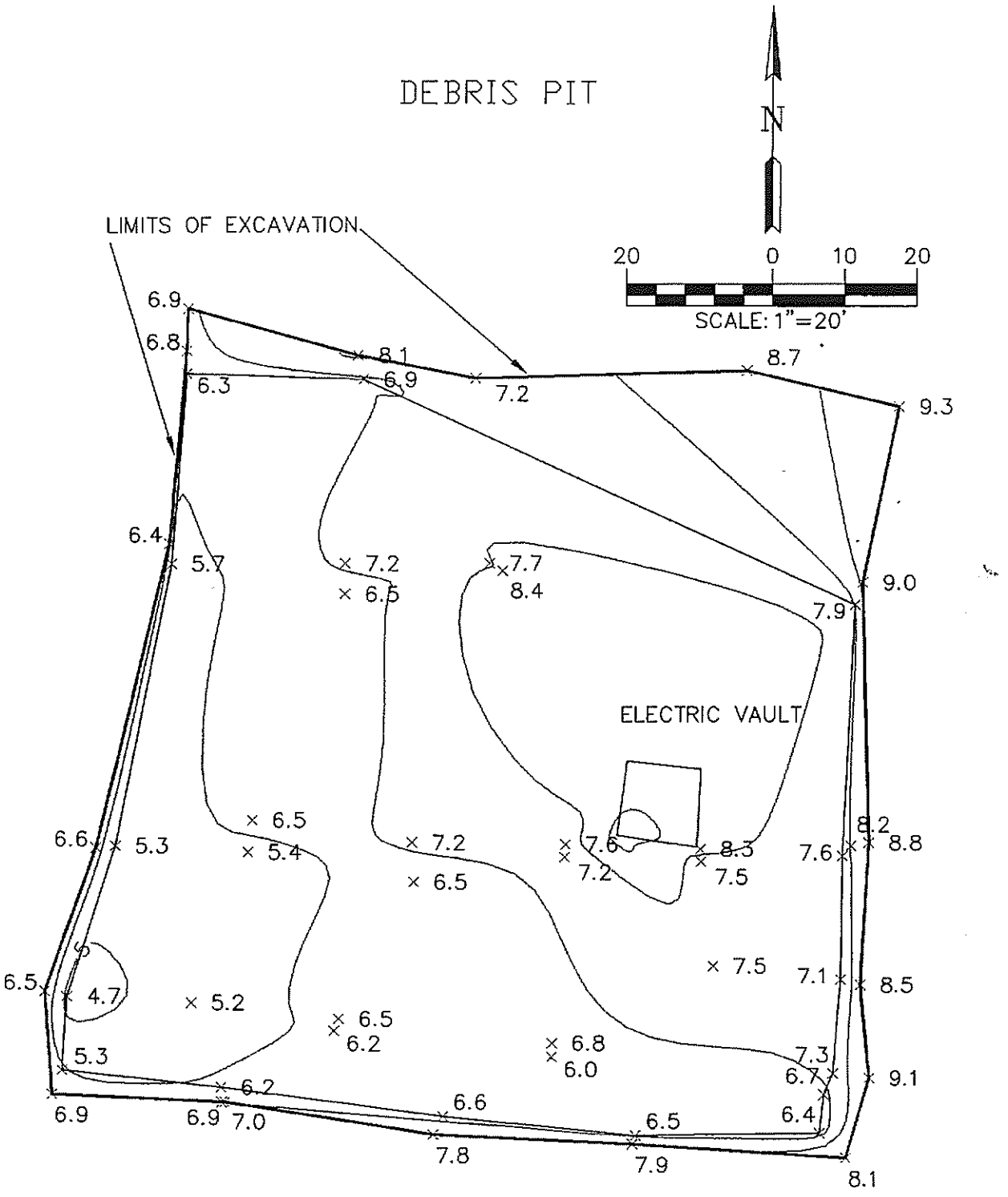





277
278
ALAMEDA SAMPLES
NOV. 2, 2007
SHEET 2 OF 3
4E
4D
4C
4F
4G
4H
4B
4I
4A
N
40 0 20 40
SCALE: 1"=40'
AVENUE
5A
5B
5C
5F
5G
5D
5E
5H
5I


ALAMEDA SAMPLES
NOV. 2, 2007
SHEET 3 OF 3
N
40
0
20
40
SCALE: 1"=40'
6F
6E
6D
6H
6C
6I
6G
6B
6A
AVENUE

DEBRIS PIT



208 CUBIC YARDS REMOVED

JOB #: 107-010 DATE: 1/18/08 SCALE: 1"=20' SHEET 1 OF 1	ALAMEDA DEBRIS PIT	COAST SURVEYING, INC. 15031 PARKWAY LOOP, SUITE B TUSTIN, CA 92780-6527 (714) 918-6266

FIRING RANGE
PRE-CONSTRUCTION

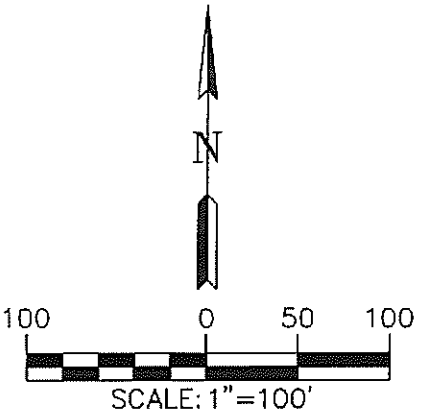
N

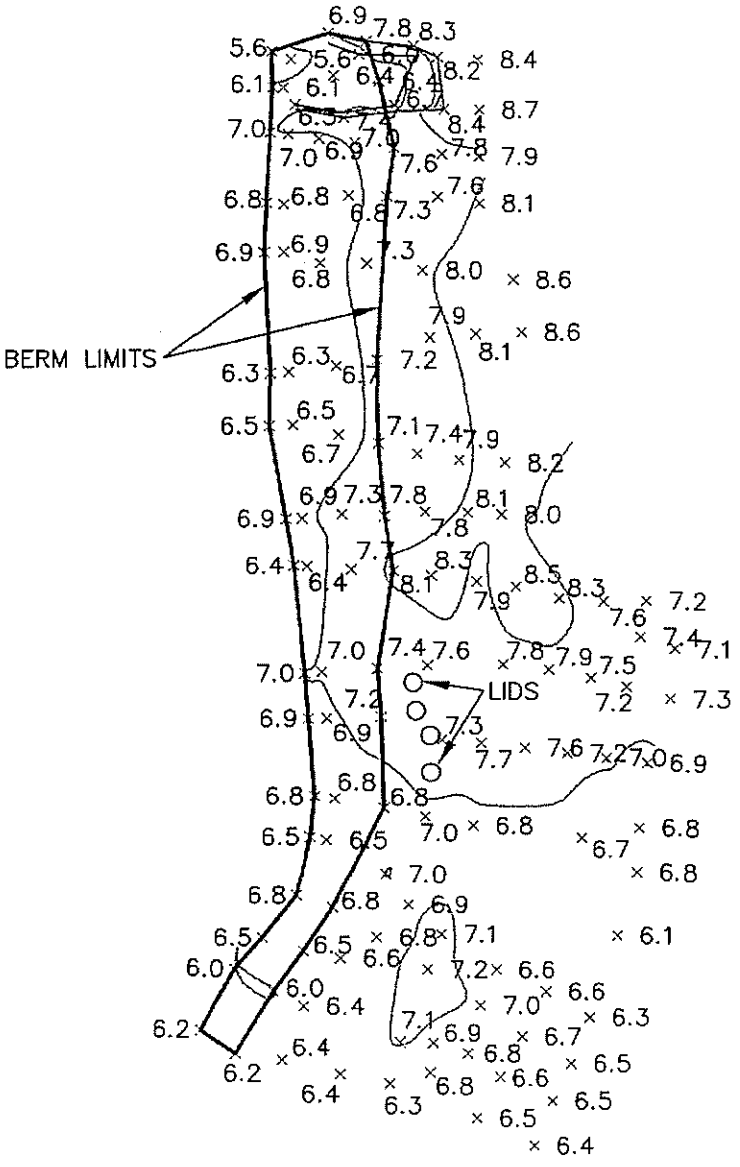
100 0 50 100

SCALE: 1"=100'

JOB #: 107-010 DATE: 1/18/08 SCALE: 1"=100' SHEET 1 OF 2	ALAMEDA FIRING RANGE BERM PRE-CONSTRUCTION	COAST SURVEYING, INC. 15031 PARKWAY LOOP, SUITE B TUSTIN, CA 92780-6527 (714) 918-6266

FIRING RANGE
POST-CONSTRUCTION

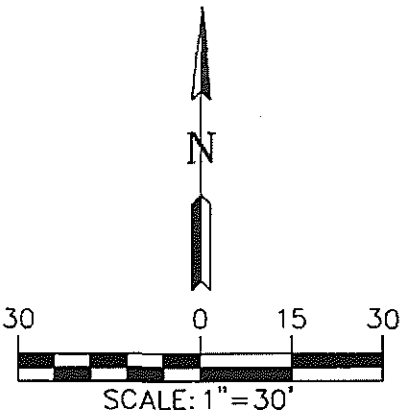


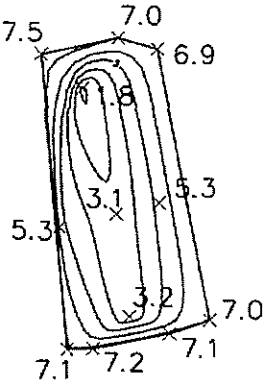


4187 CUBIC YARDS
REMOVED

JOB #: 107-010 DATE: 1/18/08 SCALE: 1"=100' SHEET 2 OF 2	ALAMEDA FIRING RANGE BERM POST-CONSTRUCTION	COAST SURVEYING, INC. 15031 PARKWAY LOOP, SUITE B TUSTIN, CA 92780-6527 (714) 918-6266

DISPOSAL TRENCH





95 CUBIC YARDS
REMOVED

JOB #: 107-010	ALAMEDA	COAST SURVEYING, INC.
DATE: 1/22/08	DISPOSAL TRENCH	15031 PARKWAY LOOP, SUITE B
SCALE: 1"=30'	EXCAVATION	TUSTIN, CA 92780-6527 (714) 918-6266
SHEET 1 OF 1		

N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

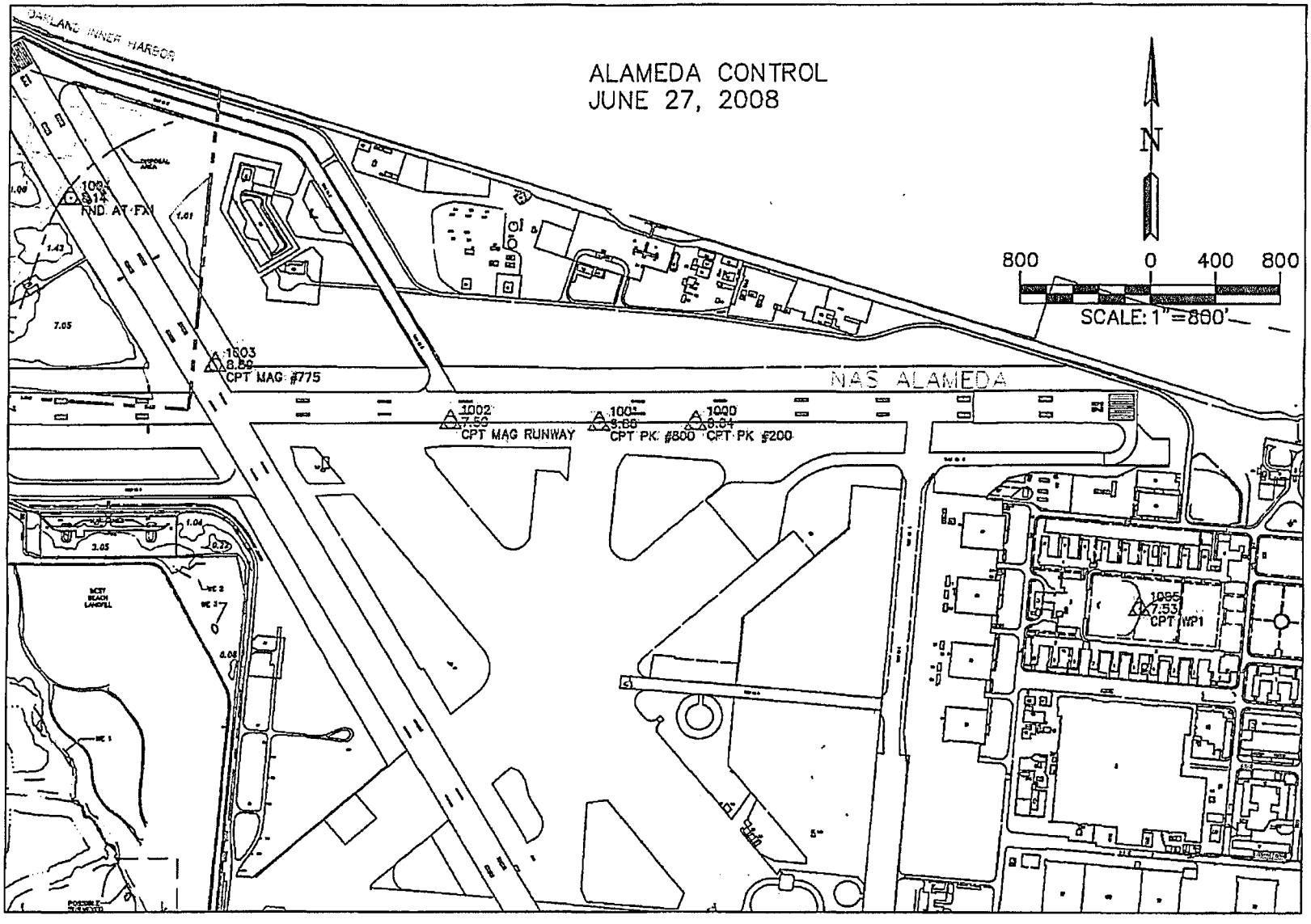
PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

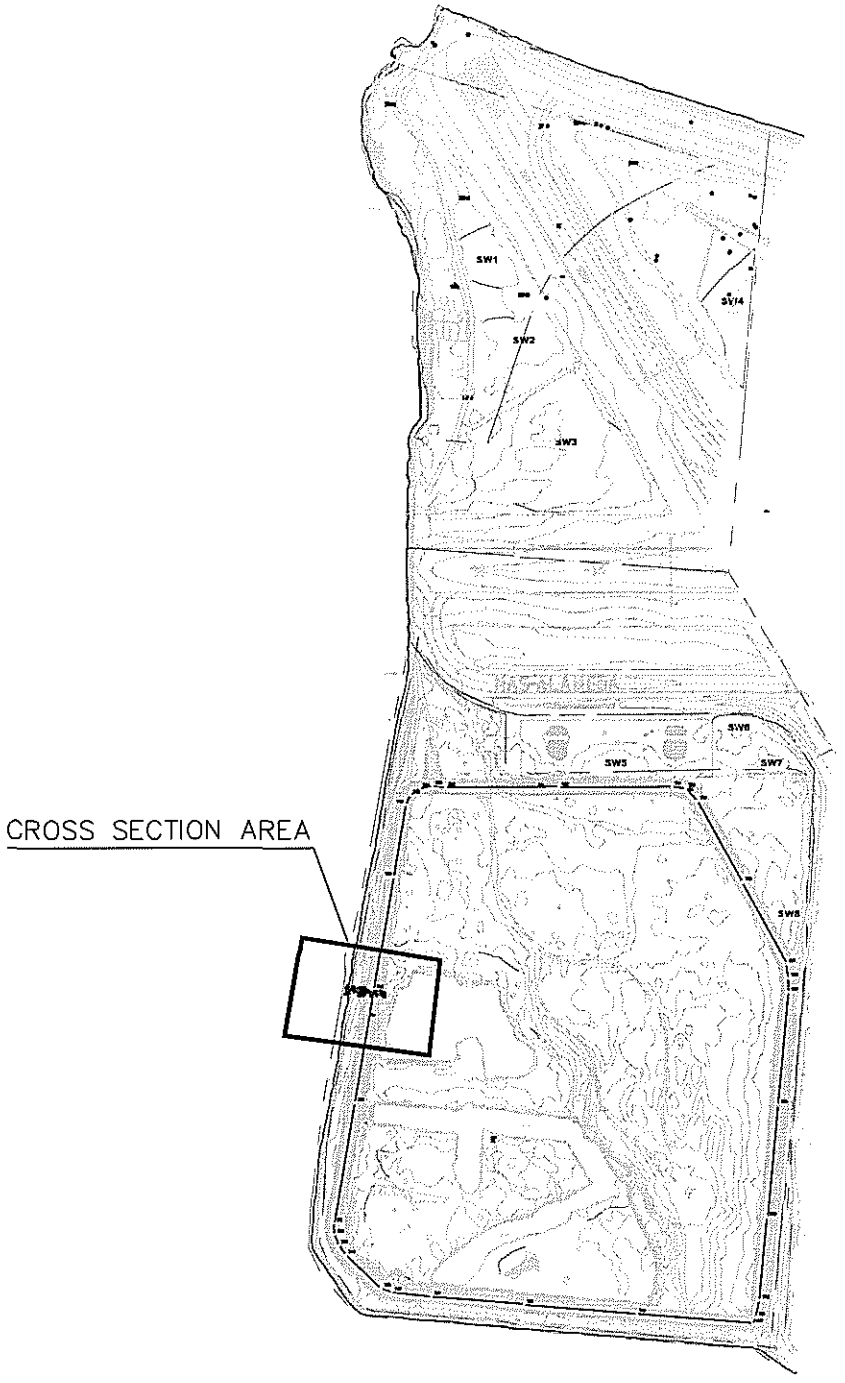
ALAMEDA CONTROL

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil


OAKLAND INNER HARBOR
ALAMEDA CONTROL
JUNE 27, 2008
N
800 0 400 800
SCALE: 1" = 800'
1003
8.14
FND AT FX
1003
8.82
CPT MAG #775
NAS ALAMEDA
1002
7.59
CPT MAG RUNWAY
1001
8.88
CPT PK #800
1000
8.84
CPT PK #200
1085
7.53
CPT WP1



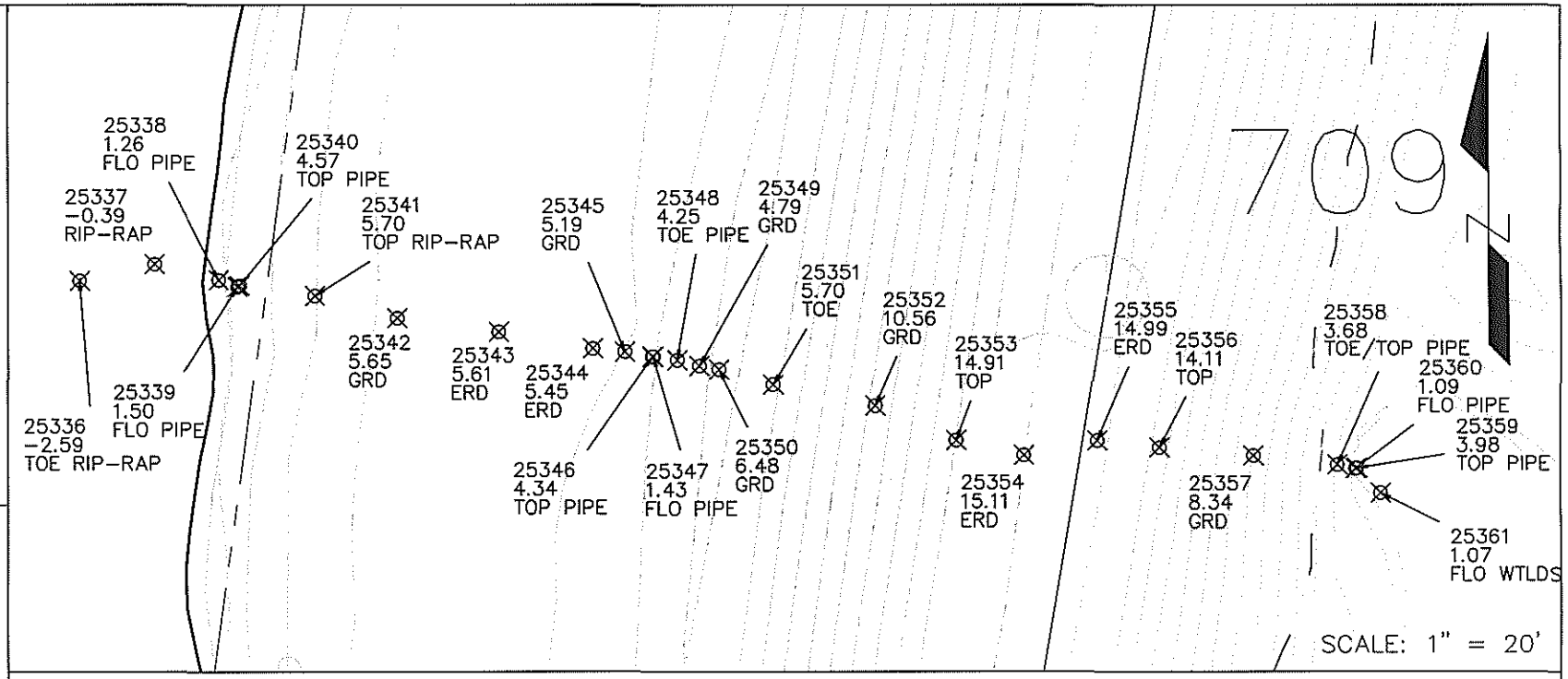
N

SCALE: 1" = 800'

ALAMEDA NAS
GROUND PROFILE
AT PIPE

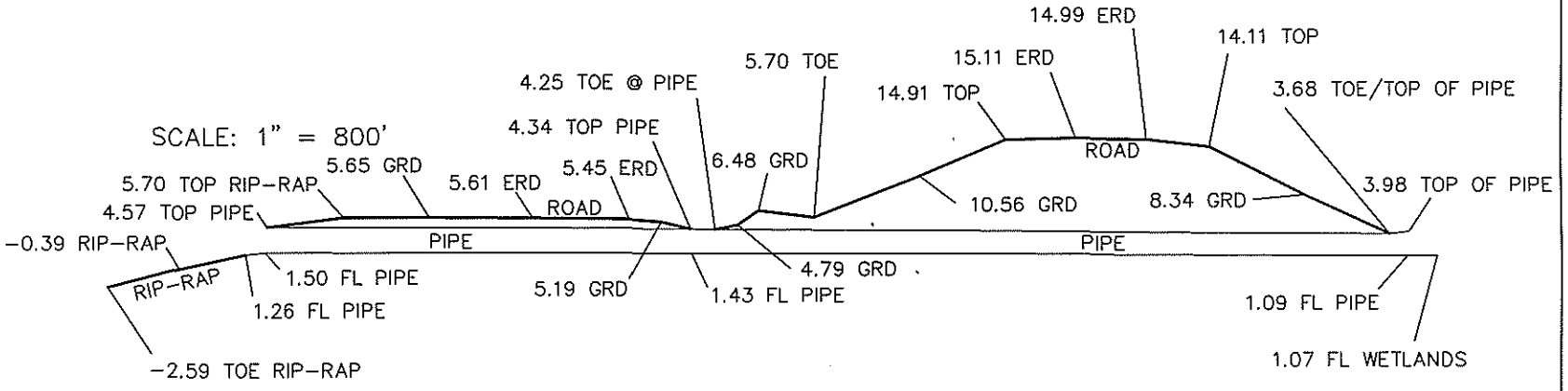
SHT 1 OF 2

ALAMEDA NAS
GROUND PROFILE
AT PIPE



LEGEND

ERD	EDGE OF ROAD
FL	FLOWLINE
GRD	GROUND



SHT 2 OF 2

COAST SURVEYING, INC.

15031 PARKWAY LOOP, SUITE B, TUSTIN, CA 92780-6527 • (714) 918-6266 • FAX (714) 918-6277

Alameda Samples P.O. # 062318

SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
7/18/2007							
	22615	472082.36	1474212.31	7.87	2112489.85	6035579.20	M106
	22616	471395.01	1474705.94	6.80	2111802.50	6036072.81	M107
	22617	471602.01	1472869.06	8.32	2112009.53	6034235.96	M015
	22618	473158.16	1475063.29	14.06	2113565.63	6036430.17	M109
	22619	474787.01	1473334.00	5.52	2115194.50	6034700.93	M009
	22620	473762.85	1473932.94	7.82	2114170.33	6035299.84	M104
	22621	474927.08	1471252.57	6.74	2115334.61	6032619.51	M025
11/6/2007							
	20026	473713.58	1480453.77	5.99	2114120.94	6041820.60	6A
	20027	473733.12	1480456.34	6.01	2114140.48	6041823.17	6B
	20028	473754.94	1480455.28	5.88	2114162.30	6041822.11	6C
	20029	473779.97	1480457.37	6.11	2114187.33	6041824.19	6D
	20030	473791.97	1480430.74	6.31	2114199.34	6041797.57	6E
	20031	473791.12	1480369.94	6.53	2114198.49	6041736.77	6F
	20032	473736.19	1480404.93	6.22	2114143.55	6041771.76	6G
	20033	473770.45	1480350.26	6.39	2114177.82	6041717.09	6H
	20034	473746.91	1480361.84	6.39	2114154.27	6041728.67	6I
	20035	474290.84	1478287.99	7.25	2114698.24	6039654.84	5A
	20036	474288.22	1478321.14	7.21	2114695.62	6039688.00	5B
	20037	474284.20	1478366.49	7.08	2114691.60	6039733.34	5C
	20038	474256.09	1478360.57	7.58	2114663.49	6039727.43	5D
	20039	474253.03	1478388.21	7.37	2114660.43	6039755.06	5E
	20040	474290.66	1478444.87	6.98	2114698.06	6039811.73	5F
	20041	474286.11	1478482.21	7.05	2114693.51	6039849.07	5G
	20042	474245.18	1478474.25	7.36	2114652.58	6039841.10	5H
	20043	474243.37	1478500.09	7.30	2114650.77	6039866.94	5I
	20044	474407.61	1478444.48	6.85	2114815.01	6039811.34	4A
	20045	474432.85	1478441.44	7.04	2114840.24	6039808.30	4B
	20046	474477.37	1478448.65	7.37	2114884.77	6039815.51	4C
	20047	474499.14	1478428.43	7.44	2114906.54	6039795.29	4D
	20048	474511.56	1478405.46	7.51	2114918.96	6039772.32	4E
	20049	474473.84	1478377.06	7.80	2114881.24	6039743.92	4F
	20050	474449.48	1478391.20	7.50	2114856.88	6039758.06	4G
	20051	474443.85	1478340.07	7.34	2114851.25	6039706.93	4H
	20052	474406.06	1478342.48	6.78	2114813.46	6039709.34	4I
	20053	474947.26	1474601.30	9.54	2115354.73	6035968.21	7A
	20054	474943.97	1474567.14	9.46	2115351.43	6035934.05	7B
	20055	474930.64	1474538.99	9.14	2115338.11	6035905.90	7C
	20056	474946.27	1474519.84	9.29	2115353.74	6035886.75	7D
	20057	474964.47	1474506.13	9.91	2115371.94	6035873.04	7E
	20058	474943.33	1474500.62	9.25	2115350.80	6035867.53	7F
	20059	474948.58	1474479.94	9.27	2115356.05	6035846.85	7G
	20060	474946.33	1474460.97	9.19	2115353.80	6035827.88	7H
	20061	474946.22	1474438.34	9.07	2115353.69	6035805.25	7I
	20062	474954.90	1474507.02	9.53	2115362.36	6035873.93	8A
	20063	474955.00	1474516.41	9.56	2115362.46	6035883.32	8B
	20064	474954.87	1474526.11	9.53	2115362.34	6035893.02	8C

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SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
11/6/2007							
	20065	474954.83	1474548.76	9.59	2115362.29	6035915.67	8D
	20066	474954.99	1474568.85	9.68	2115362.46	6035935.76	8E
	20067	474955.02	1474586.32	9.70	2115362.49	6035953.23	8F
	20068	474955.09	1474620.20	9.83	2115362.55	6035987.11	8G
	20069	474955.15	1474636.60	9.88	2115362.62	6036003.51	8H
	20070	474955.11	1474655.98	9.94	2115362.57	6036022.89	8I
12/21/2007							
	20350	474279.33	1472496.52	3.36	2114686.84	6033863.44	B-2IR-1A
	20351	474267.20	1472523.27	3.45	2114674.71	6033890.20	B-2IR-2A
	20352	474215.79	1472437.30	4.34	2114623.31	6033804.23	B-2IR-3A
	20353	474224.17	1472338.02	3.08	2114631.68	6033704.94	B-2IR-5A
	20354	474157.37	1472323.72	2.67	2114564.88	6033690.64	B-2IR-4A
	20355	474226.28	1472067.07	2.87	2114633.80	6033434.00	B-2IR-6A
	20356	474251.09	1472047.68	2.66	2114658.60	6033414.61	B-2IR-7A
	20357	474247.06	1472035.52	2.94	2114654.58	6033402.45	B-2IR-8A
	20358	474273.27	1471824.50	4.80	2114680.79	6033191.43	B-2IR-10
	20359	474155.80	1471730.57	2.35	2114563.33	6033097.51	B-2IR-11A
	20360	474164.09	1471728.15	2.21	2114571.61	6033095.08	B2IR-11B
	20361	474288.22	1471799.22	4.28	2114695.74	6033166.15	B2IR-12
	20362	474336.16	1471681.62	3.67	2114743.69	6033048.56	B2IR-13
	20363	474381.92	1471309.98	7.34	2114789.45	6032676.92	B2IR160
	20364	474327.99	1471483.85	7.38	2114735.52	6032850.79	B2IR171
	20365	474354.58	1471503.11	6.40	2114762.11	6032870.05	B2IR172
	20366	474333.26	1471242.21	6.79	2114740.79	6032609.15	B2IR341
	20367	474161.01	1471194.16	4.45	2114568.55	6032561.10	B-2IR-278
	20368	474179.98	1471202.06	4.69	2114587.52	6032569.00	B2IR279
	20369	474093.76	1471165.91	6.18	2114501.29	6032532.85	B2IR342
	20370	474130.68	1471480.90	5.99	2114538.20	6032847.83	B2IR190
	20371	474131.16	1471564.63	5.31	2114538.69	6032931.57	B2IR188
	20372	474406.73	1471610.97	5.13	2114814.26	6032977.91	B2IR230
	20373	474391.93	1471595.27	5.39	2114799.46	6032962.21	B2IR232
	20374	474126.35	1471578.21	4.95	2114533.88	6032945.15	B2IR187
	20376	472833.33	1470969.18	6.49	2113240.87	6032336.11	B2IR-343
	20377	472610.15	1470929.38	6.56	2113017.70	6032296.31	B2IR-344
	20378	471727.35	1472166.72	8.00	2112134.88	6033533.62	B2IR-200
	20379	474210.72	1471866.49	4.81	2114618.24	6033233.42	B2IR-349
	20380	474388.59	1472646.84	3.81	2114796.10	6034013.76	B2IR-282
	20382	475405.30	1471289.86	3.41	2115812.83	6032656.81	1IR-1AB-01
	20383	475406.22	1471291.46	3.22	2115813.75	6032658.41	B-1IR-1AB
	20384	475512.90	1471763.84	3.23	2115920.42	6033130.79	B-1IR-4A
	20385	475511.78	1471762.48	3.24	2115919.29	6033129.43	1IR-4ABC-01
	20386	475686.10	1471750.17	3.20	2116093.61	6033117.12	B-1IR-5ABa
	20387	475683.31	1471752.54	1.79	2116090.82	6033119.49	1IR-5AB-01
	20388	475554.35	1471828.29	3.64	2115961.86	6033195.24	B-1IR-4BC
	20389	475300.76	1472110.98	5.86	2115708.27	6033477.92	B-1IR-3BCD
	20390	475643.80	1472136.71	4.62	2116051.30	6033503.65	1IR-6A-01
	20391	475645.56	1472136.05	4.73	2116053.07	6033503.00	B-1IR-6A

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SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
12/21/2007							
	20392	475697.87	1472140.23	5.73	2116105.37	6033507.18	1IR-6B-01
	20393	475698.69	1472140.24	5.85	2116106.20	6033507.18	B-1IR-6B
	20394	475843.49	1472000.94	4.90	2116251.00	6033367.89	1IR-7A-01
	20395	475843.11	1472003.73	3.86	2116250.61	6033370.67	B-1IR-7A
	20396	475849.32	1472003.61	4.02	2116256.83	6033370.55	1IR-7D-01
	20397	475849.61	1472006.18	4.12	2116257.12	6033373.12	B-1IR-7D
	20398	475856.16	1471994.55	5.15	2116263.67	6033361.50	1IR-7C-01
	20399	475857.66	1471996.83	4.01	2116265.17	6033363.78	B-1IR-7C
	20400	475845.03	1471996.73	3.74	2116252.54	6033363.67	B-1IR-7B
	20401	476027.02	1471907.75	5.70	2116434.53	6033274.70	1IR-8AB-01
	20402	476026.37	1471908.91	5.70	2116433.88	6033275.86	B-1IR-8A
	20403	476030.99	1471894.57	5.40	2116438.50	6033261.52	B-1IR-8B
	20404	476053.89	1471907.50	6.04	2116461.39	6033274.45	B-1IR-8C
	20405	476053.15	1471906.40	5.59	2116460.66	6033273.35	1IR-8C-01
	20406	476069.63	1471910.56	5.99	2116477.14	6033277.51	B-1IR-8D
	20407	476071.10	1471911.70	6.07	2116478.60	6033278.65	1IR-8D-01
	20408	476081.52	1471903.72	5.60	2116489.03	6033270.67	B-1IR-8E
	20409	476082.75	1471903.54	6.05	2116490.25	6033270.49	1IR-8E-01
	20410	476085.99	1471899.45	6.22	2116493.49	6033266.40	1IR-8F-01
	20411	476086.06	1471897.98	5.89	2116493.56	6033264.93	B-1IR-8F
	20412	476097.95	1471894.37	6.18	2116505.46	6033261.32	1IR-8G-01
	20413	476098.57	1471895.75	5.73	2116506.08	6033262.70	B-1IR-8G
	20414	476099.39	1471882.54	6.08	2116506.90	6033249.50	1IR-8H-01
	20415	476101.51	1471881.81	5.96	2116509.01	6033248.76	B-1IR-8H
	20416	476113.07	1471875.64	6.10	2116520.58	6033242.60	1IR-8I-01
	20417	476114.85	1471876.60	5.75	2116522.36	6033243.55	B-1IR-8I
	20418	476111.40	1471864.94	5.61	2116518.90	6033231.89	1IR-8J-01
	20419	476111.56	1471866.76	5.28	2116519.07	6033233.71	B-1IR-8J
	20420	476104.24	1471851.67	5.37	2116511.75	6033218.62	1IR-8K-01
	20421	476125.79	1471862.09	5.63	2116533.30	6033229.04	1IR-8L-01
12/21/2007							
	20422	476127.08	1471861.66	5.47	2116534.59	6033228.61	B-1IR-8L
	20423	476129.80	1471881.85	5.72	2116537.31	6033248.80	1IR-8M-01
	20424	476128.97	1471881.22	5.74	2116536.48	6033248.17	B-1IR-8M
	20425	476237.95	1471796.15	5.35	2116645.46	6033163.11	1IR-9A-01
	20426	476238.71	1471795.43	5.37	2116646.21	6033162.38	B-1IR-9A
	20427	474380.14	1471310.39	7.02	2114787.67	6032677.33	2IR-160-01
	20428	474354.30	1471502.45	5.85	2114761.83	6032869.38	2IR-172-01
1/2/2008							
	20430	476254.14	1471824.32	5.39	2116661.65	6033191.27	B1IR114A
	20431	476253.08	1471822.95	5.45	2116660.59	6033189.90	1IR114A1
	20432	477407.94	1471475.08	7.51	2117815.44	6032842.04	B1IR13B
	20433	477404.20	1471473.89	7.46	2117811.71	6032840.86	1IR13B01
	20434	477358.39	1471327.56	7.24	2117765.90	6032694.53	B1IR1101
	20435	477358.27	1471327.18	7.27	2117765.78	6032694.15	1IR1101
	20436	477368.21	1471318.53	6.56	2117775.72	6032685.50	B1IR12
	20437	477366.68	1471320.93	6.43	2117774.19	6032687.90	1IR1201

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SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
1/2/2008							
	20438	477017.58	1472044.70	6.31	2117425.08	6033411.66	B1IR92
	20439	477010.30	1472065.83	5.69	2117417.80	6033432.79	B1IR93
	20440	477000.55	1472096.17	7.01	2117408.05	6033463.12	B1IR97
	20441	477023.06	1472465.44	8.03	2117430.55	6033832.39	B1IRA28
	20442	476692.82	1472743.26	5.24	2117100.31	6034110.20	B1IR1501
	20443	476692.99	1472742.31	5.18	2117100.48	6034109.26	1IR1501
	20444	476700.20	1472723.91	5.11	2117107.69	6034090.86	B1IR1601
	20445	476699.92	1472723.72	4.95	2117107.41	6034090.66	1IR1601
	20446	476711.60	1472555.53	4.69	2117119.09	6033922.48	B1IR1701
	20447	476710.65	1472555.36	4.23	2117118.14	6033922.31	1IR1701
	20448	476595.30	1472199.95	6.07	2117002.80	6033566.90	B1IRAB1
	20449	476595.60	1472197.89	6.30	2117003.10	6033564.84	1IRAB1
	20450	476436.05	1472316.29	4.94	2116843.55	6033683.24	B1IR26B
	20451	476414.68	1472312.11	5.36	2116822.18	6033679.06	B1IR25
	20452	476416.23	1472312.71	5.38	2116823.73	6033679.66	1IR25
	20453	476265.52	1472634.18	4.53	2116673.01	6034001.12	B1IR24
	20454	476264.70	1472634.00	4.24	2116672.20	6034000.95	1IR2401
	20455	476380.04	1472730.56	4.62	2116787.53	6034097.51	B1IR23
	20456	476379.77	1472728.85	4.50	2116787.26	6034095.79	1IR2301
	20457	476450.14	1472634.63	4.83	2116857.63	6034001.57	B1IR22
	20458	476454.55	1472637.46	4.62	2116862.04	6034004.41	1IR2201
	20459	476515.18	1472608.34	4.78	2116922.67	6033975.28	B1IR21
	20460	476511.11	1472607.41	4.81	2116918.60	6033974.36	1IR2101
	20461	476530.33	1472682.22	5.22	2116937.82	6034049.16	1IR19-20
	20462	476565.05	1472754.03	4.55	2116972.54	6034120.98	B1IR18B
	20463	476569.47	1472749.12	4.43	2116976.96	6034116.07	B1IR18B
	20464	476576.72	1472745.15	4.30	2116984.21	6034112.09	B1IR18A
1/10/2008							
	20466	475301.04	1472111.15	6.16	2115708.55	6033478.09	B1IRB3CD
	20467	475302.12	1472117.79	5.98	2115709.63	6033484.73	IR13CDE1
	20468	475325.88	1472024.31	5.71	2115733.39	6033391.25	IR13A1ab
	20469	476026.96	1471907.99	5.59	2116434.46	6033274.94	IR18A1ab
	20470	476104.84	1471850.90	5.50	2116512.35	6033217.85	BIR18Ka
	20471	477404.03	1471473.77	7.53	2117811.53	6032840.73	IR113A
	20472	477097.33	1472422.98	7.42	2117504.83	6033789.94	IR1-14
	20473	476576.78	1472744.09	4.83	2116984.27	6034111.04	IR1-18A
	20474	476569.82	1472749.30	4.48	2116977.31	6034116.25	BIR18Ba
	20475	476565.18	1472754.11	4.54	2116972.67	6034121.06	BIR18Ca
	20476	476458.80	1472637.29	4.70	2116866.29	6034004.24	IR1-22-2
	20477	476430.06	1472321.78	5.81	2116837.56	6033688.73	IR126a
	20478	474150.74	1471421.29	6.67	2114558.27	6032788.23	B2IR348a
	20479	474124.88	1471578.24	4.96	2114532.40	6032945.18	IR21871a
	20480	474129.26	1471565.67	5.30	2114536.79	6032932.60	IR2188AB
	20481	474130.63	1471484.99	5.73	2114538.16	6032851.92	I2190ABC
	20482	474328.00	1471484.62	7.33	2114735.53	6032851.56	IR21711a
	20483	474365.94	1471246.65	6.17	2114773.47	6032613.59	IR2183AB
	20484	474369.87	1471241.77	6.09	2114777.40	6032608.71	B2IR183a

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SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
1/10/2008							
	20485	474389.80	1471247.76	6.22	2114797.34	6032614.71	B2IR182a
	20486	474390.37	1471245.66	5.88	2114797.90	6032612.60	IR21821a
	20487	475445.13	1471423.34	5.22	2115852.65	6032790.29	IR12A-1a
1/16/2008							
	20489	475326.39	1472025.55	5.47	2115733.91	6033392.49	B1IRB3A
	20490	475298.88	1472044.74	6.29	2115706.39	6033411.68	BIR1-3B
	20491	474866.99	1471253.01	6.16	2115274.52	6032619.96	MO25E
	20492	473788.53	1473921.91	8.15	2114196.02	6035288.82	M104C
	20493	476530.34	1472681.90	5.03	2116937.83	6034048.85	1IR1901A
	20494	476012.99	1473212.46	5.58	2116420.47	6034579.40	IR32-X
1/30/2008							
	25028	474201.62	1479450.47	6.30	2114609.00	6040817.31	B3-4
	25029	474184.84	1479484.85	6.54	2114592.22	6040851.69	B3-3
	25030	474132.48	1479401.87	6.27	2114539.86	6040768.71	B3-8
	25031	474128.33	1479413.53	6.14	2114535.71	6040780.37	B3-5
	25032	474155.28	1479497.47	6.62	2114562.66	6040864.31	B3-2
	25033	474098.51	1479391.08	6.18	2114505.90	6040757.93	B3-7
	25034	474074.98	1479410.35	5.96	2114482.36	6040777.20	B3-6
	25035	474066.61	1479487.65	6.29	2114473.99	6040854.49	B3-1
	25036	474182.25	1479384.71	6.41	2114589.63	6040751.55	B3-9/10
	25037	473911.76	1479319.38	6.01	2114319.15	6040686.22	B2-9/10
	25038	473899.27	1479379.95	5.96	2114306.66	6040746.80	B2-4
	25039	473902.92	1479418.97	6.07	2114310.30	6040785.81	B2-3
	25040	473844.62	1479310.78	6.42	2114252.00	6040677.62	B2-8
	25041	473849.16	1479349.15	6.25	2114256.54	6040715.99	B2-5
	25042	473826.68	1479423.79	6.13	2114234.07	6040790.63	B2-2
	25043	473819.85	1479288.91	6.36	2114227.24	6040655.75	B2-7
	25044	473815.42	1479371.57	6.22	2114222.80	6040738.41	B2-6
	25045	473793.71	1479395.18	6.45	2114201.10	6040762.02	B2-1
	25056	474552.12	1475483.30	9.40	2114959.57	6036850.19	B1-4
	25057	474579.01	1475532.65	9.28	2114986.46	6036899.55	B1-5
	25058	474559.16	1475604.00	9.17	2114966.61	6036970.89	B1-6
	25059	474517.39	1475484.11	9.76	2114924.84	6036851.00	B1-3
	25060	474520.40	1475508.40	9.81	2114927.85	6036875.29	B1-8
	25061	474538.94	1475548.67	9.79	2114946.39	6036915.56	B1-7
	25062	474475.26	1475489.72	9.76	2114882.71	6036856.61	B1-2
	25063	474485.34	1475516.62	9.94	2114892.79	6036883.51	B1-9/10
	25064	474460.21	1475484.08	9.64	2114867.66	6036850.98	B1-1
3/19/2008							
	25070	474122.58	1471442.06	7.84	2114530.11	6032808.99	B2IR187
	25071	475406.21	1471291.46	6.47	2115813.74	6032658.41	B2IR187
	25072	475306.85	1471798.87	5.87	2115714.37	6033165.82	1IR309B
	25073	475323.43	1471833.14	5.70	2115730.95	6033200.08	1IR3-10B
	25074	475319.98	1471859.28	5.87	2115727.50	6033226.23	1IR3-03B
	25075	475331.97	1471945.98	5.51	2115739.48	6033312.92	1IR3-07B

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Alameda Samples P.O. # 062318

SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
3/19/2008							
	25076	475332.72	1472029.79	6.07	2115740.24	6033396.73	1IR3-05B
	25077	475310.73	1472069.07	6.73	2115718.24	6033436.01	1IR3-06B
	25078	475314.66	1472043.82	6.86	2115722.17	6033410.76	1IR3-08A
	25079	475308.44	1472305.16	7.81	2115715.95	6033672.10	1IR3-02A
	25080	475347.27	1472306.64	7.36	2115754.78	6033673.58	1IR3-04A
	25081	475509.57	1471716.73	4.68	2115917.08	6033083.68	1IR4-02A
	25082	475569.43	1471715.41	4.50	2115976.94	6033082.36	1IR4-03A
	25083	476449.56	1472291.08	5.85	2116857.06	6033658.03	IR1-27A
	25084	476457.76	1472288.01	5.73	2116865.26	6033654.96	IR1-27B
	25085	476530.10	1472682.06	5.16	2116937.59	6034049.01	IR1-20
	25086	476747.42	1472805.80	6.51	2117154.91	6034172.74	IR32-1
	25087	476737.81	1472797.25	6.91	2117145.30	6034164.19	IR32-2
	25088	476737.71	1472797.21	6.92	2117145.20	6034164.15	IR32-2
3/19/2008							
	25089	476618.69	1472782.87	4.83	2117026.18	6034149.82	IR32-3
	25090	476596.85	1472789.13	4.94	2117004.34	6034156.07	IR32-4A
	25091	476590.84	1472791.68	5.02	2116998.33	6034158.62	IR32-4B
	25092	476765.48	1472846.49	6.76	2117172.97	6034213.43	B3IR113A
	25093	476758.44	1472847.02	7.31	2117165.93	6034213.96	BIR32-114A
	25094	476766.35	1472826.06	6.68	2117173.84	6034193.00	B32IR-108
	25095	476765.57	1472820.59	6.79	2117173.06	6034187.54	B32IR109A
	25096	476747.08	1472806.39	6.50	2117154.56	6034173.34	B32IR1A
	25097	476737.36	1472797.44	7.06	2117144.85	6034164.39	B32IR-2A
	25098	476610.81	1473227.28	7.20	2117018.29	6034594.22	32IR121A
	25099	476555.18	1473044.85	4.32	2116962.66	6034411.79	32IRG8A
	25100	476554.72	1472945.29	6.31	2116962.20	6034312.24	32IRG06B
	25101	476605.08	1472956.28	5.08	2117012.57	6034323.23	32IRG01A
	25102	476538.20	1473086.99	6.40	2116945.69	6034453.93	32IRG01A
	25103	476538.85	1473182.81	7.04	2116946.33	6034549.75	32IRG03
	25104	476561.40	1473004.50	6.13	2116968.88	6034371.45	32IRG04
	25105	476460.77	1472910.10	5.34	2116868.25	6034277.04	32IRG05
	25106	476516.86	1473155.20	6.69	2116924.35	6034522.14	32IRG07
	25107	476569.55	1473109.18	7.15	2116977.03	6034476.12	32IRG09
	25108	476552.52	1473153.38	7.20	2116960.00	6034520.32	32IRG10
3/31/2008							
	25110	476516.76	1473155.15	6.69	2116924.24	6034522.09	32G07
	25112	476454.10	1472845.40	4.26	2116861.59	6034212.34	32I84
	25113	476483.80	1472828.70	5.58	2116891.29	6034195.64	32IR80
	25114	476617.51	1472784.02	4.33	2117025.00	6034150.96	B32IR-3
	25115	476597.36	1472790.68	4.20	2117004.85	6034157.63	B32IR-4A
	25116	476591.75	1472791.77	4.86	2116999.24	6034158.72	B32IR-4B
	25117	476626.22	1472968.85	5.39	2117033.70	6034335.79	B32IR-36
	25118	476621.53	1472991.51	4.03	2117029.02	6034358.45	B32IR-37
	25119	476654.56	1472971.28	4.06	2117062.04	6034338.22	B32IR-41
	25120	476643.87	1472965.87	4.62	2117051.36	6034332.81	B32IR-43
	25121	476628.17	1472843.65	4.08	2117035.66	6034210.59	B32IR-47
	25122	476622.14	1472846.35	4.28	2117029.62	6034213.29	32IR-48

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Alameda Samples P.O. # 062318

SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
3/31/2008							
	25123	476617.98	1472839.06	5.49	2117025.47	6034206.00	32IR51
	25124	476626.65	1472836.97	5.76	2117034.13	6034203.92	32IR50
	25125	476607.72	1472862.38	4.26	2117015.21	6034229.33	B32IR54
	25126	476601.16	1472859.54	4.20	2117008.65	6034226.48	B32IR56
	25127	476437.58	1472819.94	4.24	2116845.06	6034186.88	B32IR60
	25128	476436.64	1472816.42	4.59	2116844.13	6034183.36	BIR3261
	25129	476442.03	1472815.23	4.25	2116849.51	6034182.17	B32IR62
	25130	476424.33	1472827.68	4.49	2116831.82	6034194.62	B32IR63
	25131	476418.57	1472825.13	4.21	2116826.06	6034192.07	B32IR65
	25132	476431.10	1472815.92	4.20	2116838.59	6034182.86	32IR66
	25133	476453.50	1472848.77	4.27	2116860.99	6034215.71	32IR67
	25134	476609.12	1472958.49	4.49	2117016.60	6034325.43	B32IR-7
	25137	476559.06	1472787.36	6.49	2116966.55	6034154.31	32IR-5
	25138	476558.90	1472787.48	6.44	2116966.39	6034154.42	32IR-5
	25139	476537.89	1472788.87	6.62	2116945.38	6034155.81	32IR-6
4/7/2008							
	25142	476617.50	1472783.91	4.56	2117024.99	6034150.86	B32IR3
	25143	476597.26	1472790.93	5.08	2117004.75	6034157.88	B32IR4A
	25144	476591.86	1472791.80	5.36	2116999.34	6034158.75	B32IR4B
	25145	476559.75	1472788.28	4.44	2116967.24	6034155.23	B32IR-5
	25146	476537.90	1472788.75	3.65	2116945.39	6034155.69	B32IR-6
	25147	476479.68	1472816.77	4.14	2116887.16	6034183.71	B32IR-79
	25148	476483.62	1472831.65	4.07	2116891.11	6034198.59	B32IR-80
	25149	476476.17	1472834.36	4.53	2116883.66	6034201.31	B32IR-81
	25150	476459.13	1472855.12	4.44	2116866.62	6034222.07	B32IR-84
	25151	476453.45	1472848.75	4.38	2116860.94	6034215.69	B32IR-67
	25152	476418.76	1472825.20	4.69	2116826.25	6034192.15	B32IR-65
	25153	476424.21	1472827.87	4.82	2116831.70	6034194.81	B32IR-63
	25154	476437.72	1472819.99	4.95	2116845.20	6034186.94	B32IR-60
	25155	476436.70	1472816.60	4.70	2116844.19	6034183.55	B32IR-61
	25156	476431.00	1472815.50	4.21	2116838.49	6034182.44	32IR-66
	25157	476441.90	1472815.23	4.41	2116849.39	6034182.17	B32IR-62
	25158	476432.89	1472801.90	4.31	2116840.37	6034168.84	B32IR-71
	25159	476444.31	1472797.00	5.32	2116851.80	6034163.94	B32IR-69
	25160	476443.30	1472801.12	3.92	2116850.79	6034168.06	B32IR-75
	25161	476450.63	1472799.11	4.32	2116858.11	6034166.06	B32IR-76
	25162	476463.46	1472793.26	5.39	2116870.95	6034160.20	B32IR-73
	25163	476607.77	1472862.34	4.38	2117015.26	6034229.28	B32IR-54
	25164	476601.05	1472859.86	4.22	2117008.53	6034226.80	B32IR-56
	25165	476622.05	1472846.37	4.18	2117029.54	6034213.32	32IR-48
	25166	476628.19	1472843.69	4.36	2117035.67	6034210.63	B32IR-47
	25167	476618.02	1472839.05	5.47	2117025.50	6034206.00	32IR-51
	25168	476626.47	1472836.79	5.80	2117033.96	6034203.73	32IR-50
	25169	476765.41	1472846.42	6.70	2117172.90	6034213.37	B32IR-111
	25170	476758.42	1472847.09	7.24	2117165.90	6034214.04	B32IR-112
	25171	476344.33	1472973.96	5.11	2116751.82	6034340.91	B32IR-143
	25172	476342.60	1472949.05	6.21	2116750.08	6034315.99	B32IR-144

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Alameda Samples P.O. # 062318

SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
4/7/2008							
	25173	476499.95	1472916.67	3.96	2116907.44	6034283.62	B32IR-G5
	25174	476529.88	1472929.63	3.82	2116937.37	6034296.58	B32IR-G6
	25175	476590.52	1472937.45	4.43	2116998.00	6034304.39	B32IR-G7
	25176	476608.83	1472958.83	4.55	2117016.32	6034325.77	B32IR-7
	25178	476554.37	1473045.08	3.99	2116961.86	6034412.02	B32IR-G8
	25179	476566.09	1473114.69	4.96	2116973.57	6034481.63	B32IR-G9
	25180	476563.82	1473126.46	4.48	2116971.30	6034493.40	B32IR-G10
	25181	476555.53	1473143.20	5.07	2116963.01	6034510.14	B32IR-G11
	25182	476516.18	1473115.13	4.81	2116923.66	6034482.07	B32IR-126
	25183	476519.00	1473093.07	5.02	2116926.49	6034460.01	B32IR-129
	25184	476443.41	1473022.10	5.01	2116850.89	6034389.05	B32IR-172
	25185	476384.02	1473081.67	4.94	2116791.50	6034448.61	B32IR-159
	25186	476403.82	1473110.85	4.51	2116811.31	6034477.79	B32IR-158
	25187	476394.30	1473115.73	4.46	2116801.78	6034482.67	B32IR-157
	25188	476340.09	1473060.49	4.88	2116747.57	6034427.43	B32IR-131
	25189	476335.29	1473090.44	4.99	2116742.77	6034457.38	B32IR-139
	25190	476336.39	1473094.35	4.63	2116743.88	6034461.29	B32IR-140
	25191	476340.21	1473098.45	5.54	2116747.70	6034465.39	B32IR-135
	25192	476346.24	1473094.46	5.43	2116753.73	6034461.40	B32IR-141
	25193	476349.63	1473103.08	5.48	2116757.11	6034470.02	32IR-142
	25194	476339.09	1473103.50	4.77	2116746.57	6034470.44	B32IR-136
	25195	476333.48	1473104.06	4.55	2116740.96	6034471.00	B32IR-137
	25196	476334.06	1473100.49	4.57	2116741.55	6034467.43	B32IR-133
	25197	476331.39	1473097.25	5.01	2116738.88	6034464.19	B32IR-134
	25198	476329.57	1473102.41	5.52	2116737.05	6034469.35	B32IR-138
	25199	476315.75	1473155.44	4.81	2116723.24	6034522.38	B32IR-151
	25200	476291.26	1473167.56	5.10	2116698.74	6034534.50	B32IR-150A
	25201	476284.46	1473165.51	5.22	2116691.94	6034532.44	B32IR-150B
	25202	476298.08	1473220.27	5.78	2116705.56	6034587.21	32IR-149
	25203	476378.68	1473236.88	5.81	2116786.16	6034603.82	B32IR-95
	25204	476380.16	1473243.77	5.97	2116787.65	6034610.71	B32IR-96
	25205	476377.00	1473254.44	6.44	2116784.48	6034621.38	B32IR-98
	25206	476387.19	1473242.67	6.01	2116794.67	6034609.61	B32IR-97
	25207	476403.83	1473210.70	5.87	2116811.31	6034577.64	B32IR-87
	25208	476398.90	1473207.11	5.54	2116806.38	6034574.05	B32IR-89
	25209	476396.85	1473201.18	4.75	2116804.33	6034568.12	B32IR-92
	25210	476404.17	1473202.09	5.34	2116811.65	6034569.03	B32IR-88
	25211	476408.02	1473205.68	5.57	2116815.50	6034572.62	B32IR-85
	25212	476410.93	1473200.33	5.47	2116818.41	6034567.26	B32IR-91
	25213	476405.33	1473196.46	5.84	2116812.81	6034563.40	B32IR-90
	25214	476414.27	1473204.78	5.37	2116821.75	6034571.72	B32IR-86
	25215	476419.71	1473205.74	4.71	2116827.19	6034572.68	B32IR-93
	25216	476392.31	1473193.81	6.00	2116799.79	6034560.74	B32IR-94
	25217	476656.95	1473204.01	6.60	2117064.43	6034570.95	B32IR-99
	25218	476663.25	1473182.76	6.01	2117070.73	6034549.70	B32IR-100
	25219	476659.76	1473183.15	5.82	2117067.24	6034550.09	B32IR-101
	25220	476657.97	1473177.24	6.25	2117065.45	6034544.19	B32IR-103
	25221	476661.38	1473169.93	6.52	2117068.86	6034536.87	B32IR-104

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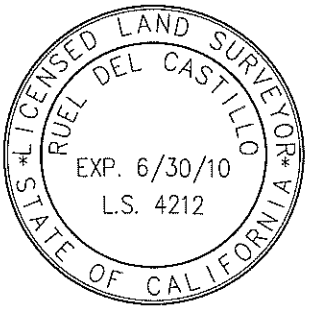
Alameda Samples P.O. # 062318

SURVEY DATE	PT. NO.	NAD27 NORTHING	NAD27 EASTING	NGVD29 ELEV	NAD83 NORTHING	NAD83 EASTING	SAMPLE
4/7/2008							
	25222	476662.05	1473166.48	6.18	2117069.53	6034533.42	B32IR-105
	25223	476661.38	1473158.64	6.10	2117068.86	6034525.58	B32IR-106
	25224	476663.39	1473176.87	6.15	2117070.88	6034543.81	B32IR-102
	25225	476671.57	1473148.24	7.34	2117079.05	6034515.18	B32IR-107
	25226	476676.01	1473124.75	6.72	2117083.49	6034491.69	B32IR-120
	25227	476680.82	1473123.83	7.02	2117088.31	6034490.77	B32IR-116
	25228	476679.62	1473108.08	6.80	2117087.10	6034475.03	B32IR-118
	25229	476676.67	1473117.47	6.60	2117084.15	6034484.41	B32IR-119
	25230	476621.48	1472991.49	4.03	2117028.96	6034358.43	B32IR-37
	25231	476626.10	1472968.89	5.44	2117033.58	6034335.84	B32IR-36
	25232	476643.83	1472965.88	4.72	2117051.31	6034332.82	B32IR-43
	25233	476654.43	1472971.84	4.07	2117061.92	6034338.78	B32IR-41
	25234	476702.15	1473002.19	6.97	2117109.63	6034369.13	B32IR-114
	25235	476705.66	1473005.46	6.63	2117113.14	6034372.40	B32IR-113
	25236	476704.98	1473011.73	7.08	2117112.47	6034378.67	B32IR-115
	25239	475258.48	1471448.19	5.64	2115666.00	6032815.13	BIR1-134
	25240	475212.27	1471368.09	6.44	2115619.79	6032735.03	BIR1-135

Horizontal control is based on NGS monument "MAIN/ALT" (PID = HT0880) located at the northwest corner of Main Street and Atlantic Avenue in the City of Alameda. Coordinates are based on the Califrornia Coordinate System (CCS) Zone III, NAD 27. The NAD27 value for "Main/Atl" was derived from the NADCON conversion of the published NAD83 coordinates. The coordinates, provided by Tetra Tech FW, Inc., for the control point based on NAD27 are N 471,068.97, E 1,482,604.56.

Elevations are based on the NGS monument "MAIN ALT" (PID = HT0880), a NGS horizontal control disk stamped "MAIN ALT 1947" set in a 6" by 6" concrete post, 1.2' below an 8" cast iron monument cover, in the northwest corner of the intersection of Main Street and Atlantic Avenue.
Elev. = 6.69 Feet (NGVD 29)



Prepared by me or under my direct supervision
this 5th day of December, 2008.

RUEL DEL CASTILLO, PLS 4212
REGISTRATION EXPIRES 6/30/10

APPENDIX B

BIOLOGICAL SURVEY SUMMARY REPORT

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N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

E-MAIL, HOME ADDRESS, AND PHONE NUMBER OF PRIVATE CITIZEN

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

Abram Eloskof/RMPM/CSQ
05/10/2007 11:15 AM

To Vincent Richards/SCI/CSQ@CSQ
cc
bcc
Subject Fw: Report of Field Activities.

Abram Eloskof, M.Eng, M.Sc., CIH
Project Manager/Supervising Engineer
TetraTech ECI
(formerly Foster Wheeler Environmental Corp.)
1940 E. Deere Ave. # 200
Santa Ana, CA 92705
Work 949-756-7521
Fax 949-756-7560
Cel 714-620-5530
Email abram.eloskof@tteci.com

---- Forwarded by Abram Eloskof/RMPM/CSQ on 05/10/2007 11:16 AM ----

"Ken Hashagen" <khashagen@mindspring.com>

02/27/2007 10:06 AM

Please respond to khashagen@mindspring.com

To "Abram Eloskof" <abram.eloskof@tteci.com>, "Vincent Richards" <Vincent.Richards@tteci.com>
cc
Subject Report of Field Activities.

Abram/Vinny - here is a brief report of my field activities yesterday Let me know if you want it in another format or need additional information included. I'll work on the training materials later today and get them to you sometime tomorrow KEN

KEN HASHAGEN
11375 Buckeye Hill Ct.
Gold River, CA 95670

Phone: 916-316-8596 (cell)
Fax: 916-635-6384

REPORT OF FIELD ACTIVITIES 2.26.07.doc

Report of Field Activities
At
Alameda Naval Air Station

I conducted a biological survey of Sites 1, 2, and 32 at Alameda Naval Air Station on 26 February 2007. Weather was cool (low 50's), with clouds and intermittent rain. Each area was walked in a random pattern and/or driven on available roads; all trees, bushes, and shrubs were checked for possible nests, as was all potential nesting habitat.

Site 1

I found no signs of nesting activity or any active nests. Numerous bird species were seen on Site 1 and others in the adjacent S.F. Bay. Black-tailed jack rabbits were the only mammals seen in Site 1. Birds in the area included: Canada Geese (~100), Killdeer (10), Western Sandpipers (20), Yellow-rumped Warblers(4), Spotted Sandpiper (1), Black Phoebe (3), Meadowlark(15), Red-Winged Blackbird (4), House Finch(6), Fox Sparrow (2), California Towhee (1), Savannah Sparrow (5), European Starling (~20), Red-tailed Hawk (2). Standing water on one side of the site had Green-winged Teal (8), American Wigeon (8 – 10), Gadwall, (4 or 5), Western Gulls (20), Ring-Billed Gull (2); one Wilson's Snipe flew over.

Last year active Canada Goose nests were found in Site 1, above the shoreline, in the ice plant and grasses above the water line. Killdeer nested in the gravelly areas along the road and near the shoreline. Black Phoebe built mud nests in the buildings. Red-tailed Hawks roosted (but did not nest) in the large eucalyptus trees near the firing range. I anticipate these activities will continue in 2007.

Site 2

I found no signs of nesting activity or any active nests in Site 2. Black-tailed jack rabbits were the only mammal seen in Site 2. Bird species seen included: White-crowned Sparrow (1, imm), Red-tailed Hawks (8 to 10, many immatures), Meadowlarks (20), Black Phoebe (2), Canada Geese (several hundred), Northern Shoveler (20 -30), Mallard (~20), Gadwall (~15), Black-necked Stilt (2), Western Gull (40 – 50), Great Blue Heron (3), American Wigeon (20), Ruddy Duck (18), Greater Scaup (10 – 12), Double-crested Cormorant (2), Savannah Sparrow (~50), Yellow-rumped Warbler (1), House Finch (~40), American Coot (10), Killdeer (25), Western Grebe (5), Green-winged Teal (6), Say's Phoebe (2), and Golden-crowned Sparrow (8).

Last year, active Western Gull, Canada Goose, and Killdeer nests were found in Site 2. House Finch nested in the trees. Similar activities should occur this year. Red-tailed hawks use Site 2 extensively for foraging and roosting. Other shorebirds, vultures, and kites will be present later in the year around the permanent ponds.

Site 32

Site 32 is a smaller, fenced area with several buildings, adjacent to the Alameda/Oakland shipping channel. Several large, black, feral rabbits were noted in the area, as were Black-tailed jack rabbits. Bird species included: European Starling (10), Red-winged Blackbird (4), Canada Geese (50), Red-tailed Hawk (2), and Black Phoebe (1).

Last year, Black Phoebe nested in the buildings and Canada Geese built nests in small patches of ice plant in the area.

Species in S.F. Bay

The following species were noted in the adjacent S.F. Bay: Harbor Seal (1), Common Goldeneye (4), Western Grebe (2), Great Blue Heron (2), Horned Grebe (6), Western Gull (20 to 30), Greater Scaup (~ 50), Surf Scoter (~300), Common Loon (1), and Ruddy Duck (~ 45).

May 2, 2007

To: Vincent Richards
Project Title: Alameda Worksite, Alameda, CA
Project Task: Biological Site Review & Briefing
Project #: 106-3210.015.D.02.08.01000
Biologist: Paul Konrad

Site Overview

Four sites were visited at the Alameda Project to assess bird use and nesting status, especially related to Giant Canada Geese present on location. Site 1, Site 2, the "trailer-landing strip site" (the area between Sites 1 and 2 behind the office trailers), and the shoreline waters of San Francisco Bay (Figure 1) (the other 3 sites border the Bay).

- Site 1 is a relatively small area that is presently being cleared for potential ordinance and radiation residuals.
- Site 2 is relatively large and is slated for some clearance work soon; it contains two wetlands – pond 1 and pond 2. This is a beautiful "natural area" that many birds use throughout a given day (Figure 2).
- The "trailer-landing strip site" is located behind the 2 office trailers and is a seasonally inundated wet meadow-grassland.
- All land-based sites border the Bay, which attracts a waterbird community along the ocean shoreline.

All 3 sites border the north end of Alameda Island, south of the Bay Bridge with the skyline of San Francisco to the northwest and the skyline of Oakland to the east.

Alameda Wildlife

During the day's biological survey, the wildlife community was composed of relatively common and abundant birds and small mammals. All wildlife were quite trusting in their behavior responses to workers on the sites, permitting close approaches and observations.

At Site 1 we observed 5 pairs of Giant Canada Geese and 2 non-breeding flocks numbering 8 and 3 (21 Giant Canada Geese at Site A). We inspected a late-season unattended Giant Canada Goose nest with 6 eggs (Figure 3) with another displaced goose egg located about 20 feet northwest of the nest. The biologist was informed that the female was incubating the clutch in the nest earlier that morning, but we encountered no protective or territorial behavior from Canada Geese in the area. The late goose nest is located near a yellow water hydrant near a roadway.

Other wildlife observed at Site 1 were birds and small mammals, including Red-winged Blackbirds, Barn Swallows, black-tailed jack rabbits, and California ground squirrels.

At Site 2 we observed 8 Giant Canada Goose pairs with broods numbering 5, 3, 3, 2, 6, 8, 2, and 1 downy goslings ranging in age from about 3 days to 3 weeks (Figure 4). Many other adult and non-breeding Giant Canada Geese were observed loafing or grazing in Site 2; 108 geese were counted in addition to the pairs with broods (total Canada Geese = 154 in Site B, including 30 goslings.)

Other wildlife observed at Site 2 included a variety of birds and small mammals, including shorebirds (6 American Avocets, 9 Black-necked Stilts, 3 Long-billed Dowitchers, 1 Killdeer), ducks (2 male Mallards, 2 American Wigeons, 4 Gadwalls), passerines (3 Common Ravens, 2 Savannah Sparrows, many Red-winged Blackbirds, many Barn Swallows), gulls (55 Western Gulls), black-tailed jack rabbits, and California ground squirrels. The ducks were all observed as male-female pairs, except the 2 male Mallards; groups of males indicate the females of these pairs were already incubating clutches of eggs at this time.

At the "trailer-landing strip site," 6 pairs of Giant Canada Geese were observed, including 4 pairs with broods of downy goslings aged between 2 and 3 weeks old. The 4 broods numbered 2, 6, 3, and 16. The brood of 16

represents a combined brood (it is common for some older pairs to "adopt" other broods, so some broods are known to eventually number in the 20s and 30s or more). A total of 39 geese were observed at this site.

Other wildlife observed at the "trailer-landing strip site" included a Long-billed Curlew, Killdeer, House Finches, Black Phoebes, Barn Swallows, Red-winged Blackbirds, 1 adult Red-tailed Hawk, and one yearling Red-tailed Hawk. The young Red-tailed Hawk permitted us to approach it as close as possible without being disturbed by our approach, talk, or photography (Figure 5).

In the shoreline waters of adjacent San Francisco Bay, we observed an immature Common Loon (late), 3 Western Grebes, Brown Pelicans, Double-crested Cormorants, Western Gulls, a Great Blue Heron, a pair of Mallards, and a Spotted Sandpiper.

A total of 22 species of birds (Table 1) and 2 species of mammals were observed during biological surveys at the Alameda work site on May 2, 2007. A total of 214 Giant Canada Geese were observed, however, this represents a minimum count and it is clear that geese move from site to site and birds from other parts of the island and, perhaps, other locations in the Bay, move in and out of the greater Alameda work site.

Giant Canada Geese Biology

The breeding biology of Giant Canada Geese begins in early spring when pairs establish and defend nesting territories. The female selects a nest site on dry ground near water where she builds a nest and lays a clutch of eggs. The female begins incubating the large cream-colored eggs after the last egg is laid to facilitate near-synchronous hatching. After about 28 days of incubation, the precocial goslings hatch and leave the nest within 24 hours, follow the adults by walking on land or swimming in the water.

Adult geese undergo a full molt 4 to 6 weeks after goslings hatch, when they lose their flight feathers and become flightless for a few weeks while they grow new wing and tail feathers. By the time the adults resume flying, the juvenile geese are ready to fledge (at about 70 days of age). Family groups band together into larger social flocks during summer, and some local movements or migrations may take these birds to remote wintering locations. Family groups remain together through the first winter, until adult pairs return to nesting areas to begin establishing their territory and resuming the nesting cycle.

Giant Canada Geese do not begin nesting until 3 or 4 years old, so non-breeding flocks of immature geese are commonly encountered during the nesting season and throughout the year. Pair bonds are formed among birds in the flocks of non-breeders. Giant Canada Geese tend to keep their mate over a period of several years, barring death of one mate from natural causes or hunting, although there is a certain "divorce rate" among pairs, probably related to nesting success and general compatibility.

Recommendations

It appears the goose nesting season is near completion, however, several species will probably begin nesting soon adjacent to the ponds in Site 2. These species include ducks (Mallards, Gadwalls, and American Wigeons) and shorebirds (Black-necked Stilts and American Avocets). Any chance of avoiding clearing or construction activities in the pond areas of Site 2 until after August 1 will help to ensure the best nesting opportunities for these relatively common birds.

Staff Briefing

Biologist provided a staff briefing to inform them about the status of the Giant Canada Geese and other birds and share a few photographs taken on site. This report is also made available for staff reference – now and in the future.

Alameda Contacts

Vincent Richards, Richard Quinn, Marc, Ruben (Figure 6), George, and Jamshid Sadeghipour.

Prepared By:

Paul Konrad, Wildlife Biologist and Ecologist, Tetra Tech Environmental Consulting, Santa Ana, CA; telephone 714-478-3150; email Paul.Konrad@TtECi.com (note the period between Paul's names). Photographs by Paul Konrad.

Figures 1-6 below:

Figure 1. Alameda Site 2 showing wet meadow/wetland habitats and San Francisco skyline.

Figure 2. Site 2 looking opposite direction with grassland-wetland complex and Oakland skyline in background.

Figure 3. Giant Canada Goose nest with 6 eggs at Site 1.

Figure 4. Giant Canada Goose downy gosling; about 3 days old (Site 2).

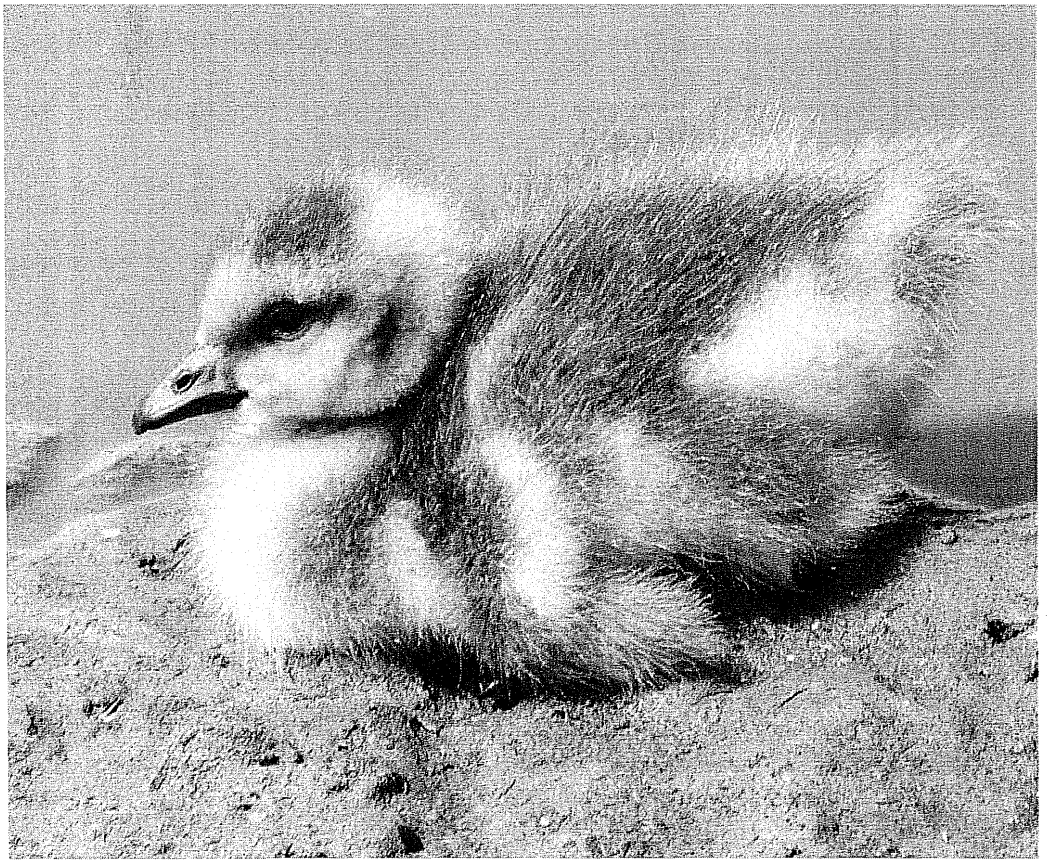

Figure 5. Immature Red-tailed Hawk perched on the edge of the "trailer-landing strip site."

Figure 6. Reuben birding at Site 2, Alameda, CA.

Table 1. List of bird species observed during biological visit to Alameda work site on May 2, 2007.

Giant Canada Geese
Mallards
American Wigeons
Gadwalls
Red-tailed Hawks
Common Loon
Western Grebes
Brown Pelicans
Double-crested Cormorants
Great Blue Heron
Spotted Sandpiper
American Avocets
Black-necked Stilts
Long-billed Dowitchers
Killdeer
Western Gulls
Barn Swallows
Black Phoebes
Common Ravens
House Finches
Savannah Sparrows
Red-winged Blackbirds

APPENDIX C

ESS DETERMINATION

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DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22331-0600

OCT 15 2007

DDESB-PE

MEMORANDUM FOR COMMANDING OFFICER, NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY (ATTENTION: CODE N54)

SUBJECT: Explosives Safety Submission and Site Approval Request, Restoration Site 1, Former Naval Air Station Alameda, Alameda Point, California, Dated February 7, 2007 [T-070]

References: (a) First Endorsement on BRAC PMO WEST ltr 5090 Ser BPMOW.AB/0333 of 7 February 2007, Subject as above

(b) DoD 6055.9-STD, DoD Ammunition and Explosives Safety Standards, 5 October 2004

The Department of Defense Explosives Safety Board (DDESB) Staff has reviewed the subject explosives safety submission (ESS) forwarded by reference (a), against the requirements of reference (b). Based on the information provided, approval is granted for the ESS for removal of munitions and explosives of concern (MEC) from Installation Restoration (IR) Site 1 at the Former Naval Air Station, Alameda, California. This approval is based on the following:

a. IR Site 1 is proposed to be conveyed to the City of Alameda and is intended for recreational use. The excavation of the debris pits and the disposal trench will cease when native soil or groundwater is reached, and a hand-held magnetometer indicates that metallic debris is no longer present in the excavation. The soil in the firing-range berm will be removed and screened.

b. For IR Site 1 the munition with the greatest fragmentation distance (MGFD) is the 20mm M456A4 Projectile; the team separation distance (TSD) is 13 feet (ft) based on K40 of the MGFD; the minimum separation distance (MSD) for unintentional detonations for non-essential personnel will be 61 ft based on the hazardous fragment distance (HFD) of the MGFD; and the MSD for intentional detonations for all personnel will be 558 ft based on the maximum fragment distance (MFD) of the MGFD.

c. If the contingency MGFD (i.e., 40mm M406 Grenade) for IR Site 1 is implemented the TSD will be 17 ft based on K40 of the MGFD; the MSD for unintentional detonations for non-essential personnel will be 200 ft based on the HFD of the MGFD; and the MSD for intentional detonations for all personnel will be 558 ft based on the MFD of the 20mm M456A4 Projectile.

d. For hazardous fragment protection of personnel, based on unintentional detonation from mechanized operations involving the 20mm M456A4 Projectile or 40mm M406 Grenade, the use of barricades are authorized as engineering controls provided the Navy ensures usage per DDESB approved guidance. Additionally, these personnel will be provided K24 blast over pressure protection of 8 ft for the 20mm M456A4 Projectile or 10 ft for the 40mm M406 Grenade.

e. The barricaded undefined earth-covered magazine (ECM) M354 is site approved to manually inspect/certify and store up to 100 pounds (lbs) net explosive weight (NEW) hazard division (HD) 1.1 and inert materials. The inhabited building distance (IBD) for sides and rear are 250 ft and front is 500 ft; public transportation route distance (PTRD) for side and rear are 150 ft and front is 300 ft; and intraline distance (ILD) for front is 84 ft, sides 74 ft, and rear 56 ft, based on the HD1.1 limits.

f. The barricaded undefined ECM M353 is site approved to remotely cut up to ten 20mm M456A4 Projectiles at a time with a maximum credible event (MCE) of 0.3 lbs NEW of HD 1.1. The IBD is 61 ft and PTRD is 37 ft based on the HFD and 60% of the HFD, respectively; and the ILD is 17 ft based on K24 of the MCE.

g. The daily in-process storage of up to 30 lbs NEW HD 1.1 is approved for the walkway between ECMs M353 and M354 with a barricaded ILD of 28 ft. Over night storage is not authorized.

h. The earth-screening facility is site approved for 0.03 lbs NEW of HD 1.1 based on a 20mm M456A4 Projectile MGFD. The IBD is 61 ft and PTRD is 37 ft based on the HFD and 60% of the HFD of the MGFD, respectively; and the ILD is 8 ft based on K24 of the MGFD.

i. The temporary collection point is site approved for 30 lbs NEW HD 1.1. The IBD is 125 ft, PTRD is 75 ft, and ILD is 56 ft based on based on the HD 1.1 limits.

j. Prior to initiation, through completion, of on-site intrusive MEC operations, all nonessential personnel will be evacuated and prevented from entering any area/facility encumbered by the MSD required for the operation being conducted.

k. All MEC will be inspected, verified and certified as free of explosives hazards prior to further disposition or turned over to the Explosive Ordnance Disposal unit for management and/or disposal.

If changes occur during or after completion of this effort that could increase explosive hazards to site workers or the public due to the presence of military munitions at the site, an amendment to this ESS must be submitted to DDESB for review and approval.

The point of contact for this action is Mr. Eric Alchowiak, (703) 325-0892, DSN 221-0892, E-mail address eric.alchowiak@ddesb.osd.mil.

TL CHIARELLO
FOR

CURTIS M. BOWLING
Chairman
DDESB

DEPARTMENT OF THE NAVY
NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY
FARRAGUT HALL
3817 STRAUSS AVENUE, SUITE 108
INDIAN HEAD, MD 20640-5151

8020
Ser N54-JM/9094
14 Jan 08

From: Commanding Officer, Naval Ordnance Safety and Security Activity
To: Director, Base Realignment and Closure, Program Management Office West (BPMOW.AB)

Subj: EXPLOSIVES SAFETY SUBMISSION AND SITE APPROVAL REQUEST, RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, CALIFORNIA [07 FEB 07/T-070F]

Ref: NAVSEA OP 5, Volume 1, Seventh Revision

Encl: (1) DDESB memo DDESB-PE of 15 Oct 07

1. Enclosure (1) provides final safety approval for the removal of Munitions and Explosives of Concern (MEC) from Installation Restoration (IR) Site 1 at the former Naval Air Station (NAS), Alameda, California. The approval is based on the following conditions:

a. IR Site 1 is proposed to be conveyed to the City of Alameda and is intended for recreational use. The excavation of the debris pits and the disposal trench will cease when native soil or ground water is reached, and a hand-held magnetometer indicates that metallic debris is no longer present in the excavation. The soil in the firing-range berm will be removed and screened.

b. For IR Site 1, the Munition with the Greatest Fragmentation Distance (MGFD) is the 20mm M456A4 Projectile; the Team Separation Distance (TSD) is 13 feet, based on K40 of the MGFD; the Minimum Separation Distance (MSD) for unintentional detonations for non-essential personnel will be 61 feet, based on the Hazardous Fragment Distance (HFD) of the MGFD; and the MSD for intentional detonations for all personnel will be 558 feet, based on the Maximum Fragment Distance (MFD) of the MGFD.

c. If the contingency MGFD (i.e., 40mm M406 Grenade) for IR Site 1 is implemented, the TSD will be 17 feet, based on K40 of the MGFD; the MSD for unintentional detonations for non-essential personnel will be 200 feet, based on the HFD of the MGFD; and the MSD for Intentional detonations for all personnel will be 558 feet, based on the MFD of the 20mm M4564A Projectile.

d. For hazardous fragment protection of personnel, based on unintentional detonation from mechanized operations involving the 20mm M456A4 Projectile or 40mm M406 grenade, the use of barricades is authorized as an engineering control, provided the Navy ensures usage per Department of Defense Explosives Safety Board (DDESB)-approved guidance. Additionally, these personnel will be provided K24 blast overpressure protection of 8 feet for the 20mm M456A4 Projectile or 10 feet for the 40 mmM406 Grenade.

e. Barricaded undefined Earth-Covered Magazine (ECM) M354 is site approved to manually inspect/certify and store up to 100 pounds net explosives weight (NEW) of Class/Division (C/D) 1.1 and inert materials. The inhabited building distance (IBD) is 250 feet for the sides and rear, and 500 feet for the front; public transportation route (PTR) distance is 150 feet for the sides and rear, and 300 feet for the front; and intraline (IL) distance is 84 feet for the front, 74 feet for the sides, and 56 feet for the rear, based on the C/D 1.1 limits.

f. Barricaded undefined ECM M353 is site approved to remotely cut up to ten 20mm M456A4 Projectiles at-a-time, with a maximum credible event (MCE) of 0.3 pounds NEW of C/D 1.1. IBD is 61 feet, and PTR distance is 37 feet, based on the HFD and 60% of the HFD, respectively; and the IL distance is 17 feet, based on K24 of the MCE.

g. The daily in-process storage of up to 30 pounds NEW of C/D 1.1 is approved for the walkway between ECMs M353 and M354, with a barricaded IL distance of 28 feet. Overnight storage is not authorized.

h. The earth-screening facility is site approved for 0.03 pounds NEW of C/D 1.1, based on a 20mm M456A4 Projectile MGFD. The IBD is 61 feet, and PTR distance is 37 feet, based on the HFD and 60% of the HFD of the MGFD, respectively; and the IL distance is 8 feet, based on K24 of the MGFD.

i. The temporary collection point is site approved for 30 pounds NEW of C/D 1.1. The IBD is 125 feet, PTR distance is 75 feet, and IL distance is 56 feet, based on the C/D 1.1 limits.

j. Prior to initiation, through completion, of on-site intrusive MEC operations, all non-essential personnel will be

evacuated and prevented form entering any area/facility encumbered by the MSD required for the operation being conducted.

k. All MEC will be inspected, verified, and certified as free of explosive hazards, prior to further disposition, or turned over to an Explosive Ordnance Disposal (EOD) Unit for management and/or disposal.

2. If changes occur during or after completion of this effort that could increase explosive hazards to site workers or the public, due to the presence of military munitions at the site, an amendment to the Explosives Safety Submission (ESS) must be submitted through the Naval Ordnance Safety and Security Activity (NOSSA) to the DDESB for review and approval.

3. NOSSA point-of-contact is Mr. John McCambridge, N548, at DSN: 354-1907; Commercial: (301) 744-1907; or E-mail: john.mccambridge1@navy.mil.

GARY A. HOGUE
By direction

Copy to:
CNO (N411; N45C)
NOSSA (N539)
NOSSA ESSOPAC (N5P)

DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22331-0600

OCT 15 2007

DDESB-PE

MEMORANDUM FOR COMMANDING OFFICER, NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY (ATTENTION: CODE N54)

SUBJECT: Explosives Safety Submission and Site Approval Request, Restoration Site 1, Former Naval Air Station Alameda, Alameda Point, California, Dated February 7, 2007 [T-070]

References: (a) First Endorsement on BRAC PMO WEST ltr 5090 Ser BPMOW.AB/0333 of 7 February 2007, Subject as above

(b) DoD 6055.9-STD, DoD Ammunition and Explosives Safety Standards, 5 October 2004

The Department of Defense Explosives Safety Board (DDESB) Staff has reviewed the subject explosives safety submission (ESS) forwarded by reference (a), against the requirements of reference (b). Based on the information provided, approval is granted for the ESS for removal of munitions and explosives of concern (MEC) from Installation Restoration (IR) Site 1 at the Former Naval Air Station, Alameda, California. This approval is based on the following:

a. IR Site 1 is proposed to be conveyed to the City of Alameda and is intended for recreational use. The excavation of the debris pits and the disposal trench will cease when native soil or groundwater is reached, and a hand-held magnetometer indicates that metallic debris is no longer present in the excavation. The soil in the firing-range berm will be removed and screened.

b. For IR Site 1 the munition with the greatest fragmentation distance (MGFD) is the 20mm M456A4 Projectile; the team separation distance (TSD) is 13 feet (ft) based on K40 of the MGFD; the minimum separation distance (MSD) for unintentional detonations for non-essential personnel will be 61 ft based on the hazardous fragment distance (HFD) of the MGFD; and the MSD for intentional detonations for all personnel will be 558 ft based on the maximum fragment distance (MFD) of the MGFD.

c. If the contingency MGFD (i.e., 40mm M406 Grenade) for IR Site 1 is implemented the TSD will be 17 ft based on K40 of the MGFD; the MSD for unintentional detonations for non-essential personnel will be 200 ft based on the HFD of the MGFD; and the MSD for intentional detonations for all personnel will be 558 ft based on the MFD of the 20mm M456A4 Projectile.

Encl (1)

d. For hazardous fragment protection of personnel, based on unintentional detonation from mechanized operations involving the 20mm M456A4 Projectile or 40mm M406 Grenade, the use of barricades are authorized as engineering controls provided the Navy ensures usage per DDESB approved guidance. Additionally, these personnel will be provided K24 blast over pressure protection of 8 ft for the 20mm M456A4 Projectile or 10 ft for the 40mm M406 Grenade.

e. The barricaded undefined earth-covered magazine (ECM) M354 is site approved to manually inspect/certify and store up to 100 pounds (lbs) net explosive weight (NEW) hazard division (HD) 1.1 and inert materials. The inhabited building distance (IBD) for sides and rear are 250 ft and front is 500 ft; public transportation route distance (PTRD) for side and rear are 150 ft and front is 300 ft; and intraline distance (ILD) for front is 84 ft, sides 74 ft, and rear 56 ft, based on the HD1.1 limits.

f. The barricaded undefined ECM M353 is site approved to remotely cut up to ten 20mm M456A4 Projectiles at a time with a maximum credible event (MCE) of 0.3 lbs NEW of HD 1.1. The IBD is 61 ft and PTRD is 37 ft based on the HFD and 60% of the HFD, respectively; and the ILD is 17 ft based on K24 of the MCE.

g. The daily in-process storage of up to 30 lbs NEW HD 1.1 is approved for the walkway between ECMs M353 and M354 with a barricaded ILD of 28 ft. Over night storage is not authorized.

h. The earth-screening facility is site approved for 0.03 lbs NEW of HD 1.1 based on a 20mm M456A4 Projectile MGFD. The IBD is 61 ft and PTRD is 37 ft based on the HFD and 60% of the HFD of the MGFD, respectively; and the ILD is 8 ft based on K24 of the MGFD.

i. The temporary collection point is site approved for 30 lbs NEW HD 1.1. The IBD is 125 ft, PTRD is 75 ft, and ILD is 56 ft based on based on the HD 1.1 limits.

j. Prior to initiation, through completion, of on-site intrusive MEC operations, all nonessential personnel will be evacuated and prevented from entering any area/facility encumbered by the MSD required for the operation being conducted.

k. All MEC will be inspected, verified and certified as free of explosives hazards prior to further disposition or turned over to the Explosive Ordnance Disposal unit for management and/or disposal.

If changes occur during or after completion of this effort that could increase explosive hazards to site workers or the public due to the presence of military munitions at the site, an amendment to this ESS must be submitted to DDESB for review and approval.

The point of contact for this action is Mr. Eric Alchowiak, (703) 325-0892, DSN 221-0892, E-mail address eric.alchowiak@ddesb.osd.mil.

TL CHARGED FOR

CURTIS M. BOWLING
Chairman
DDESB

DEPARTMENT OF THE NAVY
NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY
FARRAGUT HALL BLDG D-323
23 STRAUSS AVENUE
INDIAN HEAD MD 20640-5555

8020
Ser N54-TD/7149
13 Mar 07

FIRST ENDORSEMENT on BRAC PMO WEST ltr 5090 Ser BPMOW.AB/0333 of 7 Feb 07

From: Commanding Officer, Naval Ordnance Safety and Security Activity
To: Chairman, Department of Defense Explosives Safety Board (DDESB-PE)

Subj: EXPLOSIVES SAFETY SUBMISSION AND SITE APPROVAL REQUEST, RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, CALIFORNIA, DATED FEBRUARY 7, 2007 [T-070]

Ref: (a) NAVSEA OP 5, Volume 1, Seventh Revision
(b) NOSSAINST 8020.15A

1. Readdressed and forwarded for continuing review.

2. This project, the Explosives Safety Submission and Site Approval Request (ESS/SAR) for Munitions Response Site (MRS) Installation Restoration (IR) Site 1, at the former Naval Air Station (NAS), Alameda, California, has been reviewed with respect to, and meets, the criteria of references (a) and (b).

3. The following pertain to this MRS project.

a. The munition with the greatest fragment distance (MGFD) is a 20mm M456A4 projectile with a contingency MGFD for a 40mm M406 projectile. Enclosure (1), Sections 3.2 and 6.5.1, address the process governing the implementation of the MGFD and contingency MGFD.

b. Manual and mechanized removal of munitions and explosives of concern (MEC) and material potentially presenting an explosives hazard (MPPEH) within the MRS includes a screening plant and on-site collection point. Request that the Exclusion Zones (EZs), Team Separation Distances (TSDs), and engineering-designed shielding proposed to be established/provided, based on the data and calculations shown in enclosure (1), Section 7, for the specific operations conducted, be approved.

c. Storage and manual inspection of MEC/MPPEH in Earth-Covered Magazine (ECM) 354 and remote-controlled processing of 20mm projectiles in ECM 353, both external to the MRS. Request that the net explosives weights (NEWs), explosives safety quantity distance (ESQD) arcs, and engineering-designed shielding proposed to be established/provided, based on the data and calculations shown in enclosure (1), Section 7, for the specific operations conducted, be approved.

4. Explosives Safety Site and Explosives Safety Submission approvals are requested for the proposed MRS actions at IR Site 1, at the former NAS Alameda, California.

5. The Naval Ordnance Safety and Security Activity (NOSSA) point-of-contact for questions relating to the explosives safety aspects of this project is Mr. Tony Dunay, NOSSA/N545, at DSN: 354-6055; Commercial: (301) 744-6055; or E-mail: anthony.dunay@navy.mil; and for questions relating to the environmental aspects of this project is Mr. Doug Murray, NOSSA/N539 at DSN: 354-5630; Commercial: (301) 744-5660; or E-mail: douglas.murray1@navy.mil.

GARY A. HOGUE
By direction

Copy to:
CNO (N45C)
BRAC PMO West (BPMOW.AB/A. Baughman)
NOSSA (N539)
NOSSA ESSOPAC (N5P)

DEPARTMENT OF THE NAVY
NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY
FARRAGUT HALL BLDG D-323
23 STRAUSS AVENUE
INDIAN HEAD MD 20640-5555

8020
Ser N539/418
15 Mar 07

From: Commanding Officer, Naval Ordnance Safety and Security Activity
To: Director, Base Realignment and Closure Program Management Office West

Subj: EXPLOSIVES SAFETY SUBMISSION (ESS) INTERIM APPROVAL FOR INSTALLATION RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, CALIFORNIA

Ref: (a) BRAC PMO West ltr 5090 BPMOW.AB/0333 of 7 Feb 07 w/encl
(b) NOSSAINST 8020.15A, Explosives Safety Review, Oversight, and Verification of Munitions Responses, of 2 Feb 07
(c) NAVSEA OP 5, Revision 7
(d) NOSSA ltr 8020 Ser N54-TD/7149 of 13 Mar 07
(e) DoD 6055.9-STD

1. The Naval Ordnance Safety and Security Activity (NOSSA) reviewed the subject Explosives Safety Submission (ESS) and Site Approval Request transmitted as reference (a) in accordance with references (b) and (c). NOSSA then requested with reference (d) that the Department of Defense Explosives Safety Board (DDESB) review the documents against reference (e) and concur with it.

2. NOSSA recognizes the need to begin the proposed work as soon as possible. Therefore, and in accordance with the provisions of references (c) and (e), NOSSA authorizes you to proceed with the munitions response actions as described in reference (a), accepting that the DDESB approval process may impose different or additional requirements.

3. The NOSSA point of contact for this interim ESS approval is Mr. Douglas Murray, who can be contacted at DSN 354-4450 or commercial (301)-744-4450.

Pamela G. Clements
PAMELA G. CLEMENTS
By direction

Copy to: (See next page)

Subj: EXPLOSIVES SAFETY SUBMISSION (ESS) INTERIM APPROVAL FOR INSTALLATION RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, CALIFORNIA

Copy to:
CNO (N411; N45C)
NOSSA ESSOPAC (N5P)

APPENDIX D

BACKGROUND REFERENCE AREA STATIC SURVEY DATA (Available on CD only)

D.1 SOIL STATIC BACKGROUNDS

D.2 SCAN BACKGROUNDS

D.3 MICROREM BACKGROUNDS

D.4 ASPHALT, CONCRETE, AND GRAVEL BACKGROUNDS

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CTO-15 NaI Backgrounds @ 4" from soil

Date:	4/23/2007	4/23/2007	5/10/2007	5/10/2007	5/10/2007	5/10/2007	5/10/2007	5/10/2007	7/17/2007	7/17/2007	9/10/2007	9/10/2007		12/10/2007	12/10/2007	12/10/2007
Serial #:	**PR240366**	**PR240362**	**PR252114**	**PR249946**	**PR252080**	**PR249927**	**PR252066**	**PR252083**	**PR242851**	**PR240334**	**PR240325**	**PR242833**		**149961**	**172018**	**187758**
SITE 1 A	5500	5666	5600	5420	5170	5310	5490	5540	4780	5607	5756	5754		6117	6485	6499
DUP A	5532	5446	5720	5530	5210	5350	5440	5440	4702	5718	6015	5715		6117	6486	6150
B	5488	5672	5540	5630	5460	5470	5490	5440	4854	5492	5828	5643		6445	6465	6477
C	5511	5688	5850	5570	5530	5470	5580	5560	4864	5760	6074	5808		6544	6264	6572
D	5252	5618	5540	5410	5250	5360	5400	5390	4627	5622	5905	5753		6233	6372	6173
E	5388	5582	5790	5420	5190	5410	5420	5290	4754	5648	5762	5624		6474	6250	6283
F	5649	5862	5750	5630	5380	5500	5610	5420	5044	5952	6009	5775		6728	6384	6502
G	5542	5696	5750	5540	5400	5620	5620	5290	4914	5750	6060	5872		6501	6466	6452
H	5557	5763	5590	5510	5240	5610	5620	5650	4868	5709	6051	5749		6658	6283	6466
I	5551	5774	5570	5470	5160	5430	5580	5520	4918	5839	6141	5830		6746	6544	6544
SITE 2 A	5142	5433	5570	5170	5030	5290	5370	5360	4478	5351	5457	5388		5811	5481	6223
DUP A	5062	5284	5360	5200	4950	5250	5310	5320	4538	5477	5497	5489		5656	5510	6274
B	4929	5203	5370	5080	4850	4930	5070	5170	4340	5218	5749	5531		6093	5654	6009
C	5248	5223	5500	5290	5200	5250	5420	5400	4624	5399	5724	5517		5996	5603	5926
D	4974	5149	5500	5300	5060	5020	5320	5340	4642	5485	5554	5557		6054	5579	5991
E	5437	5471	5790	5680	5390	5510	5640	5600	5222	6055	5665	5454		6008	5110	5949
F	5143	5247	5310	5270	4940	5120	5160	5290	4977	6027	5441	5441		6119	5798	6029
G	5175	5244	5560	5420	5100	5310	5390	5200	4322	5144	5472	5306		6087	6075	5996
H	4936	5145	5290	4960	4760	4880	5000	5180	4841	5541	5449	5143		6140	6124	6027
I	5131	5187	5410	5210	5080	5130	5270	5220	5255	6494	5323	5475		6110	6219	5980
SITE 3 A	4838	4818	4760	4610	4360	4610	4590	4500	4168	4849	5097	4980		6062	6613	5813
DUP A	4579	4680	4780	4660	4380	4560	4640	4610	3987	4949	5193	5025		5616	6767	5650
B	4848	5017	5300	4920	4860	4730	4850	4800	4112	5017	5270	5018		5625	6674	5933
C	5145	5410	5510	5240	4860	5120	5110	5220	4609	5475	5186	5026		5646	6255	6029
D	4967	5141	5220	5140	4820	4870	5010	4910	4515	5462	5592	5104		5660	6047	6022
E	5022	5138	5430	5310	4820	5070	5040	4830	4835	5854	5011	4676		5952	6238	6040
F	5409	5609	5620	5520	5200	5390	5450	5220	4306	5274	5240	5360		6359	6148	5993
G	5040	5301	5400	5210	4990	5170	5150	5250	5005	5948	5895	5935		6148	6432	6123
H	4966	5149	5590	5290	5030	4980	5180	5190	4307	5331	5576	5525		6037	6500	5942
I	5403	5562	5880	5500	5290	5490	5460	5580	4729	5552	5468	5095	**MEAN**	6000	6350	6001
MEAN	**5212.1**	**5372.6**	**5495.0**	**5303.7**	**5065.3**	**5207.0**	**5289.3**	**5257.7**	**4671.2**	**5566.6**	**5615.3**	**5452.3**	**5292.4**	**6124.4**	**6172.6**	**6135.6**
STD DEV	**273.0**	**290.9**	**261.9**	**264.5**	**278.3**	**285.1**	**281.2**	**281.8**	**317.1**	**354.4**	**319.3**	**320.2**	**294.0**	**322.7**	**406.7**	**240.1**
AL	**6031**	**6245**	**6281**	**6097**	**5900**	**6062**	**6133**	**6103**	**5623**	**6630**	**6573**	**6413**	**6174.2**	**7093**	**7393**	**6856**

O,P,Q are 2221's others are ASP's

AL is 6362 when including these

NEXTEP Consulting Group

ALAMEDA Airfield Scan Project Static Background Surveys

Date	6/16/08		**Detector #:**	146344	190206	126520	218587
Region	**Easting**	**North**	**Location**	**1m Gamma (cpm)**	**1m Gamma (cpm)**	**1m Gamma (cpm)**	**1m Gamma (cpm)**
REF SITE # 1	1,475,484.08	474,460.21	BRA1-1	6015	5821	6382	6637
	1,475,489.72	474,475.26	BRA1-2	6417	6147	6707	6602
	1,475,484.11	474,517.39	BRA1-3	6144	5780	6233	6149
	1,475,483.30	474,552.12	BRA1-4	6064	5949	6736	6300
	1,475,532.65	474,579.01	BRA1-5	6109	5730	6596	6244
	1,475,604.00	474,559.16	BRA1-6	6403	6094	6524	6506
	1,475,548.67	474,538.94	BRA1-7	6204	5881	6553	6371
	1,475,508.40	474,520.40	BRA1-8	5991	5500	6225	5749
	1,475,516.62	474,485.34	BRA1-9	6267	5948	6617	6693
	1,475,484.08	474,460.21	BRA1-1 (DUP)	5953	5759	6336	7050
REF SITE #2	1,479,395.18	473,793.71	BRA2-1	6278	5986	6664	6400
	1,479,423.79	473,826.68	BRA2-2	6314	6256	6627	6906
	1,479,418.97	473,902.92	BRA2-3	6262	5793	6413	6293
	1,479,379.95	473,899.27	BRA2-4	6485	6137	6830	6575
	1,479,349.15	473,849.16	*BRA2-5	6562	6337	6659	6534
	1,479,371.57	473,815.42	BRA2-6	6411	5540	6440	6322
	1,479,288.91	473,819.85	*BRA2-7	6457	6032	6572	6821

Date	6/16/08		Detector #:	146344	190206	126520	218587
Region	**Easting**	**North**	**Location**	**1m Gamma (cpm)**	**1m Gamma (cpm)**	**1m Gamma (cpm)**	**1m Gamma (cpm)**
	1,479,310.78	473,844.62	*BRA2-8	5918	5665	6112	6260
	1,479,319.38	473,911.76	*BRA2-9	6058	5791	6455	6363
	1,479,395.18	473,793.71	BRA2-1 (DUP)	6355	6133	6558	6302
REF SITE #3	1,479,487.65	474,066.61	BRA3-1	6730	6419	6821	6660
	1,479,497.47	474,155.28	BRA3-2	6052	5668	6386	6220
	1,479,484.85	474,184.84	*BRA3-3	5972	5739	6220	6307
	1,479,450.47	474,201.62	BRA3-4	5881	5536	5985	5974
	1,479,413.53	474,128.33	BRA3-5	5765	5527	6275	5868
	1,479,410.35	474,074.98	BRA3-6	5892	5643	6132	5997
	1,479,391.08	474,098.51	BRA3-7	6516	6070	6749	6509
	1,479,401.87	474,132.48	BRA3-8	5899	5486	6091	5912
	1,479,384.71	474,182.25	*BRA3-9	5345	5311	5657	5442
	1,479,487.65	474,066.61	BRA3-1 DUP)	6840	6267	7022	6624

Signature: Date: * - NO STAKE IN PLACE. LOCATION W/ SUB-METER GPS.

ID	Y	X	ELEV
4418	474504.585	1475505.079	11.096
4462	474505.201	1475505.164	11.043
4466	474505.384	1475505.548	10.600
4540	474505.361	1475505.461	10.952
4583	474508.311	1475495.877	11.298
4595	474504.938	1475504.986	11.056
4657	474505.385	1475505.561	10.611
4661	474533.736	1475476.999	4.426
4672	474505.410	1475505.128	10.965
4685	474545.570	1475475.066	8.371
4698	474545.274	1475473.264	7.097
4711	474466.560	1475478.308	10.531
4735	474465.694	1475478.795	10.435
4741	474488.945	1475583.559	10.399
4765	474466.730	1475477.761	10.418
4769	474505.554	1475505.453	10.776
4786	474505.246	1475505.184	11.163
4787	474505.557	1475505.469	10.645
4799	474526.136	1475479.380	12.134
4804	474532.710	1475474.500	7.845
4829	474529.916	1475472.828	8.899
4830	474535.759	1475474.987	12.964
4837	474505.469	1475505.551	10.611
4838	474526.808	1475478.350	10.858
4839	474504.970	1475505.098	11.051
4842	474511.159	1475577.627	10.461
4843	474501.626	1475567.288	3.574
4853	474453.243	1475594.055	6.089
4865	474450.310	1475593.580	1.293
4867	474505.231	1475505.320	10.983
4867	474470.781	1475583.612	9.125
4868	474447.957	1475593.222	9.862
4868	474451.141	1475593.366	6.445
4869	474530.020	1475471.417	9.019
4880	474470.865	1475474.919	10.602
4883	474460.689	1475504.419	10.601
4890	474528.042	1475472.454	8.918
4890	474534.302	1475475.101	5.911
4895	474509.316	1475495.617	11.097
4900	474534.185	1475475.035	7.274
4902	474490.497	1475583.922	10.486
4915	474467.347	1475586.439	12.855
4916	474558.978	1475475.005	13.646
4923	474530.605	1475472.980	8.892
4929	474476.899	1475472.715	10.544
4929	474531.090	1475473.086	8.886
4935	474525.781	1475479.535	11.667
4938	474512.917	1475491.073	10.908
4938	474564.168	1475477.837	15.457
4945	474471.625	1475567.877	10.222
4945	474474.449	1475473.322	10.643

2221 SN: 184009 Area 1

4952	474513.909	1475490.061	11.006
4962	474489.763	1475584.086	10.491
4963	474518.750	1475575.691	10.032
4970	474449.857	1475592.412	2.344
4975	474447.945	1475592.975	9.848
4980	474445.640	1475591.758	10.298
4983	474481.088	1475472.843	10.701
4983	474533.731	1475473.881	9.283
4985	474529.559	1475472.750	8.903
4995	474514.410	1475559.678	5.514
5000	474497.000	1475565.971	2.455
5002	474508.122	1475496.651	11.322
5004	474537.905	1475473.384	9.305
5008	474511.260	1475474.614	8.966
5012	474504.856	1475505.014	11.126
5012	474505.934	1475498.895	11.136
5018	474530.401	1475472.935	8.894
5019	474511.770	1475492.395	10.935
5021	474552.600	1475565.340	10.159
5021	474445.301	1475592.193	9.200
5030	474505.471	1475505.522	10.764
5033	474450.614	1475591.826	3.230
5034	474450.926	1475593.941	3.378
5042	474452.518	1475594.161	6.285
5043	474476.114	1475472.659	10.554
5047	474512.571	1475474.090	9.074
5049	474478.827	1475472.767	10.494
5050	474548.797	1475472.801	5.113
5053	474528.045	1475472.503	8.970
5056	474533.697	1475570.794	10.797
5066	474497.217	1475473.640	9.509
5067	474535.771	1475473.753	8.950
5069	474507.342	1475579.495	10.152
5070	474463.934	1475547.310	10.567
5072	474517.789	1475575.388	10.055
5073	474512.272	1475491.544	10.861
5074	474563.836	1475475.804	19.962
5081	474534.109	1475473.533	9.132
5082	474488.192	1475583.436	10.494
5087	474468.182	1475477.050	10.427
5092	474472.398	1475585.296	5.486
5093	474500.804	1475564.521	4.252
5096	474450.614	1475591.826	3.230
5097	474452.771	1475592.817	6.408
5098	474462.295	1475485.373	10.585
5101	474530.038	1475471.409	9.019
5102	474449.006	1475592.184	0.085
5103	474529.970	1475471.442	9.017
5104	474463.835	1475544.279	10.820
5105	474452.155	1475595.264	4.385
5110	474534.219	1475570.382	10.724
5111	474513.308	1475474.564	9.023

5111	474527.752	1475472.831	9.548
5116	474505.713	1475505.378	11.064
5122	474550.285	1475520.527	9.869
5126	474504.471	1475581.466	10.503
5126	474463.480	1475533.181	10.440
5126	474514.938	1475474.813	9.565
5126	474449.125	1475592.711	0.557
5127	474531.332	1475473.140	8.884
5127	474447.954	1475590.602	8.787
5133	474537.302	1475476.258	6.004
5134	474535.733	1475569.646	10.428
5137	474499.671	1475568.151	4.400
5138	474529.937	1475471.459	9.017
5147	474463.999	1475546.292	10.528
5149	474505.605	1475505.409	11.078
5151	474495.854	1475569.156	3.087
5157	474500.436	1475565.809	6.346
5158	474565.730	1475487.485	8.756
5161	474462.799	1475531.793	10.409
5161	474528.969	1475475.421	11.663
5162	474516.012	1475484.627	15.133
5166	474539.857	1475567.584	10.672
5166	474475.237	1475472.897	10.688
5168	474548.652	1475521.777	11.347
5173	474473.003	1475571.007	10.684
5173	474528.042	1475472.433	8.710
5173	474535.960	1475475.326	9.105
5175	474547.373	1475565.782	10.539
5175	474447.788	1475592.223	9.187
5178	474467.369	1475477.280	10.473
5182	474452.006	1475591.894	7.390
5184	474499.201	1475565.132	8.651
5185	474565.483	1475477.476	13.698
5188	474548.415	1475565.643	10.215
5189	474447.942	1475593.666	3.688
5190	474561.878	1475474.483	17.982
5192	474480.473	1475472.377	10.254
5193	474472.819	1475473.834	10.663
5196	474544.432	1475475.308	5.767
5198	474474.211	1475572.961	10.432
5198	474530.069	1475477.535	10.838
5201	474460.609	1475505.341	10.631
5203	474529.992	1475471.431	9.018
5208	474514.704	1475489.787	10.971
5208	474508.996	1475565.421	5.635
5208	474446.892	1475591.320	6.130
5209	474492.623	1475573.064	5.510
5218	474540.223	1475528.316	18.286
5220	474540.320	1475475.175	10.321
5222	474512.601	1475576.895	10.494
5225	474507.415	1475496.887	11.286
5227	474472.808	1475570.296	10.678

5229	474490.325	1475581.337	4.227
5229	474489.799	1475581.459	7.261
5231	474468.309	1475476.236	10.319
5232	474449.438	1475593.083	9.988
5232	474448.964	1475590.924	8.439
5233	474463.614	1475544.849	10.822
5233	474540.529	1475529.634	14.363
5234	474461.496	1475491.791	10.362
5235	474553.012	1475472.947	3.913
5238	474532.327	1475571.150	10.692
5239	474460.938	1475492.656	10.520
5241	474520.000	1475551.774	7.581
5244	474509.501	1475494.862	11.092
5246	474541.391	1475530.458	12.774
5247	474501.585	1475474.008	9.490
5248	474464.804	1475480.073	10.342
5253	474462.665	1475528.742	10.780
5254	474460.792	1475491.471	10.473
5254	474450.552	1475591.835	3.412
5255	474537.441	1475569.094	10.590
5255	474486.804	1475582.991	10.626
5257	474480.061	1475578.912	10.286
5258	474485.994	1475582.872	10.550
5262	474512.170	1475577.582	10.525
5264	474544.570	1475475.721	4.964
5265	474520.252	1475551.142	6.594
5265	474452.551	1475595.620	8.878
5266	474505.551	1475505.492	10.813
5266	474535.543	1475531.282	13.329
5270	474477.705	1475472.392	10.500
5272	474515.684	1475558.883	5.203
5273	474463.098	1475534.053	10.445
5274	474473.379	1475473.056	10.778
5276	474548.415	1475565.643	10.215
5277	474510.012	1475522.843	10.796
5278	474558.761	1475472.098	15.627
5278	474452.615	1475593.918	5.001
5280	474520.667	1475552.815	8.819
5281	474551.621	1475520.070	12.950
5281	474449.197	1475593.285	3.841
5282	474509.911	1475494.271	10.805
5283	474506.842	1475514.490	11.315
5283	474449.378	1475591.057	8.296
5285	474547.489	1475522.883	13.093
5290	474462.429	1475590.293	11.869
5290	474456.645	1475591.705	7.326
5291	474515.632	1475474.343	9.525
5292	474466.132	1475589.323	8.915
5294	474561.743	1475527.680	9.885
5294	474551.071	1475517.220	13.089
5294	474452.155	1475595.264	4.385
5296	474451.825	1475592.435	7.366

5298	474485.295	1475582.911	10.595
5299	474469.780	1475564.445	10.388
5301	474473.766	1475572.171	10.429
5301	474460.603	1475507.232	10.532
5302	474470.018	1475474.989	10.552
5302	474471.377	1475474.285	10.528
5302	474499.995	1475565.618	4.518
5303	474548.296	1475566.132	10.681
5303	474556.786	1475473.793	4.443
5303	474529.630	1475539.694	16.175
5304	474542.312	1475475.456	7.445
5305	474552.353	1475515.883	16.202
5306	474561.979	1475473.589	18.772
5306	474535.025	1475533.366	13.897
5306	474447.965	1475592.238	9.666
5310	474544.714	1475566.655	10.769
5310	474542.078	1475474.902	9.609
5310	474564.000	1475490.655	14.169
5313	474517.267	1475576.232	10.669
5313	474509.991	1475474.766	8.758
5314	474460.381	1475502.776	10.644
5314	474450.473	1475591.847	3.645
5315	474556.525	1475474.473	11.952
5315	474547.844	1475521.627	12.465
532	474565.854	1475488.239	8.766
5322	474450.236	1475591.330	8.000
5327	474547.112	1475522.755	10.510
5328	474466.516	1475587.781	9.330
5330	474461.070	1475511.089	10.516
5331	474450.574	1475593.751	3.881
5332	474498.313	1475473.494	9.775
5334	474474.949	1475573.373	10.445
5334	474541.182	1475474.720	10.288
5335	474541.363	1475566.901	10.345
5336	474461.892	1475488.457	10.477
5336	474531.106	1475478.547	4.776
5338	474548.978	1475474.245	1.278
5340	474493.175	1475578.037	6.912
5341	474488.049	1475583.075	10.206
5342	474520.292	1475575.412	10.111
5342	474480.574	1475585.084	5.506
5346	474542.103	1475473.798	9.323
5347	474451.536	1475591.744	7.552
5349	474476.102	1475574.804	10.608
5349	474450.623	1475591.453	7.867
5351	474563.800	1475478.675	18.165
5353	474478.896	1475584.929	3.962
5354	474559.209	1475474.046	16.905
5355	474506.497	1475513.955	11.136
5356	474464.963	1475548.361	10.630
5357	474539.216	1475529.431	16.843
5357	474498.823	1475566.318	6.911

5358	474474.864	1475583.464	6.127
0	474507.067	1475497.316	11.258
5360	474471.717	1475584.612	4.810
5362	474528.253	1475479.142	9.641
5364	474560.117	1475497.646	10.548
5365	474511.611	1475565.321	6.347
5366	474496.430	1475473.034	9.538
5366	474532.851	1475476.130	7.004
5367	474460.592	1475500.662	10.585
5368	474461.145	1475511.776	10.522
5368	474534.877	1475473.186	8.951
5368	474505.569	1475505.504	10.999
5371	474449.542	1475592.698	9.908
5374	474559.152	1475505.721	11.223
5375	474510.266	1475521.988	10.817
5376	474477.910	1475576.535	10.618
5377	474515.681	1475488.756	10.963
5377	474542.021	1475473.183	5.960
5378	474460.519	1475494.497	10.765
5379	474533.224	1475571.193	10.768
5381	474548.468	1475565.667	10.230
5381	474539.677	1475529.978	12.576
5381	474493.124	1475571.985	7.367
5382	474500.159	1475564.930	6.879
5382	474450.419	1475592.274	9.318
5383	474538.236	1475568.488	10.584
5389	474483.232	1475580.987	10.698
5389	474494.924	1475473.342	9.544
5389	474549.035	1475522.846	9.299
5391	474531.618	1475571.825	10.707
5391	474451.880	1475592.444	3.228
5393	474556.572	1475506.975	11.116
5393	474445.836	1475591.249	11.535
5394	474505.412	1475505.365	10.765
5396	474449.205	1475593.159	2.979
5397	474519.587	1475575.326	10.086
5397	474462.110	1475486.149	10.587
5397	474453.275	1475594.404	4.425
5399	474498.529	1475566.571	9.220
5401	474461.897	1475487.561	10.478
5401	474483.885	1475582.715	8.500
5406	474529.222	1475476.786	10.088
5406	474462.564	1475590.371	9.983
5410	474527.983	1475472.374	8.650
5412	474554.720	1475472.272	3.719
5414	474553.677	1475473.177	7.527
5415	474556.622	1475471.828	5.620
5415	474480.051	1475584.679	4.820
5416	474462.434	1475527.254	10.895
5417	474542.920	1475474.835	7.641
5418	474513.513	1475490.741	10.852
5418	474462.011	1475589.408	11.293

5419	474463.605	1475481.859	10.426
5419	474514.683	1475558.888	7.223
5419	474457.634	1475592.562	7.917
5421	474450.085	1475594.357	5.095
5423	474527.844	1475472.501	8.965
5424	474462.118	1475526.656	10.929
5426	474461.086	1475489.828	10.517
5427	474567.190	1475485.589	10.943
5428	474516.500	1475474.569	9.616
5428	474556.516	1475509.497	13.613
5430	474481.183	1475586.202	6.778
5431	474473.587	1475472.860	10.720
5431	474512.739	1475531.595	10.784
5434	474562.467	1475474.631	17.554
5440	474551.160	1475520.203	10.956
5441	474512.696	1475531.454	10.801
5441	474505.623	1475505.496	10.962
5443	474511.266	1475492.739	10.680
5444	474463.644	1475542.131	10.756
5446	474531.515	1475475.904	7.667
5446	474527.186	1475548.744	13.230
5446	474511.052	1475563.856	7.071
5448	474514.578	1475558.355	5.593
5448	474490.316	1475578.044	9.399
5449	474448.466	1475590.766	8.610
5450	474481.986	1475472.422	10.696
5451	474510.686	1475562.548	8.755
5453	474481.471	1475585.363	6.365
5454	474465.253	1475550.488	10.472
5456	474559.369	1475506.971	10.458
5457	474461.118	1475514.117	10.740
5460	474463.150	1475531.039	10.434
5462	474460.906	1475503.482	10.589
5466	474508.317	1475579.297	10.166
5472	474527.868	1475472.441	8.484
5473	474561.291	1475496.081	12.320
5476	474487.545	1475583.532	10.615
5476	474521.411	1475550.107	7.263
5480	474547.933	1475565.854	10.609
5482	474535.251	1475532.542	13.051
5484	474462.764	1475484.123	10.447
5486	474516.276	1475576.084	10.724
5486	474461.959	1475524.129	11.383
5489	474473.896	1475583.478	7.062
5490	474510.797	1475493.161	10.750
5490	474561.648	1475496.551	7.599
5490	474558.534	1475509.148	10.564
5491	474546.625	1475566.251	10.245
5492	474480.702	1475579.242	10.337
5493	474524.423	1475479.753	10.283
5495	474529.050	1475547.981	7.807
5496	474505.345	1475505.362	10.792

5497	474469.668	1475587.091	10.480
5501	474552.529	1475565.265	10.160
5501	474460.994	1475493.336	10.629
5502	474556.065	1475511.574	11.953
5509	474485.880	1475582.662	6.436
5516	474466.088	1475551.521	10.449
5516	474532.060	1475473.165	9.215
5517	474473.720	1475571.458	10.425
5520	474564.081	1475485.504	11.803
5522	474556.660	1475500.735	12.722
5523	474558.292	1475569.388	10.158
5524	474544.524	1475474.590	8.184
5525	474532.835	1475473.330	9.185
5525	474465.480	1475586.645	12.218
5526	474505.739	1475511.779	11.075
5527	474462.278	1475524.963	11.367
5527	474461.387	1475488.978	10.469
5527	474560.428	1475528.321	9.790
5528	474536.386	1475569.334	10.445
5529	474540.291	1475526.778	13.130
5529	474449.766	1475591.180	8.162
5530	474543.687	1475566.614	10.718
5530	474519.502	1475482.813	13.607
5532	474516.872	1475557.183	6.563
5532	474452.393	1475592.018	7.257
5534	474460.566	1475498.211	10.641
5534	474563.753	1475482.419	13.133
5535	474552.133	1475534.092	9.367
5536	474523.480	1475551.342	5.196
5538	474511.149	1475564.270	6.173
5539	474473.387	1475473.229	10.796
5539	474563.366	1475492.247	12.862
5541	474478.776	1475577.745	10.509
5541	474451.041	1475591.728	9.079
5542	474485.245	1475473.278	10.458
5547	474465.417	1475584.802	10.696
5549	474512.680	1475565.014	7.910
5550	474497.571	1475568.934	-0.811
5552	474551.811	1475473.234	2.848
5553	474461.300	1475493.931	10.636
5553	474529.252	1475548.472	7.896
5554	474458.963	1475591.537	9.150
5555	474461.581	1475514.708	10.761
5555	474528.972	1475472.621	8.909
5555	474479.448	1475584.621	6.837
5557	474506.571	1475514.069	11.027
5557	474520.320	1475550.462	9.883
5559	474518.917	1475483.547	15.576
5560	474484.779	1475582.163	10.639
5560	474503.980	1475501.422	10.991
5560	474516.003	1475560.310	4.693
5562	474460.908	1475495.022	10.775

5564	474552.381	1475565.384	10.120
5565	474523.047	1475479.699	7.995
5565	474447.643	1475592.765	3.917
5567	474565.369	1475491.788	13.867
5568	474460.356	1475590.254	9.114
5568	474453.233	1475594.743	8.199
5569	474545.111	1475526.427	9.623
5570	474550.343	1475523.620	9.035
5571	474482.933	1475472.846	10.595
5575	474522.373	1475478.571	11.597
5577	474492.161	1475579.536	7.471
5580	474563.801	1475481.551	12.747
5583	474539.180	1475568.283	10.702
5583	474509.413	1475578.349	10.338
5583	474539.452	1475474.669	9.174
5586	474563.187	1475477.965	16.316
5587	474501.799	1475564.663	1.346
5590	474468.960	1475475.812	10.339
5590	474512.710	1475531.462	10.843
5590	474542.234	1475528.805	14.622
5591	474537.172	1475474.627	10.038
5592	474472.023	1475473.977	10.577
5593	474545.843	1475566.142	10.233
5595	474460.831	1475497.233	10.626
5595	474533.220	1475534.384	14.554
5596	474563.766	1475494.210	10.049
5597	474496.499	1475568.762	1.145
5598	474513.481	1475561.588	5.479
5601	474483.206	1475583.621	4.820
5602	474462.033	1475528.174	10.889
5603	474566.162	1475516.857	9.315
5605	474525.231	1475574.387	10.628
5606	474506.701	1475513.989	11.125
5606	474476.860	1475584.755	6.368
5608	474523.945	1475574.443	10.635
5609	474530.465	1475548.982	6.810
5611	474510.046	1475521.511	10.877
5613	474551.352	1475472.999	2.277
5613	474564.132	1475494.286	10.201
5617	474520.846	1475575.464	10.350
5617	474541.081	1475525.812	14.667
5628	474558.396	1475505.413	10.556
5629	474541.355	1475474.542	9.283
5629	474512.800	1475531.614	10.768
5629	474559.050	1475473.583	10.741
5630	474543.089	1475567.077	10.687
5632	474514.915	1475474.413	8.722
5632	474504.016	1475501.390	11.110
5634	474477.180	1475576.240	10.646
5634	474562.281	1475475.273	21.779
5638	474460.859	1475512.673	10.634
5638	474496.643	1475574.194	0.999

5640	474522.547	1475478.964	10.463
5640	474470.228	1475585.871	7.842
5643	474513.358	1475577.034	10.311
5643	474473.363	1475472.860	10.809
5644	474476.747	1475575.236	10.592
5644	474538.434	1475541.109	9.130
5648	474460.468	1475495.763	10.455
5648	474512.840	1475531.711	10.916
5648	474528.719	1475541.805	8.101
5649	474461.496	1475513.169	10.675
5650	474537.715	1475541.863	9.121
5651	474461.710	1475518.356	10.531
5653	474461.833	1475525.955	10.946
5653	474503.421	1475474.103	9.582
5654	474522.995	1475551.251	4.374
5655	474554.450	1475514.195	10.265
5655	474551.556	1475517.147	16.300
5657	474530.853	1475572.054	10.652
5658	474456.421	1475591.684	9.406
5659	474465.827	1475552.346	10.463
5659	474514.167	1475562.121	7.165
5665	474461.022	1475498.963	10.623
5665	474542.017	1475474.428	8.921
5667	474515.264	1475489.264	11.020
5667	474557.887	1475513.414	13.485
5670	474535.182	1475570.317	10.744
5672	474542.292	1475566.998	10.301
5675	474461.822	1475515.317	10.464
5678	474557.231	1475473.790	8.659
5679	474469.503	1475475.658	10.516
5680	474529.969	1475572.136	10.668
5680	474514.067	1475474.220	8.739
5685	474558.292	1475569.388	10.158
5688	474515.576	1475576.421	10.527
5689	474479.427	1475584.529	5.488
5693	474510.496	1475493.921	10.791
5693	474563.994	1475492.044	11.879
5696	474473.496	1475473.172	10.772
5700	474514.144	1475576.823	10.323
5704	474552.457	1475565.352	10.160
5704	474481.882	1475580.412	10.449
5704	474478.323	1475577.017	10.515
5705	474461.988	1475519.976	10.793
5707	474462.057	1475516.947	10.483
5708	474550.987	1475518.395	12.729
5713	474564.066	1475494.122	12.961
5716	474519.497	1475554.625	0.640
5717	474540.673	1475567.806	10.746
5717	474566.503	1475517.957	9.428
5718	474462.052	1475523.073	11.163
5718	474528.213	1475548.878	6.537
5722	474527.738	1475472.609	9.433

5726	474504.362	1475566.761	4.622
5727	474460.815	1475506.219	10.670
5727	474558.913	1475505.827	10.799
5729	474555.456	1475471.551	14.004
5730	474461.485	1475516.235	10.468
5730	474483.992	1475583.347	5.338
5730	474467.929	1475587.199	11.528
5731	474466.669	1475554.714	10.126
5733	474503.186	1475565.420	2.897
5735	474449.547	1475591.929	11.194
5737	474536.456	1475473.762	8.848
5739	474463.114	1475536.518	10.757
5739	474462.803	1475529.382	10.792
5746	474557.584	1475505.534	11.943
5749	474522.440	1475575.177	10.544
5751	474481.496	1475579.467	10.318
5752	474528.066	1475472.422	8.919
5753	474461.009	1475490.656	10.454
5753	474556.971	1475511.863	15.457
5758	474522.947	1475548.746	7.149
5760	474460.914	1475508.065	10.573
5760	474558.111	1475507.851	9.748
5760	474493.334	1475575.113	4.451
5765	474528.347	1475538.496	18.502
5769	474540.880	1475567.381	10.824
5770	474524.374	1475574.448	10.645
5779	474510.122	1475578.196	10.308
5782	474526.549	1475573.555	10.647
5782	474563.458	1475485.848	9.768
5788	474463.485	1475534.449	10.483
5788	474506.480	1475514.206	10.961
5789	474525.220	1475551.456	7.018
5790	474550.304	1475520.915	9.730
5792	474451.035	1475592.355	6.216
5794	474463.260	1475540.808	10.779
5794	474460.953	1475501.540	10.604
5794	474532.409	1475534.383	11.428
5796	474543.758	1475475.305	8.921
5804	474452.822	1475592.155	7.109
5806	474541.016	1475567.309	10.917
5807	474462.954	1475541.640	10.765
5807	474512.742	1475531.329	10.870
5810	474521.371	1475481.702	12.377
5815	474564.158	1475490.633	12.050
5817	474561.634	1475499.517	12.429
5821	474558.292	1475569.388	10.158
5821	474548.486	1475523.840	5.799
5823	474528.640	1475472.548	8.913
5826	474461.619	1475517.564	10.545
5828	474529.657	1475542.586	11.450
5830	474551.202	1475473.595	2.407
5832	474525.842	1475573.726	10.604

5838	474562.859	1475480.655	12.396
5839	474514.939	1475576.581	10.513
5839	474560.453	1475529.291	9.857
5840	474540.792	1475567.380	10.783
5847	474523.066	1475575.070	10.554
5847	474505.230	1475566.041	8.782
5848	474453.967	1475591.500	7.845
5862	474527.948	1475472.533	8.456
5867	474543.518	1475538.449	9.290
5872	474520.740	1475484.701	14.271
5874	474494.114	1475473.017	9.909
5875	474527.490	1475545.688	9.911
5878	474558.334	1475473.590	8.164
5879	474541.519	1475525.578	12.680
5889	474558.025	1475503.205	11.403
5898	474519.238	1475484.498	13.023
5903	474465.507	1475549.676	10.743
5905	474463.117	1475539.734	10.758
5912	474504.675	1475501.244	11.153
5916	474557.921	1475473.350	5.863
5918	474506.436	1475513.924	10.843
5921	474519.977	1475554.756	4.283
5926	474559.082	1475505.589	12.830
5927	474494.825	1475571.356	1.943
5928	474554.567	1475512.292	15.151
5936	474462.540	1475530.254	10.422
5939	474462.181	1475519.114	10.763
5946	474493.842	1475575.004	4.847
5947	474529.705	1475541.314	15.385
5954	474462.262	1475522.156	11.190
5954	474519.600	1475553.724	5.810
5955	474528.187	1475545.979	9.922
5964	474475.473	1475574.296	10.547
5973	474528.552	1475540.022	17.294
5974	474558.292	1475569.388	10.158
5975	474564.540	1475488.562	14.677
5978	474544.319	1475538.023	8.892
5979	474558.343	1475530.965	10.283
5985	474540.905	1475567.490	10.769
5986	474451.121	1475591.612	7.695
5991	474540.864	1475567.605	10.708
5991	474520.549	1475481.353	14.043
6000	474528.073	1475472.447	8.930
6002	474528.975	1475539.465	14.817
6015	474529.316	1475572.791	10.687
6015	474543.134	1475539.248	9.319
6015	474559.062	1475505.626	12.463
6031	474542.215	1475539.319	9.214
6031	474550.234	1475514.876	17.836
6038	474521.838	1475575.025	10.367
6039	474527.349	1475573.388	10.474
6039	474508.435	1475565.823	5.159

6042	474460.374	1475496.526	10.512
6048	474559.424	1475496.008	13.274
6048	474530.711	1475534.656	15.300
6060	474464.782	1475590.010	12.171
6068	474557.787	1475506.651	11.037
6094	474527.586	1475546.396	11.762
6101	474539.309	1475541.186	9.180
6101	474532.805	1475536.888	13.014
6103	474537.048	1475542.157	9.140
6115	474463.173	1475535.661	10.867
6120	474561.563	1475527.972	9.934
6132	474524.874	1475550.078	7.958
6134	474560.169	1475529.438	9.850
6135	474470.390	1475566.323	10.664
6138	474463.627	1475535.845	10.708
6142	474507.510	1475565.721	8.264
6143	474566.934	1475486.478	11.676
6146	474543.158	1475525.636	10.398
6169	474532.624	1475536.028	15.093
6173	474530.706	1475541.675	11.648
6177	474530.069	1475537.416	14.821
6180	474559.386	1475529.842	9.929
6185	474518.844	1475555.527	3.267
6187	474462.357	1475588.301	12.771
6192	474527.841	1475546.997	6.146
6193	474544.843	1475524.947	12.522
6202	474529.320	1475542.898	13.104
6207	474529.804	1475543.933	10.330
6209	474518.577	1475554.921	1.614
6245	474532.674	1475533.336	12.344
6266	474461.803	1475521.656	10.835
6280	474527.759	1475572.996	10.518
6287	474541.311	1475540.179	9.171
6293	474528.468	1475572.769	10.692
6311	474460.576	1475499.985	10.631
6330	474462.485	1475520.749	10.800
6353	474506.612	1475514.011	11.246
6380	474558.719	1475473.492	7.918
6497	474541.803	1475539.747	9.199
6709	474508.575	1475565.778	8.468
6837	474463.438	1475534.896	10.809

ID	Y	X	Elev
4005	474202.9	1479374.2	7.958
4138	474149.3	1479385.1	8.656
4212	474207	1479345.6	-1.075
4263	474206.8	1479355.9	2.968
4276	474120	1479409.4	1.866
4292	474129.3	1479382.9	2.082
4293	474124.7	1479395	10.26
4297	474204.9	1479381	3.904
4303	474148.3	1479383.7	6.29
4321	474170.6	1479388.7	4.959
4352	474208	1479365.7	-0.74
4353	474205.5	1479379.8	3.487
4357	474129.6	1479382.9	4.457
4358	474190.7	1479359.3	2.222
4360	474150.5	1479384.9	6.539
4374	474124.1	1479399.3	2.999
4394	474155.3	1479365.2	5.97
4407	474104.4	1479434.2	-0.876
4414	474140.6	1479373.2	4.866
4424	474148	1479385.9	5.313
4425	474172.6	1479387.7	7.039
4425	474124.2	1479394.4	7.262
4431	474131.1	1479382.8	4.655
4453	474160.7	1479366.8	5.673
4455	474208.2	1479380	3.987
4460	474206.5	1479386.4	5.381
4464	474112.5	1479380.5	4.891
4466	474186	1479389.7	9.036
4482	474195.9	1479392.5	8.127
4484	474185.2	1479391.4	5.983
4485	474159	1479385.5	8.093
4486	474189.3	1479392.8	8.697
4489	474108.2	1479379.2	13.469
4502	474130.9	1479384.2	7.127
4507	474173.2	1479390.4	3.735
4509	474186.6	1479362.7	4.952
4518	474156.5	1479364.9	6.818
4521	474095.8	1479406.2	6.563
4521	474204.6	1479365.9	-0.33
4522	474113.2	1479381	5.181
4523	474128.5	1479381	-1.513
4524	474119.8	1479438.2	-1.489
4524	474206.5	1479390.2	3.697
4525	474138.8	1479384.6	2.708
4538	474202.8	1479371.2	4.783
4543	474206.2	1479356.4	5.348
4546	474135.1	1479378.8	6.445
4564	474129.3	1479382.3	2.245
4565	474135.6	1479380.2	6.066
4567	474170.3	1479365.2	5.108
4572	474115.2	1479379.8	7.736

2221 SN: 184009 Area 3

4575	474100.8	1479431.1	0.332
4577	474131.2	1479386.6	2.448
4583	474203.8	1479366.3	2.36
4588	474193.7	1479391.3	17.122
4591	474190.9	1479390.4	9.763
4595	474126.6	1479387.1	3.563
4599	474191.8	1479389.1	9.448
4600	474117.8	1479440	-4.007
4600	474113.4	1479381.5	8.59
4600	474140	1479383	2.974
4602	474205.2	1479375.2	2.639
4605	474194.9	1479355.7	5.854
4611	474123.1	1479407.2	5.195
4615	474164.7	1479389.4	8.867
4617	474177.6	1479391.6	10.36
4619	474199.2	1479392.4	7.107
4620	474168.5	1479388	7.331
4621	474110.1	1479379.5	11.387
4621	474207.1	1479353.2	8.904
4621	474141	1479368.4	1.544
4622	474178.1	1479390.1	6.638
4626	474125.2	1479392.6	11.124
4627	474171.5	1479388.6	7.322
4630	474123	1479400.7	1.11
4631	474110.1	1479379.5	11.415
4644	474110.1	1479384.3	11.422
4645	474160.3	1479386.7	7.999
4648	474114.9	1479381.4	9.074
4648	474206.4	1479393.4	3.989
4650	474122.5	1479402.3	-0.472
4651	474123.1	1479405.6	3.554
4653	474122.3	1479402	1.888
4657	474209.3	1479356.8	3.905
4657	474160.7	1479366.8	5.673
4660	474184.1	1479389.6	8.82
4663	474122.9	1479402.8	0.516
4666	474171.7	1479390.6	3.954
4667	474139.1	1479428	9.59
4669	474170.5	1479387.5	7.773
4669	474207	1479392.3	5.174
4671	474163	1479389.8	6.547
4674	474106.6	1479379.4	12.602
4674	474141	1479373.3	3.701
4676	474200.7	1479392.9	8.398
4676	474126.3	1479390.6	1.681
4678	474122.7	1479395.3	7.53
4679	474183.6	1479364	8.362
4680	474098.4	1479409	-1.6
4681	474103.3	1479383.8	9.739
4683	474146.9	1479384.4	10.882
4684	474130.5	1479387.6	5.185
4685	474109.6	1479379.7	12.655

4692	474167.1	1479389.1	9.854
4692	474145	1479368.4	-2.348
4693	474127.4	1479383.3	-1.085
4693	474204.3	1479367.8	0.856
4694	474168.2	1479387	8.23
4696	474130	1479394.7	11.519
4698	474157.1	1479387.3	9.249
4699	474208.6	1479347.9	-1.782
4701	474124.4	1479394	8.931
4702	474172.6	1479390.1	2.794
4707	474210.8	1479360.5	2.081
4708	474145.3	1479368.3	3.597
4710	474120.8	1479439.4	-0.988
4712	474124.2	1479401.4	0.147
4715	474203.5	1479393.7	4.977
4718	474183.9	1479390.6	7.818
4718	474121.7	1479406.3	3.781
4723	474206.7	1479356.1	4.554
4725	474123.9	1479399.6	3.57
4728	474154.4	1479385.4	4.499
4730	474205.7	1479388.1	3.999
4730	474122.6	1479395.3	7.488
4732	474148.7	1479385.9	6.139
4732	474167.3	1479368.2	4.385
4733	474121.1	1479439	-2.493
4735	474109.8	1479379.4	9.67
4739	474160.5	1479363.6	3.961
4740	474125.2	1479392.6	11.198
4742	474177.5	1479388.8	9.756
4743	474082.6	1479358.6	2.003
4747	474118.4	1479438.4	-3.094
4748	474183.6	1479388.4	14.025
4750	474107.7	1479383.8	9.233
4752	474127.3	1479390.3	6.722
4753	474079.4	1479361	2.659
4753	474156.5	1479364.9	6.854
4753	474130.1	1479384.6	2.255
4754	474145.2	1479421.1	9.456
4755	474158.9	1479384.1	7.157
4758	474198.2	1479393.5	10.495
4758	474126.3	1479392.1	6.499
4765	474134.7	1479397.5	6.069
4766	474191	1479391.8	13.775
4767	474171.8	1479390.5	2.897
4767	474206	1479388.7	2.419
4768	474114.6	1479380.2	7.693
4773	474147.9	1479385.4	7.929
4774	474113.5	1479380	3.648
4775	474202.6	1479371.7	5.735
4777	474106.3	1479379.1	10.41
4778	474120.1	1479405.2	7.386
4779	474090.4	1479402.1	8.545

4779	474147.1	1479384.1	10.862
4780	474090.9	1479402.5	7.389
4781	474190.2	1479392.3	11.542
4782	474170.1	1479366.4	2.004
4785	474079.4	1479361	2.659
4788	474159.2	1479387	8.02
4791	474123.5	1479406.3	2.866
4796	474143.6	1479382.7	2.894
4797	474206.4	1479393.3	5.297
4797	474158.1	1479364.9	5.132
4798	474158.8	1479365.4	6.415
4799	474209.5	1479358.1	0.825
4801	474145.8	1479406.3	5.365
4802	474082.7	1479359.1	5.047
4802	474154.4	1479385.3	0.138
4802	474174.5	1479392.2	9.51
4808	474165.7	1479389.5	6.874
4812	474145.8	1479420.7	5.647
4812	474140.9	1479370.4	7.844
4814	474180.1	1479388.6	6.436
4815	474128	1479382.3	-2.009
4816	474198.1	1479392.9	12.789
4819	474153.7	1479365.9	3.582
4821	474080.6	1479361.1	5.437
4824	474095.1	1479407.6	6.491
4825	474161.6	1479386.8	6.924
4829	474141.8	1479371.9	4.302
4830	474141.5	1479383.9	4.976
4832	474128.3	1479382	-2.136
4834	474130.5	1479384.5	7.506
4836	474096.6	1479404.9	0.352
4840	474208.4	1479347.2	1.282
4845	474081.9	1479360	8.876
4845	474140.6	1479374.6	8.359
4845	474119.2	1479409.8	2.183
4847	474123.7	1479382.7	-0.607
4849	474122.3	1479395.4	7.034
4851	474129.6	1479383.9	5.864
4852	474116.6	1479379.8	4.943
4855	474207.9	1479349	6.166
4855	474123.1	1479405.6	3.482
4856	474136.6	1479378.3	6.618
4856	474119.9	1479409.6	1.692
4859	474115.2	1479381.4	5.192
4860	474094.2	1479405.9	4.258
4864	474164.2	1479388.3	11.14
4866	474140.8	1479384	5.361
4866	474151.6	1479364.9	5.456
4867	474190.9	1479389.9	7.13
4870	474135.1	1479379.5	8.215
4871	474192.5	1479389.8	13.083
4873	474194	1479389.6	10.534

4875	474136	1479378.7	7.759
4878	474083.2	1479361.6	1.879
4880	474098.4	1479409.2	-1.712
4880	474155.3	1479385.1	6.944
4883	474208.4	1479389.9	0.107
4883	474186.6	1479361.3	6
4883	474157.4	1479366.4	3.453
4884	474207.5	1479392.3	2.414
4886	474155	1479385	3.83
4887	474156.3	1479385.6	9.148
4888	474113.5	1479382.7	11.565
4888	474170.1	1479366.4	2.004
4889	474158.4	1479365.7	5.033
4894	474125.9	1479382.7	-3.286
4897	474140.1	1479383.1	2.87
4899	474143.1	1479383.3	3.488
4899	474197.5	1479392.7	13.148
4900	474141.7	1479377.8	6.708
4901	474154.5	1479384.3	4.189
4902	474195.1	1479392.5	5.717
4905	474139.1	1479428	9.647
4905	474160	1479386.5	3.526
4913	474083.7	1479359	6.285
4916	474194	1479391.2	6.336
4916	474142.2	1479370	2.468
4918	474187.6	1479389.7	7.505
4919	474125.3	1479397.5	8.156
4923	474115.9	1479438.4	-5.819
4923	474153.7	1479365.9	3.582
4924	474123.9	1479383.3	4.169
4925	474144.6	1479382.9	9.311
4930	474138.6	1479383.9	4.436
4931	474081.8	1479359.4	5.315
4932	474099	1479391.3	6.758
4932	474201.7	1479392.6	6.297
4933	474094.4	1479405.8	7.504
4935	474190.7	1479389	9.588
4937	474148.2	1479363.9	0.231
4937	474144.5	1479368.4	-3.834
4941	474097.7	1479382.9	6.506
4941	474114	1479380.3	3.333
4942	474196.5	1479350	5.691
4945	474124.7	1479405.3	-1.294
4946	474099.1	1479380	8.822
4947	474080.6	1479358.8	8.332
4947	474120.7	1479407	4.034
4948	474158.2	1479364.7	6.646
4949	474124.5	1479397.3	2.97
4950	474093.3	1479406.1	3.555
4953	474116.7	1479380.7	5.649
4955	474128.7	1479387.9	3.181
4960	474079.4	1479361	2.659

4960	474081.5	1479372.8	0.986
4961	474083.3	1479359.8	7.803
4961	474192.1	1479388.9	12.344
4964	474188.5	1479389.3	7.253
4967	474152	1479367	3.772
4968	474092.2	1479400.9	8.569
4971	474113.9	1479381.3	3.116
4976	474208.8	1479352.6	7.972
4978	474124.9	1479405.2	-1.014
4979	474162.5	1479387.5	9.329
4981	474085.5	1479381.1	1.836
4983	474079.4	1479361	2.659
4987	474151.5	1479385.1	4.283
4990	474188.4	1479387.8	10.101
4991	474079.4	1479361	2.659
4991	474115.1	1479387.1	9.996
4991	474205.1	1479386.1	4.182
4993	474152.7	1479384.3	3.852
4997	474094.9	1479405.8	7.849
4997	474115.6	1479381.8	8.38
4997	474161.6	1479387.9	6.794
4997	474207.4	1479388.4	4.512
4997	474159.7	1479365.2	6.986
4997	474158.9	1479365.1	8.681
4998	474082.9	1479360.8	4.656
5002	474140	1479379.1	9.31
5002	474127.3	1479389.9	3.098
5003	474085.3	1479360.2	7.97
5003	474180.3	1479390	6.771
5003	474149.6	1479364.4	1.584
5004	474115.1	1479381.3	11.295
5004	474174.1	1479363.3	3.549
5005	474120.9	1479383.5	3.027
5006	474133.8	1479381.1	6.324
5008	474128.1	1479382.2	-0.746
5008	474163.2	1479388.1	11.764
5008	474206.2	1479388.2	5.591
5008	474159.8	1479365.4	6.374
5009	474137	1479429.9	8.504
5009	474121.6	1479406.3	3.465
5010	474113.5	1479381.2	3.969
5015	474207.2	1479353.1	5.26
5015	474122.9	1479402.8	0.603
5018	474113.9	1479380.8	14.079
5019	474209	1479351.4	5.467
5019	474147.3	1479365.1	2.562
5021	474087.3	1479395	3.813
5022	474095.1	1479405.2	4.41
5023	474128.1	1479436	2.107
5023	474098.9	1479392.7	3.663
5023	474128.6	1479384.9	0.018
5025	474151.2	1479363.5	3.434

5028	474120.6	1479389.7	7.863
5029	474079.5	1479361.7	7.262
5030	474084.7	1479358.1	6.927
5030	474085.7	1479392	2.236
5030	474170.9	1479366.7	4.234
5032	474122.1	1479383.1	0.733
5032	474141.8	1479377	10.477
5033	474080.7	1479360.3	5.221
5033	474153.1	1479386.4	4.42
5033	474160.8	1479363.8	0.457
5033	474136.3	1479379.4	6.653
5033	474127.4	1479389.2	2.748
5036	474094.7	1479404.6	11.933
5037	474121.4	1479383	3.557
5037	474138.1	1479379.4	3.078
5039	474163	1479388.4	5.812
5040	474172.3	1479389.2	3.452
5040	474142.6	1479368.5	-3.073
5041	474128.3	1479387.2	6.818
5042	474208.8	1479384.3	6.083
5043	474155	1479385.8	1.74
5047	474184.8	1479389	8.656
5048	474132.1	1479381.8	5.545
5050	474152	1479384.7	7.796
5052	474105	1479377.9	11.147
5054	474083.1	1479359.8	7.005
5061	474130.4	1479386.4	1.081
5062	474080.7	1479358.6	3.602
5063	474128.1	1479381.9	-0.469
5064	474162.9	1479364.4	4.511
5065	474211.4	1479358.1	4.041
5067	474114.1	1479381.4	8.233
5068	474098.5	1479391.4	2.293
5068	474123.7	1479407.5	3.211
5073	474100.8	1479380.1	6.806
5073	474203.7	1479371.1	2.173
5074	474144.3	1479420.1	5.031
5074	474098.3	1479382.5	7.744
5074	474129.2	1479388	0.512
5075	474121.4	1479382.8	3.354
5075	474143.1	1479382.3	2.62
5080	474145.1	1479418.1	8.988
5080	474135.8	1479383.8	2.89
5081	474159.2	1479384.5	8.771
5081	474191	1479392.8	11.341
5083	474114.7	1479381	13.883
5084	474161.3	1479386	6.418
5087	474190.2	1479392.4	9.212
5089	474143.8	1479381.8	6.728
5089	474207.4	1479387.7	2.072
5089	474207.3	1479383.9	5.683
5090	474082	1479358.9	5.829

5090	474136.7	1479429.9	8.404
5090	474098.2	1479391.5	1.72
5091	474199	1479392.7	8.015
5091	474123.6	1479404.8	5.571
5092	474164.5	1479388.4	7.587
5095	474083.4	1479361.7	4.275
5096	474128.9	1479385.7	1.874
5098	474206.3	1479381.1	4.609
5100	474084.9	1479360.8	5.08
5101	474192.3	1479388.3	10.809
5101	474137.7	1479379	9.668
5102	474141.4	1479370.2	8.485
5104	474096.8	1479388.8	5.806
5105	474179.7	1479390.4	7.447
5106	474121.5	1479408.7	2.255
5108	474100.1	1479381.3	5.154
5109	474182.8	1479388.2	9.064
5110	474162	1479386.8	10.958
5111	474142.3	1479370.5	4.717
5112	474140.7	1479427.8	6.958
5114	474083.2	1479360.1	6.737
5114	474134.1	1479380.5	8.925
5115	474145	1479418.4	8.993
5116	474121.1	1479406.8	-8.145
5117	474121.5	1479408.6	2.34
5118	474133.3	1479381.4	6.95
5121	474080.3	1479360.4	5.746
5126	474153.4	1479386.5	0.3
5127	474126.4	1479404.2	6.622
5128	474117.7	1479410.8	2.811
5129	474100.9	1479387.5	12.74
5130	474127.1	1479382.9	-1.608
5130	474158.3	1479365	9.917
5131	474097.8	1479407.1	2.92
5133	474148.2	1479385.2	6.358
5133	474159.5	1479364.9	4.407
5136	474200.1	1479393.7	12.566
5137	474174.9	1479391.7	5.587
5137	474131.1	1479384.3	12.267
5140	474123.2	1479383.5	3.076
5140	474119.4	1479411.3	-0.32
5141	474154.5	1479385	2.982
5141	474139.9	1479377.9	3.925
5142	474203.4	1479393.3	6.036
5142	474132.5	1479383.7	10.432
5144	474089.4	1479400	9.213
5144	474132.7	1479382.6	5.525
5149	474173	1479391	6.089
5149	474129.6	1479384.3	3.469
5149	474128.1	1479387.9	1.052
5153	474115.9	1479438.4	-5.775
5155	474130.4	1479387.5	4.517

5157	474114.6	1479381	13.841
5157	474187.2	1479389.6	9.647
5157	474153.4	1479365.5	4.026
5159	474167.8	1479368.7	2.51
5160	474150.7	1479383.4	5.65
5163	474162	1479364.9	4.83
5163	474131.6	1479381.2	9.921
5164	474150.4	1479383.8	8.012
5170	474085.8	1479386.8	1.553
5171	474141.1	1479383.8	4.789
5171	474148.6	1479365.9	2.965
5171	474129.9	1479384.9	2.563
5174	474122.7	1479407.4	3.436
5175	474188.8	1479360.7	6.272
5178	474082.8	1479360.8	2.008
5180	474088.5	1479393.7	3.287
5182	474097.4	1479411.1	-2.986
5184	474114.2	1479438.7	-3.951
5184	474193.9	1479391.1	15.495
5186	474198.6	1479392.1	7.323
5189	474086.4	1479391	0.27
5192	474132.6	1479383.2	5.542
5194	474187.3	1479390.1	8.707
5196	474083.5	1479359.4	5.696
5197	474123.6	1479407.5	3.226
5199	474085.9	1479388.1	1.325
5202	474128.9	1479388.8	1.686
5205	474097.5	1479379.8	4.601
5205	474112.6	1479382.5	7.423
5205	474137.3	1479382.2	3.822
5208	474081.4	1479359.3	3.881
5208	474100.4	1479392.4	3.629
5208	474114.2	1479380.8	14.258
5209	474187.8	1479389.9	11.894
5211	474114	1479438.9	-4.143
5212	474135.2	1479382.8	4.046
5214	474133.7	1479380.4	10.295
5215	474110.1	1479379.8	11.976
5217	474131.7	1479383.2	4.633
5218	474080.9	1479359.2	5.055
5218	474175.4	1479390.2	8.91
5219	474082.4	1479360.5	4.472
5222	474097.1	1479405.1	9.566
5222	474099.5	1479391.1	3.745
5225	474093.7	1479405.4	8.097
5234	474151.5	1479384.4	9.377
5235	474105.4	1479377.8	6.85
5236	474086.1	1479392	1.351
5236	474176.5	1479391.7	12.107
5236	474193.2	1479390	11.968
5237	474131.1	1479383.2	10.275
5240	474097.3	1479412.5	-0.393

5240	474112.3	1479383	6.599
5246	474146.8	1479366.2	-0.371
5247	474154.5	1479386.1	3.62
5251	474100.3	1479388.6	4.767
5254	474206.3	1479382.4	6.004
5254	474135.4	1479379	4.884
5259	474200.1	1479395.7	8.129
5259	474208.5	1479392.4	2.284
5260	474080.8	1479359.8	7.477
5261	474125.6	1479404.3	6.313
5264	474096.7	1479380	8.164
5266	474161.2	1479365.6	7.915
5268	474207.2	1479391.6	-0.714
5268	474163.7	1479370.7	2.225
5268	474149.7	1479363.9	-1.196
5269	474081.2	1479360.7	3.944
5272	474135.4	1479382.4	2.981
5273	474098.8	1479391.2	5.929
5275	474152	1479365.9	1.36
5281	474152.5	1479364.9	0.155
5282	474100.3	1479386.4	4.057
5284	474085.8	1479386.1	2.977
5284	474094.2	1479406.2	6.516
5287	474082.2	1479375.6	2.484
5289	474209.2	1479346.7	3.727
5290	474152.1	1479364.6	4.147
5291	474146.9	1479367.5	1.205
5291	474124.3	1479403.1	-2.578
5292	474082.5	1479358.6	6.345
5292	474139.9	1479377.8	6.181
5293	474145.8	1479367.4	0.506
5295	474101.9	1479384.4	10.035
5296	474195	1479389.7	12.786
5300	474099.9	1479382.3	4.966
5300	474100.6	1479380.1	6.635
5302	474205	1479392.2	4.158
5303	474085	1479392	1.544
5304	474099.5	1479383.7	4.792
5306	474101.7	1479378	5.169
5308	474100.9	1479426.8	4.644
5308	474151.8	1479365.4	-1.527
5310	474145.7	1479366.1	0.851
5313	474083.9	1479367.6	5.721
5313	474081.2	1479370.2	6.845
5314	474113.4	1479382.5	5.59
5316	474100.3	1479388.6	4.767
5316	474097.3	1479379.5	4.886
5319	474129.1	1479387.8	0.866
5324	474110.6	1479437.4	-1.082
5324	474100.1	1479391.4	6.41
5330	474196.3	1479351.1	6.322
5337	474159.6	1479364.8	8.638

5338	474133.2	1479382.8	2.169
5339	474083.4	1479360.5	4.291
5340	474080.6	1479360.2	5.473
5340	474148.1	1479386.2	3.428
5341	474129.2	1479385.3	1.223
5343	474128.7	1479389.9	-0.448
5344	474114.2	1479382.6	12.134
5346	474120.8	1479383.1	1.184
5354	474082.9	1479360.8	4.648
5356	474084.3	1479360.1	2.263
5356	474121.4	1479383.3	7.003
5356	474207	1479356.8	6.244
5374	474086	1479380.4	-0.68
5376	474130.5	1479386.2	2.163
5393	474151.7	1479363.6	1.975
5396	474101.3	1479384.8	1.718
5399	474082.8	1479359.8	3.864
5405	474082	1479371.8	3.418
5406	474150.1	1479365.5	1.835
5407	474141	1479370.1	7.924
5411	474080.7	1479360.9	5.664
5411	474205.2	1479369.8	1.389
5412	474143	1479376.8	6.701
5416	474100.2	1479390.7	2.865
5419	474142.8	1479423.2	5.988
5423	474128.6	1479385.2	2.956
5423	474129.6	1479388.3	0.384
5425	474079.3	1479360	4.99
5425	474142.4	1479375.7	8.404
5426	474151.2	1479385.6	6.125
5427	474131.4	1479383.9	9.075
5428	474101.1	1479387.1	8.666
5428	474142.1	1479385	5.973
5438	474082.8	1479359.8	7.609
5439	474085.2	1479388.2	-2.022
5440	474134.6	1479382	6.279
5464	474096.8	1479392.5	7.664
5470	474193.3	1479390.2	15.891
5472	474124.3	1479403.1	-2.585
5475	474081.6	1479360.9	3.623
5475	474099.1	1479413.3	-3.582
5483	474139.4	1479380.3	4.603
5485	474098.9	1479390.8	3.858
5487	474129.9	1479383.6	0.663
5488	474087.8	1479384.7	3.066
5489	474140.2	1479377.3	8.375
5492	474137.2	1479380.7	13.232
5494	474097.9	1479381.8	7.334
5501	474099.7	1479391.9	7.365
5501	474139.2	1479379.4	3.181
5503	474114.2	1479382.7	12.159
5508	474118.6	1479382.7	5.498

5510	474099.3	1479385.5	5.078
5522	474138	1479380.1	4.014
5528	474182.7	1479365.3	8.045
5532	474083.6	1479360.8	2.741
5533	474143.3	1479370.8	2.772
5542	474112.6	1479382	5.611
5544	474146.4	1479408.8	7.029
5548	474083.5	1479378.5	1.796
5548	474135.7	1479379	1.419
5554	474124.3	1479403.6	1.85
5558	474092.2	1479401.4	5.834
5566	474100.5	1479385.7	5.157
5570	474138.4	1479384.3	4.781
5570	474160.9	1479367.8	8.376
5572	474082.9	1479374.6	-0.253
5573	474138.2	1479379.7	2.637
5576	474099.5	1479383.7	4.792
5578	474153.9	1479365	-0.663
5584	474127	1479404.8	2.354
5591	474150.8	1479364.8	-0.966
5622	474120.9	1479407.1	-8.512
5634	474139.9	1479379.3	8.403
5641	474079.7	1479360.9	6.611
5647	474081.5	1479359.7	3.784
5647	474082	1479360.4	5.631
5661	474083.5	1479388.6	-4.777
5667	474080.5	1479362.2	4.614
5672	474094.2	1479415	-3.513
5673	474083.7	1479368.1	3.964
5677	474084.8	1479391.7	-1.992
5682	474099.2	1479391.5	6.406
5689	474085.4	1479383.6	-0.965
5706	474081.3	1479360.6	6.512
5713	474129.3	1479388.2	-0.742
5737	474138.2	1479379.7	5.636
5749	474086.6	1479389.8	0.498
5752	474150.7	1479385.6	5.824
5775	474085.9	1479382.5	-0.474
5781	474122.9	1479403.9	-0.438
5812	474139.8	1479379.4	4.132
5814	474086.1	1479391.2	1.919
5838	474080.8	1479360.9	7.982
5846	474124.3	1479404.4	2.949
5876	474080.1	1479360.4	6.423
5914	474080.3	1479360.4	3.915
5915	474080.2	1479358.2	5.216
5922	474079.9	1479360.1	6.516
5926	474080.3	1479359.8	6.803
5929	474080.5	1479372.6	4.172
5941	474141.3	1479383.6	1.703
5961	474140.2	1479380.2	4.226
6008	474085.4	1479383.6	-0.957

6072	474081	1479359	8.742
6288	474080.1	1479361.7	6.472

ID	Y	X	ELEV		
5909	474449.993	1475601.343	6.415	2221	SN: 190204
5695	474451.680	1475600.210	3.114		
5806	474451.707	1475600.192	3.062		
5733	474451.012	1475599.076	4.190		
5341	474451.284	1475584.940	2.902		
5284	474451.389	1475584.746	-0.239		
5327	474451.389	1475584.746	-0.239		
5816	474454.913	1475585.213	-7.784		
5754	474454.913	1475585.213	-7.784		
5690	474456.348	1475584.553	-4.680		
5930	474456.348	1475584.553	-4.680		
5886	474455.516	1475585.704	-3.077		
5598	474455.516	1475585.704	-3.077		
5504	474455.670	1475583.961	-3.343		
5593	474455.670	1475583.961	-3.343		
5823	474452.032	1475583.740	5.249		
5968	474452.032	1475583.740	5.249		
6222	474453.255	1475581.352	2.707		
5847	474452.085	1475579.888	3.087		
6169	474454.308	1475576.510	-1.603		
5772	474454.308	1475576.510	-1.603		
5849	474455.912	1475572.754	-4.738		
5945	474455.912	1475572.754	-4.738		
5999	474454.821	1475572.589	-0.313		
5879	474454.821	1475572.589	-0.313		
5527	474453.876	1475571.486	6.370		
6169	474453.876	1475571.486	6.370		
6327	474457.369	1475571.269	4.254		
6176	474457.369	1475571.269	4.254		
5837	474458.526	1475569.189	-1.611		
5915	474458.526	1475569.189	-1.611		
6215	474459.598	1475569.449	2.053		
6616	474459.598	1475569.449	2.053		
6729	474460.971	1475565.849	2.007		
6762	474460.971	1475565.849	2.007		
6391	474461.353	1475565.600	1.873		
6415	474461.353	1475565.600	1.873		
6301	474462.882	1475565.003	3.986		
6371	474462.882	1475565.003	3.986		
6321	474465.470	1475566.394	3.648		
5521	474465.470	1475566.394	3.648		
6008	474466.801	1475563.165	3.236		
6237	474466.801	1475563.165	3.236		
5908	474466.716	1475565.200	9.498		
6136	474466.716	1475565.200	9.498		
6211	474466.220	1475562.695	10.786		
5916	474466.220	1475562.695	10.786		
5570	474469.789	1475559.635	-0.283		
5886	474469.789	1475559.635	-0.283		
6168	474469.236	1475559.827	7.338		
6034	474469.236	1475559.827	7.338		

5839	474468.675	1475556.991	10.985
6554	474468.675	1475556.991	10.985
6184	474467.712	1475555.994	14.503
6006	474467.712	1475555.994	14.503
6023	474470.448	1475552.647	11.012
5810	474471.071	1475549.060	10.153
5481	474469.705	1475549.735	12.752
5903	474469.705	1475549.735	12.752
6035	474470.768	1475546.170	13.192
6057	474470.768	1475546.170	13.192
5919	474473.750	1475544.200	8.211
5400	474473.750	1475544.200	8.211
5662	474474.924	1475541.514	5.591
5592	474474.924	1475541.514	5.591
5530	474473.411	1475541.206	3.020
5991	474474.413	1475540.261	7.830
6017	474475.558	1475536.324	5.678
5739	474475.558	1475536.324	5.678
6176	474475.290	1475533.552	6.788
6151	474475.290	1475533.552	6.788
6400	474480.297	1475529.716	-4.125
5887	474480.297	1475529.716	-4.125
5524	474481.295	1475527.617	-3.368
5980	474481.295	1475527.617	-3.368
5621	474482.615	1475527.899	-3.946
5194	474483.447	1475526.505	-3.751
5659	474487.782	1475524.855	-3.709
5696	474487.782	1475524.855	-3.709
5836	474489.867	1475522.117	-9.926
5375	474489.867	1475522.117	-9.926
5671	474490.962	1475522.857	-5.218
5702	474490.962	1475522.857	-5.218
5675	474492.205	1475520.353	-2.670
5832	474492.205	1475520.353	-2.670
5590	474491.898	1475521.255	-1.790
5333	474494.946	1475517.586	-5.489
5964	474497.216	1475517.330	-5.622
6017	474497.216	1475517.330	-5.622
5942	474499.071	1475515.173	-5.721
5877	474499.071	1475515.173	-5.721
5511	474498.894	1475513.655	-7.633
5252	474498.894	1475513.655	-7.633
5999	474498.257	1475512.434	-5.753
5339	474498.257	1475512.434	-5.753
5268	474499.752	1475510.319	-9.101
6428	474498.900	1475511.880	-6.895
5806	474500.216	1475508.033	-8.209
6093	474500.216	1475508.033	-8.209
5617	474500.597	1475505.518	-5.598
5155	474500.597	1475505.518	-5.598
5089	474500.763	1475502.741	-2.711
6650	474500.763	1475502.741	-2.711

6170	474499.397	1475500.932	2.688
6298	474499.397	1475500.932	2.688
6168	474502.835	1475500.770	-0.076
6514	474502.102	1475499.290	3.075
6341	474505.597	1475501.948	2.265
5802	474505.597	1475501.948	2.265
5281	474508.246	1475501.537	-0.808
5280	474508.246	1475501.537	-0.808
5482	474507.358	1475501.889	3.521
5964	474507.358	1475501.889	3.521
5604	474510.194	1475499.723	1.424
5500	474510.194	1475499.723	1.424
5561	474511.842	1475499.893	1.883
6090	474512.980	1475498.828	1.548
6193	474511.939	1475499.177	8.826
5906	474511.939	1475499.177	8.826
6292	474515.033	1475497.305	11.130
6179	474515.033	1475497.305	11.130
5628	474518.178	1475496.286	3.970
5393	474518.178	1475496.286	3.970
5396	474519.578	1475498.234	4.897
5375	474519.578	1475498.234	4.897
5866	474523.112	1475497.033	2.403
5767	474524.466	1475496.677	1.769
5906	474525.004	1475499.252	5.592
5587	474525.004	1475499.252	5.592
5130	474525.796	1475499.647	8.574
5930	474525.796	1475499.647	8.574
5871	474527.175	1475500.468	8.050
5890	474527.952	1475500.281	8.831
5818	474529.093	1475502.980	10.399
5927	474530.269	1475503.860	8.168
6056	474531.734	1475505.402	11.965
6444	474531.734	1475505.402	11.965
6400	474529.360	1475507.278	14.434
6112	474530.689	1475509.012	12.394
6416	474530.569	1475511.409	15.012
6084	474530.569	1475511.409	15.012
6399	474532.893	1475512.361	10.678
6052	474532.893	1475512.361	10.678
5564	474535.529	1475514.466	7.969
5927	474535.529	1475514.466	7.969
6229	474536.172	1475515.443	11.125
6472	474537.852	1475516.336	5.387
6141	474536.431	1475517.393	10.735
5839	474535.881	1475518.109	12.454
5864	474535.534	1475520.058	16.488
6021	474535.534	1475520.058	16.488
6027	474536.738	1475520.395	15.381
5610	474536.738	1475520.395	15.381
5285	474537.138	1475521.982	19.059
5643	474536.801	1475523.055	16.546

5754	474537.683	1475523.577	15.823
5906	474539.912	1475524.140	12.497
5947	474540.461	1475524.868	9.062
5595	474540.552	1475527.031	9.651
6012	474540.287	1475526.573	12.615
5969	474539.536	1475527.895	10.202
6275	474539.331	1475530.092	14.637
6079	474539.331	1475530.092	14.637
6067	474539.610	1475530.900	12.399
6180	474542.205	1475531.283	9.501
6716	474541.442	1475531.190	8.698
6163	474539.399	1475531.926	11.693
6279	474540.818	1475533.114	10.888
6314	474537.178	1475534.279	15.830
6101	474538.686	1475534.781	11.809
6049	474538.840	1475535.818	13.669
6155	474538.138	1475536.492	9.875
6222	474540.654	1475536.491	8.386
6357	474537.645	1475540.772	13.664
6103	474537.645	1475540.772	13.664
5570	474539.165	1475541.101	11.519
5811	474538.983	1475542.944	12.575
5833	474535.605	1475543.889	16.465
5839	474535.703	1475544.529	10.915
6179	474536.955	1475543.983	12.662
5673	474533.887	1475545.665	12.664
6003	474533.553	1475547.599	15.219
6452	474532.286	1475548.231	13.395
6712	474531.577	1475547.995	17.486
5890	474531.161	1475547.059	13.047
6268	474528.871	1475549.484	15.551
5941	474528.871	1475549.484	15.551
6056	474526.985	1475548.651	17.026
6662	474526.518	1475553.050	15.442
6469	474525.314	1475552.164	18.689
6316	474526.105	1475553.408	12.156
5863	474526.489	1475552.729	11.993
5683	474523.942	1475554.517	15.629
5926	474522.260	1475556.534	15.289
5846	474520.300	1475556.937	15.075
6101	474520.943	1475555.988	13.788
5929	474519.453	1475558.533	16.523
6402	474521.120	1475555.629	11.474
6624	474518.420	1475559.015	15.706
5443	474520.065	1475558.953	13.130
5852	474519.504	1475559.292	8.818
5826	474515.686	1475560.917	11.906
6210	474516.086	1475560.550	5.959
5683	474515.213	1475561.212	2.929
5956	474515.213	1475561.212	2.929
6695	474513.573	1475561.269	4.230
6796	474512.445	1475560.091	3.070

6965	474512.445	1475560.091	3.070
6573	474510.085	1475561.368	6.279
6150	474510.058	1475562.188	6.674
6001	474509.953	1475562.139	3.081
5963	474506.454	1475566.237	5.043
5619	474506.454	1475566.237	5.043
5988	474502.930	1475566.159	10.873
6608	474502.930	1475566.159	10.873
6739	474501.601	1475567.755	9.606
6438	474501.294	1475569.248	8.297
6059	474498.288	1475569.442	8.962
6303	474499.195	1475569.848	8.571
5818	474496.302	1475571.872	14.507
5897	474496.302	1475571.872	14.507
5777	474495.448	1475571.673	11.250
5657	474495.809	1475571.205	5.992
5634	474493.194	1475569.668	12.783
5427	474493.194	1475569.668	12.783
6817	474493.927	1475570.510	9.707
6962	474493.078	1475571.022	10.411
6729	474493.078	1475571.022	10.411
5892	474490.617	1475571.522	8.144
5849	474490.617	1475573.697	5.580
5653	474490.617	1475573.697	5.580
5984	474489.809	1475573.730	5.610
5781	474489.809	1475573.730	5.610
5967	474486.639	1475574.574	3.393
5906	474484.674	1475575.726	8.071
6090	474483.234	1475575.733	5.288
5930	474483.234	1475575.733	5.288
6013	474481.614	1475575.978	1.614
6127	474481.614	1475575.978	1.614
5891	474477.004	1475578.992	9.870
5639	474478.892	1475578.298	0.423
5549	474478.892	1475578.298	0.423
5679	474475.737	1475578.635	3.633
5902	474473.596	1475579.335	7.397
5839	474473.774	1475578.041	4.176
5280	474472.361	1475579.250	1.396
5317	474472.361	1475579.250	1.396
6081	474468.506	1475580.847	2.614
6113	474468.506	1475580.847	2.614
5973	474466.480	1475583.978	8.000
5230	474466.480	1475583.978	8.000
5229	474466.123	1475583.434	3.215
6316	474466.123	1475583.434	3.215
6238	474463.678	1475586.723	4.860
6148	474463.678	1475586.723	4.860
5933	474461.138	1475585.831	4.331
5572	474455.692	1475587.377	11.057
5684	474456.509	1475586.321	8.286
6115	474456.509	1475586.321	8.286

6319	474456.088	1475587.506	7.244
6150	474455.619	1475587.165	5.251
5979	474454.397	1475586.662	5.846
5628	474454.397	1475586.662	5.846
5805	474454.964	1475582.815	6.594
5778	474453.129	1475581.096	6.861
5875	474451.540	1475583.580	8.083
5539	474452.575	1475580.531	9.293
5718	474451.435	1475580.553	8.398
5586	474450.803	1475578.191	7.768
5745	474449.967	1475580.597	11.417
5159	474452.069	1475579.213	8.312
5302	474456.964	1475576.094	8.197
5599	474455.840	1475576.641	13.258
6465	474459.315	1475575.854	5.506
5976	474459.315	1475575.854	5.506
5589	474460.164	1475576.815	10.158
5439	474460.164	1475576.815	10.158
5872	474461.087	1475575.661	10.872
6078	474462.598	1475574.547	8.285
6156	474463.220	1475574.298	9.619
6170	474464.397	1475574.223	8.488
5398	474467.660	1475571.563	4.511
5459	474469.006	1475571.337	1.205
5358	474470.211	1475571.816	2.707
6224	474470.788	1475570.779	5.105
5991	474471.372	1475568.660	6.442
5522	474472.684	1475569.893	2.758
5483	474474.719	1475568.846	2.467
5979	474476.871	1475568.874	1.405
5816	474476.297	1475568.089	6.496
5776	474477.684	1475567.968	4.371
6106	474480.825	1475565.923	8.865
5842	474482.533	1475564.559	5.391
6054	474482.533	1475564.559	5.391
5835	474482.599	1475564.509	6.379
6117	474483.549	1475564.791	-0.264
6021	474485.731	1475561.909	5.382
5771	474485.954	1475562.866	2.287
5954	474487.118	1475561.874	5.063
6116	474490.130	1475561.649	6.972
6193	474490.130	1475561.649	6.972
6026	474490.914	1475560.062	7.832
5707	474494.620	1475558.472	0.812
5617	474494.965	1475557.728	0.642
6475	474498.474	1475554.594	-3.086
5854	474498.923	1475555.483	-1.290
5580	474500.305	1475554.187	0.844
5456	474503.226	1475554.305	-4.460
6166	474503.226	1475554.305	-4.460
5943	474503.540	1475552.157	0.419
5556	474502.206	1475552.752	3.746

5495	474502.883	1475551.762	0.251
5866	474503.568	1475551.409	6.704
5744	474503.568	1475551.409	6.704
6059	474506.248	1475549.216	4.540
5860	474507.694	1475549.720	3.264
6064	474507.925	1475548.346	8.390
6388	474508.370	1475548.786	9.830
6421	474509.998	1475548.905	7.456
6056	474508.569	1475547.986	5.636
5724	474508.569	1475547.986	5.636
5605	474511.511	1475547.265	5.497
5455	474511.511	1475547.265	5.497
5251	474511.848	1475545.807	6.531
5878	474514.063	1475543.437	0.440
5827	474515.264	1475542.639	5.749
6105	474515.264	1475542.639	5.749
6119	474517.002	1475542.453	5.242
6142	474517.478	1475542.201	2.805
6874	474516.284	1475541.879	8.854
6109	474515.339	1475539.685	6.621
5806	474513.626	1475540.439	8.972
6131	474513.626	1475540.439	8.972
5751	474512.043	1475540.498	10.330
6190	474510.795	1475539.509	8.745
6279	474511.243	1475538.503	5.801
5879	474511.243	1475538.503	5.801
6112	474505.954	1475538.776	11.189
5958	474508.373	1475538.944	5.117
5661	474504.752	1475540.721	8.087
5839	474503.615	1475542.685	14.627
5534	474503.615	1475542.685	14.627
5025	474504.013	1475541.224	6.851
6082	474500.713	1475542.242	10.351
6308	474500.497	1475543.660	10.494
6233	474501.324	1475543.961	8.731
6311	474499.224	1475545.573	12.052
6355	474497.131	1475546.106	8.312
6012	474497.131	1475546.106	8.312
5167	474495.923	1475546.038	10.948
5606	474496.069	1475544.064	8.782
5666	474492.973	1475541.906	8.448
6142	474492.973	1475541.906	8.448
5802	474491.156	1475539.243	8.898
5558	474491.156	1475539.243	8.898
5812	474490.842	1475537.703	0.603
5684	474490.842	1475537.703	0.603
5927	474489.511	1475534.115	4.312
5869	474489.511	1475534.115	4.312
5626	474490.819	1475535.744	-1.388
5895	474490.276	1475532.838	2.527
6203	474489.613	1475530.692	2.888
6166	474489.613	1475530.692	2.888

5628	474485.084	1475529.989	3.107
5498	474485.084	1475529.989	3.107
5455	474484.535	1475528.316	5.740
5731	474485.133	1475526.854	5.710
6238	474486.451	1475525.828	7.561
5902	474486.451	1475525.828	7.561
6327	474488.665	1475525.781	8.013
6274	474488.665	1475525.781	8.013
5914	474487.252	1475525.539	13.857
5614	474488.892	1475527.195	11.901
5677	474489.757	1475526.202	13.453
5803	474492.935	1475525.324	8.435
5709	474491.811	1475524.742	14.025
5701	474491.811	1475524.742	14.025
5967	474496.131	1475523.055	13.062
6221	474496.131	1475523.055	13.062
5944	474494.200	1475522.342	15.201
5811	474495.873	1475524.670	15.658
5669	474496.757	1475524.984	14.182
5476	474498.038	1475522.883	23.292
5727	474500.445	1475520.807	22.920
5831	474502.139	1475522.635	17.805
6348	474505.158	1475521.803	14.939
5948	474505.158	1475521.803	14.939
5205	474506.078	1475519.646	14.328
5208	474507.131	1475520.570	16.021
5907	474511.750	1475516.964	11.536
5595	474511.750	1475516.964	11.536
5644	474510.874	1475516.170	10.160
5665	474515.237	1475514.649	3.730
5729	474515.660	1475511.960	7.449
5645	474514.718	1475512.233	9.900
6565	474516.837	1475508.965	5.292
6400	474515.900	1475509.951	7.344
6397	474515.658	1475510.070	8.404
6238	474515.327	1475507.332	8.184
6022	474517.200	1475505.226	4.915
6567	474517.721	1475503.894	6.910
5839	474519.854	1475501.657	3.536
5902	474519.854	1475501.657	3.536
5854	474520.934	1475498.770	3.400
6023	474521.885	1475497.585	-3.367
5623	474522.733	1475496.884	-4.791
6013	474520.247	1475497.247	1.051
6082	474522.493	1475498.793	1.266
5663	474526.084	1475496.633	-3.555
5563	474526.396	1475500.387	-5.727
5109	474525.721	1475499.865	0.072
5761	474525.617	1475502.550	8.330
5835	474525.617	1475502.550	8.330
5735	474526.364	1475503.822	7.242
6151	474527.223	1475503.478	4.950

6460	474526.488	1475504.735	7.086
6603	474525.127	1475507.355	11.245
6234	474522.729	1475509.671	10.410
6139	474522.729	1475509.671	10.410
6288	474523.187	1475514.384	10.856
5892	474523.187	1475514.384	10.856
6029	474518.634	1475520.462	17.183
5874	474518.634	1475520.462	17.183
6176	474519.616	1475520.620	16.672
6564	474519.616	1475520.620	16.672
6122	474517.662	1475521.468	17.849
5806	474517.167	1475522.378	17.025
5756	474516.426	1475522.356	16.938
5975	474514.872	1475524.317	15.186
5828	474511.662	1475522.900	14.911
5918	474511.662	1475522.900	14.911
5931	474512.015	1475524.506	9.933
5624	474509.913	1475521.920	15.526
5526	474509.913	1475521.920	15.526
6506	474508.836	1475520.258	19.513
5827	474507.280	1475520.259	15.131
5827	474507.280	1475520.259	15.131
6045	474506.788	1475520.798	12.941
5958	474506.278	1475520.718	13.317
5721	474506.555	1475519.665	13.165
5978	474504.457	1475519.859	14.996
5740	474502.272	1475519.878	14.395
5793	474502.272	1475519.878	14.395
6109	474502.023	1475519.907	14.608
6533	474501.272	1475519.862	10.570
6540	474499.689	1475520.454	9.610
6821	474500.941	1475520.250	10.376
7077	474499.217	1475522.267	14.445
6996	474497.670	1475523.252	12.915
6177	474496.221	1475521.423	10.167
5950	474496.221	1475521.423	10.167
5904	474494.125	1475522.026	10.428
5586	474493.289	1475518.826	8.345
5602	474491.630	1475519.255	8.214
5896	474489.188	1475518.061	10.872
5934	474489.992	1475518.045	8.929
6015	474486.500	1475518.174	12.881
6406	474485.030	1475516.735	7.511
6273	474485.030	1475516.735	7.511
5433	474484.824	1475512.921	8.616
5779	474485.495	1475512.552	3.387
5650	474485.495	1475512.552	3.387
5188	474480.458	1475511.181	6.315
5093	474480.458	1475511.181	6.315
5640	474477.642	1475512.232	7.233
5805	474477.262	1475514.522	7.995
5395	474475.254	1475510.983	12.710

5989	474470.611	1475511.547	6.524
5641	474470.611	1475511.547	6.524
5768	474469.489	1475512.019	9.779
5674	474469.783	1475510.353	4.614
5419	474467.243	1475509.505	12.873
5246	474466.964	1475510.077	8.357
5336	474463.857	1475510.262	9.584
5386	474463.857	1475510.262	9.584
5317	474464.710	1475507.834	10.649
5421	474463.431	1475507.915	8.319
5884	474461.600	1475509.040	6.079
5245	474459.784	1475508.130	9.294
5252	474459.102	1475504.796	9.066
5227	474458.877	1475505.028	9.989
6007	474458.135	1475504.135	6.818
5944	474458.005	1475503.164	10.206
5841	474457.708	1475500.899	6.083
5873	474456.192	1475499.976	5.523
5606	474456.253	1475497.994	11.636
5576	474453.690	1475497.319	7.677
6234	474453.721	1475494.279	6.782
6244	474453.670	1475492.993	9.879
5739	474452.558	1475494.476	12.350
6315	474448.947	1475493.164	9.750
6380	474451.246	1475490.231	15.014
5666	474451.246	1475490.231	15.014
5857	474450.505	1475487.863	11.646
6137	474450.434	1475488.774	12.945
6317	474449.607	1475487.828	13.389
6238	474452.533	1475487.578	8.832
6051	474452.432	1475488.180	6.591
5849	474452.803	1475485.183	8.688
6012	474453.081	1475485.561	8.243
5939	474452.845	1475487.038	9.217
5883	474450.968	1475488.993	11.470
5859	474453.429	1475487.382	7.650
6243	474451.205	1475488.097	5.505
5927	474451.205	1475488.097	5.505
6311	474452.020	1475487.728	8.644
6130	474452.020	1475487.728	8.644
6598	474453.183	1475488.328	-0.371
6284	474452.422	1475488.902	2.816
5687	474452.422	1475488.902	2.816
5389	474451.058	1475487.096	6.255
5776	474451.058	1475487.096	6.255
5874	474451.403	1475487.987	15.096
6221	474450.846	1475487.560	9.798
6349	474453.478	1475485.563	11.297
6069	474453.478	1475485.563	11.297
6361	474451.325	1475486.714	9.425
5700	474452.688	1475486.509	3.376
5689	474451.538	1475487.706	2.252

5870	474451.465	1475487.224	4.420
6122	474450.627	1475486.601	11.586
6338	474449.304	1475487.257	4.373
5980	474452.343	1475486.476	0.070
6124	474449.321	1475489.113	1.523
5949	474450.270	1475489.135	3.559
5926	474450.378	1475489.209	2.892
5936	474448.990	1475489.616	6.865
5686	474448.990	1475489.616	6.865
5763	474448.531	1475489.465	5.479
5627	474449.044	1475491.751	6.935
5625	474449.020	1475491.782	6.975
6387	474446.172	1475493.585	18.624
6300	474447.885	1475493.861	14.708
5644	474451.049	1475496.611	14.842
5852	474451.042	1475495.677	16.625
6179	474452.697	1475496.588	9.592
5801	474452.500	1475495.249	12.012
5543	474454.415	1475495.541	12.041
5540	474456.057	1475497.893	9.054
5748	474456.107	1475495.477	12.352
5723	474457.743	1475497.131	10.751
5604	474458.094	1475499.655	16.152
6280	474460.150	1475499.187	15.512
6157	474461.011	1475498.323	16.299
5511	474465.961	1475498.519	9.941
5387	474465.465	1475497.341	13.834
5513	474465.968	1475498.088	10.341
5786	474464.390	1475500.673	14.307
5572	474467.503	1475497.709	14.263
5579	474470.806	1475498.195	13.719
5666	474470.181	1475498.266	9.791
5549	474471.237	1475497.964	13.005
6022	474474.735	1475496.649	6.618
5563	474474.313	1475497.935	10.275
5214	474473.652	1475497.714	12.762
5212	474472.783	1475497.740	9.915
5467	474472.856	1475496.573	16.079
5655	474473.116	1475493.761	11.969
5468	474473.422	1475494.683	12.935
5281	474473.766	1475498.337	14.617
5415	474475.540	1475495.518	15.163
5701	474478.166	1475495.159	11.645
5989	474475.609	1475492.821	16.994
6279	474475.657	1475493.693	19.799
6614	474476.816	1475494.899	19.785
6848	474481.889	1475493.324	16.280
6237	474484.265	1475495.838	15.049
6336	474485.055	1475497.177	16.471
6369	474485.055	1475497.177	16.471
6117	474486.681	1475495.256	17.036
5781	474487.849	1475497.844	18.919

5989	474486.341	1475498.781	17.716
5836	474491.207	1475496.128	13.429
5900	474491.624	1475498.220	16.107
5561	474493.509	1475498.266	15.635
5970	474494.753	1475496.966	14.561
5383	474496.900	1475497.514	14.953
5218	474495.710	1475498.276	18.782
5350	474498.296	1475498.896	15.591
5312	474498.077	1475495.390	16.444
5868	474501.055	1475497.273	12.556
5970	474502.900	1475496.780	12.011
5788	474506.410	1475495.996	5.763
4951	474506.103	1475496.635	9.984
5687	474506.103	1475496.635	9.984
5569	474507.967	1475496.356	11.439
5465	474507.967	1475496.356	11.439
5594	474511.342	1475497.506	2.826
5569	474511.138	1475497.361	5.939
5615	474511.197	1475498.207	6.128
5461	474515.092	1475497.786	5.071
6056	474515.470	1475497.243	8.464
5694	474515.131	1475498.225	10.085
5708	474514.933	1475494.191	11.745
5985	474517.681	1475495.242	4.154
5767	474518.187	1475496.534	8.134
5471	474518.187	1475496.534	8.134
5492	474522.719	1475495.888	0.960
5354	474523.937	1475493.693	4.257
6004	474523.716	1475495.670	14.391
5987	474525.201	1475495.344	11.584
5715	474526.892	1475494.639	12.841
5870	474530.775	1475492.945	10.042
6001	474530.520	1475491.877	12.513
5618	474528.861	1475494.160	20.933
5665	474533.644	1475489.929	12.615
6156	474533.644	1475489.929	12.615
6155	474537.315	1475489.967	13.158
6770	474537.315	1475489.967	13.158
5825	474537.724	1475488.578	16.120
5872	474542.133	1475488.972	11.601
5875	474542.905	1475488.129	10.691
5660	474544.688	1475487.439	11.627
5561	474547.301	1475488.218	8.658
5715	474545.762	1475487.527	8.921
5870	474549.452	1475487.442	5.961
6324	474548.647	1475485.943	4.564
6122	474546.553	1475488.311	10.023
6164	474554.401	1475478.603	2.305
6197	474553.132	1475477.952	1.681
5968	474553.567	1475478.858	0.919
6597	474552.621	1475480.033	-0.686
5878	474549.440	1475480.282	4.564

5976	474550.167	1475480.657	3.344
5559	474550.609	1475483.506	0.914
5992	474553.104	1475483.960	-0.084
5658	474551.676	1475485.038	-0.883
6130	474553.991	1475486.907	-1.740
6463	474555.986	1475489.839	-0.381
6748	474554.731	1475491.713	1.774
6443	474553.555	1475491.577	1.504
6759	474553.643	1475492.600	0.900
6119	474551.977	1475497.463	3.869
5932	474552.655	1475498.918	4.880
5857	474555.993	1475497.598	-0.115
5742	474554.278	1475498.128	-0.393
5951	474555.730	1475499.238	4.723
6317	474553.870	1475501.658	1.857
5938	474552.725	1475502.680	5.417
6025	474553.894	1475502.715	8.283

Area 1

ID	Y	X	ELEV		
5279	474120.143	1479412.325	-4.314	2221	SN: 190204
5204	474119.496	1479415.896	-1.121		
6040	474119.696	1479414.195	0.916		
5362	474119.904	1479413.439	0.041		
5566	474120.471	1479413.542	0.001		
6146	474120.318	1479414.065	-0.993		
5639	474121.410	1479415.037	1.500		
5602	474119.313	1479415.270	0.709		
5296	474120.389	1479414.502	-0.433		
5116	474119.181	1479413.127	-1.858		
5478	474120.464	1479416.920	0.850		
4848	474105.695	1479437.977	0.920		
5589	474107.039	1479436.937	7.771		
5511	474104.940	1479442.849	5.900		
6302	474105.689	1479442.504	4.381		
6507	474104.498	1479443.098	4.981		
6023	474104.402	1479443.383	8.896		
6238	474104.482	1479443.673	5.545		
6283	474103.718	1479442.778	4.853		
5837	474104.384	1479443.540	1.119		
5631	474104.579	1479444.066	5.103		
5567	474103.276	1479443.700	2.927		
5606	474105.186	1479445.097	7.211		
5066	474104.331	1479444.071	4.422		
5684	474105.680	1479444.962	6.311		
5275	474104.619	1479445.609	7.219		
5239	474104.738	1479446.377	3.756		
5550	474104.531	1479444.462	4.359		
5416	474106.432	1479445.992	4.951		
5311	474103.833	1479446.230	5.964		
5688	474102.807	1479448.155	4.235		
5899	474104.128	1479448.820	8.777		
5621	474102.702	1479450.114	10.672		
5794	474102.679	1479449.826	7.061		
5704	474101.124	1479450.094	11.044		
5451	474101.050	1479448.534	13.288		
5788	474102.038	1479450.202	9.498		
5633	474103.015	1479450.955	14.006		
6986	474101.679	1479451.498	11.211		
6390	474102.336	1479450.387	14.812		
5529	474100.812	1479453.064	12.277		
5982	474100.446	1479452.887	10.605		
5480	474101.343	1479454.117	9.779		
5287	474100.117	1479452.760	9.334		
5141	474100.233	1479453.285	4.523		
5142	474099.298	1479454.412	3.587		
4865	474098.284	1479454.061	3.843		
4701	474098.981	1479454.267	8.355		
5112	474100.048	1479454.852	7.069		
5328	474098.788	1479455.176	4.131		
5967	474097.877	1479455.840	2.552		

5831	474099.133	1479455.582	4.134
5890	474099.646	1479454.211	3.991
5623	474098.216	1479456.397	3.511
6095	474098.383	1479456.950	5.650
5468	474098.803	1479457.941	5.610
5588	474095.851	1479456.158	2.427
5281	474097.196	1479455.388	4.057
5198	474097.937	1479455.900	4.279
5894	474095.795	1479455.393	8.368
5842	474097.978	1479456.962	7.572
6084	474096.736	1479458.085	10.079
5874	474098.269	1479456.589	7.551
5749	474096.660	1479457.796	8.942
5814	474096.984	1479457.956	5.536
5520	474096.478	1479458.910	6.665
5370	474095.382	1479459.232	7.372
5923	474097.554	1479458.222	5.262
5964	474096.532	1479460.018	5.773
6280	474096.891	1479460.087	7.341
5700	474096.866	1479458.655	9.336
5831	474097.382	1479460.365	8.532
5627	474097.003	1479460.718	6.665
5595	474095.316	1479460.463	9.778
5690	474095.887	1479460.744	11.072
5218	474096.533	1479461.361	13.905
5470	474094.019	1479460.960	11.531
5304	474095.816	1479461.797	10.370
5383	474093.439	1479463.020	8.416
5563	474094.872	1479462.471	12.685
5424	474093.571	1479463.754	9.168
5376	474092.683	1479463.268	6.918
5431	474091.222	1479464.165	7.844
5215	474091.143	1479463.498	8.372
5761	474092.563	1479463.393	4.612
5355	474091.284	1479464.468	5.201
5337	474090.399	1479464.870	6.541
5432	474091.050	1479465.153	2.098
5425	474090.967	1479465.774	8.319
5324	474090.549	1479465.269	7.042
5792	474090.636	1479467.053	5.485
5358	474089.262	1479466.795	4.910
5271	474089.724	1479467.923	9.822
4802	474089.530	1479469.994	3.774
4921	474088.511	1479469.687	5.995
5040	474088.937	1479469.702	3.454
5483	474090.156	1479470.193	8.050
5911	474089.332	1479469.537	8.566
5822	474088.996	1479470.281	9.437
5900	474088.932	1479470.098	8.266
6056	474088.191	1479471.364	10.853
5934	474088.371	1479470.158	7.990
5925	474087.369	1479471.043	10.586

5628	474086.536	1479471.226	11.356
5603	474087.444	1479472.132	11.934
5919	474085.197	1479472.837	7.967
5519	474086.939	1479472.517	8.500
5497	474085.579	1479470.521	11.140
5372	474087.011	1479472.064	8.627
6014	474087.355	1479471.510	12.243
6278	474086.013	1479470.960	10.906
5654	474086.982	1479471.863	10.271
5707	474087.075	1479473.667	7.658
5678	474086.287	1479473.643	7.039
5579	474085.933	1479473.013	10.598
5665	474086.708	1479474.263	10.169
5317	474086.142	1479473.563	12.295
5638	474086.356	1479473.393	8.051
5819	474085.782	1479475.039	8.540
5733	474084.066	1479476.217	10.447
5730	474084.808	1479476.828	9.022
5510	474084.562	1479477.458	4.951
5664	474085.415	1479477.680	7.209
6194	474085.995	1479479.738	6.390
6116	474085.887	1479478.111	9.298
5810	474086.308	1479479.760	5.680
5623	474087.032	1479477.937	8.599
5615	474085.856	1479480.779	7.024
6001	474088.698	1479478.552	8.959
5888	474087.405	1479479.113	7.091
5487	474087.820	1479478.566	8.185
5434	474088.878	1479478.927	6.924
5164	474088.882	1479479.072	8.444
5222	474088.499	1479479.637	7.792
5577	474089.633	1479479.714	10.236
5859	474087.148	1479480.995	8.721
5486	474087.503	1479480.326	9.041
5178	474086.600	1479482.031	8.665
5950	474087.677	1479482.764	9.065
5792	474090.169	1479481.886	10.631
5958	474089.644	1479483.592	14.362
5414	474089.805	1479482.996	11.277
5115	474089.768	1479482.539	11.371
5262	474089.901	1479483.169	11.158
5172	474090.679	1479482.447	14.971
4739	474089.281	1479482.698	10.937
5403	474091.650	1479481.147	9.207
5604	474092.150	1479481.350	9.014
4990	474093.274	1479481.230	6.235
5004	474092.666	1479482.356	7.510
5357	474094.068	1479482.219	8.740
5293	474095.812	1479481.549	5.527
5437	474096.299	1479480.953	8.418
5263	474097.573	1479479.862	7.469
5436	474099.075	1479478.921	8.225

5435	474099.250	1479478.387	10.986
5937	474099.678	1479479.212	11.473
5859	474099.098	1479478.066	10.706
5538	474101.641	1479477.426	12.369
5140	474099.756	1479478.980	7.855
5336	474100.897	1479479.419	8.736
5319	474101.044	1479478.339	9.788
5272	474102.962	1479477.920	7.956
5343	474101.294	1479479.091	8.294
5225	474101.438	1479478.735	9.359
5099	474103.284	1479477.452	7.515
5351	474104.071	1479477.414	10.886
5297	474102.639	1479478.328	11.621
5357	474103.571	1479477.568	13.756
4806	474103.333	1479478.197	13.944
5126	474105.039	1479480.217	13.976
4991	474104.179	1479479.069	15.403
5125	474104.836	1479479.055	10.158
5387	474104.609	1479477.204	11.707
5175	474105.407	1479479.227	9.880
5228	474106.447	1479478.297	13.202
5618	474104.632	1479477.971	13.125
5253	474106.233	1479477.204	12.892
5917	474106.620	1479476.655	10.652
5728	474105.256	1479477.329	11.799
5742	474107.328	1479475.924	9.399
5810	474106.835	1479475.745	6.657
5945	474108.012	1479476.207	11.554
5617	474107.280	1479475.538	10.058
5297	474108.221	1479474.352	12.780
5642	474109.943	1479476.288	13.393
5386	474109.350	1479475.113	7.423
5534	474109.522	1479474.556	6.127
6128	474109.592	1479475.245	5.905
5967	474110.188	1479474.582	1.490
5389	474109.513	1479474.094	4.202
5746	474112.338	1479472.991	3.204
5377	474110.899	1479474.116	2.900
5319	474113.748	1479473.507	2.386
4980	474113.836	1479472.864	5.000
5126	474114.281	1479473.422	5.699
5591	474113.488	1479474.262	3.137
5342	474114.933	1479472.659	5.605
5247	474114.726	1479471.511	0.449
5036	474116.827	1479473.219	2.603
5660	474117.971	1479472.026	0.582
5726	474116.994	1479473.340	2.785
5733	474116.054	1479473.503	2.341
5460	474115.945	1479474.063	3.092
5823	474115.657	1479472.795	3.254
5698	474116.430	1479473.378	3.443
5463	474116.838	1479472.650	1.624

5585	474118.677	1479471.890	3.626
5526	474117.033	1479473.876	1.084
5118	474119.277	1479472.218	4.171
5602	474116.605	1479473.012	-0.721
5648	474118.068	1479471.874	2.542
5367	474118.603	1479471.583	1.625
5404	474118.289	1479470.632	1.014
4899	474118.620	1479470.420	-0.543
4796	474120.154	1479469.613	2.267
5292	474119.643	1479469.328	2.554
6044	474118.932	1479469.769	3.629
6325	474121.543	1479470.325	5.325
6340	474120.613	1479469.410	3.739
5733	474120.951	1479470.165	2.061
5385	474122.184	1479468.027	4.928
5414	474122.666	1479468.381	0.977
4988	474123.770	1479466.605	2.512
5738	474123.674	1479467.488	4.539
5552	474122.452	1479467.095	6.562
5328	474122.758	1479466.649	7.429
4707	474124.995	1479466.367	5.309
4755	474125.702	1479465.625	8.567
5554	474126.800	1479466.274	9.236
5802	474125.931	1479466.564	3.941
5843	474126.617	1479466.308	7.038
5342	474125.564	1479465.952	7.984
5202	474127.307	1479465.629	6.925
5123	474128.077	1479465.846	9.124
5012	474127.596	1479466.593	8.737
5504	474127.604	1479468.150	9.030
5398	474128.919	1479468.256	7.762
5624	474128.710	1479466.943	5.131
5541	474128.077	1479467.254	10.394
5839	474127.224	1479466.687	8.404
6314	474127.741	1479466.671	8.018
5892	474127.022	1479468.771	5.183
5556	474128.932	1479466.191	5.899
5443	474126.376	1479467.726	7.489
5101	474128.917	1479468.071	6.334
4999	474128.478	1479467.659	9.084
5857	474129.892	1479466.565	6.649
5912	474128.195	1479467.570	4.603
5815	474128.597	1479465.682	5.121
5341	474131.098	1479466.952	5.623
6019	474131.447	1479467.225	4.161
6071	474133.126	1479465.516	4.146
5492	474132.232	1479465.903	3.028
5549	474133.134	1479466.001	6.560
5311	474133.964	1479466.148	3.406
5170	474134.833	1479466.516	2.886
5233	474134.558	1479465.655	3.945
5471	474134.995	1479465.371	2.135

5335	474136.713	1479465.229	1.258
5056	474137.444	1479464.230	4.711
5146	474137.408	1479463.692	7.546
5587	474137.947	1479463.642	5.478
5392	474137.717	1479464.062	9.555
5523	474137.381	1479462.210	8.920
5934	474138.250	1479461.695	6.538
5820	474137.694	1479462.915	7.483
6101	474139.528	1479460.804	9.992
5794	474139.458	1479461.586	6.083
5659	474139.141	1479461.551	6.810
5276	474139.724	1479460.581	6.065
5202	474139.278	1479461.625	6.044
4846	474140.697	1479460.820	11.143
5006	474140.832	1479458.709	12.316
5508	474141.964	1479459.953	7.861
5303	474139.908	1479460.924	11.183
4910	474142.341	1479459.594	11.367
5477	474143.075	1479460.409	8.711
5286	474144.255	1479459.859	10.715
5448	474141.818	1479458.968	7.699
5442	474143.462	1479459.075	4.764
5858	474143.512	1479456.613	4.235
5665	474144.468	1479457.424	6.924
6404	474144.088	1479458.355	3.949
6077	474143.888	1479459.379	3.189
5436	474144.521	1479459.820	4.818
5645	474144.011	1479459.128	6.682
5838	474143.006	1479457.401	7.460
5826	474143.758	1479457.538	3.968
5610	474144.697	1479458.050	1.132
4955	474142.002	1479457.117	8.347
4677	474143.983	1479456.182	3.075
4843	474143.275	1479455.910	9.284
4952	474145.450	1479453.753	4.621
4953	474143.339	1479454.024	10.705
5478	474144.705	1479452.851	10.481
5646	474146.829	1479451.766	7.825
5381	474145.099	1479450.935	11.950
5141	474145.176	1479450.622	12.021
5224	474145.034	1479451.418	7.949
5594	474144.451	1479450.135	10.547
5141	474144.657	1479447.441	8.582
5794	474145.344	1479446.726	12.115
5562	474144.597	1479448.721	5.186
5528	474145.829	1479446.530	7.868
5592	474145.260	1479445.730	7.452
5305	474145.309	1479447.126	6.803
4927	474145.881	1479446.251	5.320
5216	474146.958	1479445.689	4.537
5679	474147.198	1479445.860	3.834
5977	474145.505	1479446.932	4.863

5852	474145.246	1479447.325	2.780
5429	474147.315	1479444.857	3.849
5079	474145.780	1479446.078	6.470
5384	474145.981	1479447.161	4.382
5391	474146.175	1479445.771	5.523
5800	474144.744	1479445.703	4.329
5557	474144.605	1479445.804	2.023
5473	474142.694	1479445.450	2.454
5103	474143.931	1479445.587	-1.568
4986	474145.275	1479445.073	0.665
5137	474146.496	1479445.020	3.186
5214	474143.927	1479442.867	8.420
5378	474144.901	1479444.907	2.731
5545	474146.315	1479442.513	3.664
5417	474146.891	1479441.080	4.502
5597	474146.996	1479439.223	6.963
5586	474146.286	1479439.305	9.476
5849	474145.528	1479439.266	8.104
5938	474147.822	1479438.584	9.248
4979	474147.981	1479437.441	8.056
4788	474147.916	1479436.899	8.134
4850	474150.744	1479434.985	5.531
4605	474150.968	1479435.543	11.327
5199	474158.801	1479428.125	1.596
5152	474159.616	1479428.634	4.939
5253	474160.240	1479427.924	2.778
4839	474160.904	1479427.639	2.658
5393	474161.850	1479427.913	1.655
5356	474162.586	1479426.491	5.555
5510	474162.859	1479424.575	0.807
5507	474163.129	1479423.859	5.023
5662	474165.278	1479425.721	1.341
5654	474165.701	1479426.100	0.971
5805	474166.406	1479425.999	1.809
5388	474166.360	1479426.378	2.867
5580	474164.643	1479427.418	0.209
5254	474166.166	1479426.944	-0.607
5017	474167.265	1479426.703	-3.687
5082	474166.478	1479426.765	-2.762
5386	474167.235	1479427.381	2.197
5265	474166.955	1479425.831	-0.828
5076	474168.970	1479427.001	-1.118
4985	474167.187	1479423.314	4.658
4859	474168.364	1479424.760	6.729
4885	474168.118	1479423.696	6.528
5245	474168.182	1479423.921	11.128
5560	474168.610	1479422.351	12.856
5347	474166.537	1479425.859	9.628
5385	474167.212	1479423.940	11.833
5174	474167.958	1479423.831	7.323
4868	474166.399	1479423.459	6.080
5475	474168.234	1479421.892	10.380

5487	474168.619	1479422.647	10.168
5351	474169.436	1479422.609	9.800
5167	474172.219	1479418.545	7.919
5415	474172.619	1479416.426	7.837
5701	474174.959	1479417.383	5.084
5547	474174.352	1479416.520	5.506
4945	474177.908	1479415.828	4.402
5391	474175.915	1479414.327	8.215
5275	474176.747	1479414.813	8.433
5292	474178.449	1479415.180	4.956
5894	474177.633	1479416.593	5.697
5633	474177.741	1479414.676	8.268
5246	474177.555	1479415.838	8.613
5748	474179.021	1479415.970	6.838
5131	474178.520	1479416.338	6.566
5541	474179.214	1479416.343	7.191
5601	474185.360	1479408.573	5.423
5235	474186.210	1479409.976	7.612
4960	474184.941	1479404.436	6.115
5014	474182.650	1479402.142	5.598
4392	474194.366	1479411.948	8.028
4593	474193.576	1479412.856	6.054
5148	474194.005	1479414.319	10.274
5480	474195.090	1479415.312	7.258
4714	474194.360	1479422.863	2.008
4444	474195.848	1479423.457	3.481
4630	474193.635	1479424.124	2.222
4592	474193.998	1479424.191	-1.748
4480	474192.020	1479423.968	3.350
4515	474195.143	1479424.900	1.294
4710	474194.666	1479426.217	2.439
5005	474193.657	1479424.893	8.102
5062	474191.721	1479430.836	11.053
5216	474191.154	1479432.446	8.908
5341	474191.414	1479432.681	6.304
5187	474191.983	1479434.100	8.545
5153	474192.132	1479432.154	8.237
5039	474192.277	1479433.160	3.068
5153	474191.772	1479433.156	7.721
5061	474193.427	1479432.810	6.589
5039	474192.121	1479434.024	8.564
5092	474191.148	1479433.495	6.965
5066	474191.231	1479434.082	9.382
5028	474191.209	1479432.545	7.967
5106	474191.776	1479433.821	10.822
5133	474191.231	1479434.474	11.370
5112	474189.874	1479434.939	9.464
5047	474188.122	1479434.656	9.595
5130	474189.670	1479435.752	7.997
5089	474190.460	1479436.457	6.891
5183	474190.973	1479438.247	10.725
5207	474189.088	1479436.667	9.667

5261	474188.571	1479437.430	11.278
5370	474188.938	1479436.729	9.426
5355	474186.599	1479436.618	9.403
5454	474186.506	1479440.037	5.901
5590	474186.397	1479438.320	4.821
5545	474185.051	1479439.250	6.863
5618	474187.135	1479440.018	2.061
5584	474185.064	1479439.413	4.483
5596	474186.715	1479438.646	6.433
5547	474186.092	1479440.294	8.400
5609	474185.819	1479440.869	5.695
5670	474186.363	1479441.071	2.880
5607	474185.688	1479443.619	4.743
5557	474185.863	1479443.746	7.219
5520	474187.130	1479443.123	9.230
5562	474185.110	1479444.440	8.440
5557	474185.839	1479444.146	7.906
5538	474185.682	1479443.933	8.897
5470	474186.209	1479443.444	10.438
5415	474187.449	1479444.733	8.492
5357	474185.150	1479446.701	6.988
5295	474188.275	1479445.656	13.201
5313	474186.863	1479445.325	8.513
5310	474187.056	1479446.860	7.258
5324	474186.670	1479447.469	6.383
5233	474185.368	1479448.057	7.880
5184	474186.303	1479449.897	6.894
5227	474185.634	1479449.847	6.426
5309	474184.067	1479451.102	5.794
5376	474183.835	1479449.119	4.240
5542	474185.027	1479449.133	5.088
5445	474184.028	1479450.441	6.286
5486	474183.714	1479451.652	4.321
5523	474182.200	1479450.945	8.371
5479	474179.951	1479452.889	11.743
5556	474181.206	1479453.696	8.121
5610	474182.007	1479454.307	3.480
5606	474180.418	1479455.168	3.654
5592	474181.147	1479456.191	6.236
5669	474181.168	1479457.894	6.644
5568	474182.304	1479454.594	2.889
5548	474182.832	1479456.726	3.035
5563	474181.889	1479454.670	3.223
5640	474182.588	1479456.663	2.619
5672	474180.933	1479457.098	4.440
5708	474182.161	1479457.837	2.198
5660	474179.844	1479457.842	3.736
5512	474181.187	1479457.484	2.122
5570	474180.830	1479458.223	3.039
5587	474180.485	1479458.752	2.394
5447	474180.917	1479458.890	2.280
5551	474180.149	1479459.147	0.329

5542	474180.641	1479460.477	2.412
5621	474179.919	1479460.348	3.325
5547	474179.152	1479460.136	4.464
5542	474179.746	1479460.956	3.803
5503	474176.388	1479461.176	5.296
5465	474178.947	1479460.210	5.304
5337	474179.698	1479458.945	2.438
5431	474177.442	1479459.627	2.395
5423	474176.470	1479460.757	3.957
5271	474176.836	1479461.573	5.064
5220	474176.371	1479460.825	6.063
5244	474177.051	1479459.848	4.695
5368	474176.814	1479460.296	5.296
5276	474175.611	1479460.117	6.104
5347	474175.285	1479460.889	8.414
5235	474174.724	1479461.838	5.025
5265	474174.451	1479462.061	9.001
5330	474174.140	1479461.089	6.665
5334	474174.091	1479460.653	4.996
5392	474171.116	1479462.515	9.022
5474	474172.660	1479460.207	9.849
5337	474172.444	1479461.570	12.282
5318	474171.621	1479460.236	7.949
5272	474171.769	1479461.366	13.647
5189	474171.399	1479461.816	7.424
5237	474171.152	1479462.532	12.901
5271	474171.199	1479463.027	9.641
5261	474170.398	1479461.703	13.254
5314	474170.198	1479462.415	15.422
5388	474171.955	1479462.487	9.206
5388	474170.963	1479462.357	10.826
5415	474171.932	1479463.371	12.381
5478	474171.596	1479461.435	12.052
5540	474171.158	1479464.145	12.876
5560	474171.198	1479462.386	10.406
5559	474169.873	1479464.757	11.157
5502	474169.050	1479465.256	11.744
5481	474168.542	1479464.774	11.321
5443	474166.914	1479464.988	9.091
5361	474169.119	1479465.230	9.956
5412	474167.672	1479464.633	12.119
5457	474166.880	1479465.322	9.763
5500	474168.366	1479464.664	8.265
5585	474165.976	1479463.990	8.243
5462	474164.964	1479465.071	5.856
5505	474164.933	1479465.089	5.933
5443	474166.383	1479464.716	3.539
5436	474165.369	1479464.700	5.575
5391	474166.743	1479466.019	8.908
5373	474164.461	1479466.459	6.361
5259	474163.689	1479467.633	6.745
5190	474165.151	1479466.148	7.495

5265	474164.481	1479466.477	7.375
5407	474166.709	1479466.057	7.395
5425	474164.121	1479468.910	9.718
5459	474165.207	1479466.978	1.582
5460	474164.926	1479467.756	4.125
5512	474164.880	1479467.613	4.880
5548	474163.756	1479466.983	3.241
5447	474164.675	1479469.128	7.863
5480	474164.780	1479468.640	7.923
5472	474163.841	1479469.470	7.788
5549	474162.441	1479468.050	10.151
5546	474163.019	1479468.833	7.712
5454	474161.834	1479468.448	3.707
5617	474163.321	1479468.830	2.000
5585	474161.106	1479469.158	5.264
5559	474161.835	1479468.678	2.229
5547	474162.542	1479470.538	0.869
5319	474161.106	1479471.123	0.994
5290	474162.814	1479472.133	2.580
5230	474159.888	1479470.495	2.448
5192	474161.676	1479471.901	5.379
5219	474159.502	1479473.434	3.799
5154	474159.907	1479472.711	4.044
5225	474158.629	1479470.013	6.179
5196	474158.247	1479469.890	4.648
5182	474158.581	1479470.144	3.737
5291	474156.647	1479469.623	-0.030
5432	474154.254	1479469.510	3.265
5545	474154.255	1479468.438	2.659
5588	474154.207	1479468.854	1.038
5639	474155.242	1479467.418	1.236
5591	474154.656	1479465.213	-0.135
5533	474155.093	1479465.386	-0.119
5519	474154.004	1479464.631	-3.532
5473	474153.166	1479464.007	3.769
5377	474155.123	1479464.629	1.328
5338	474155.196	1479464.166	1.243
5256	474154.316	1479462.665	4.246
5294	474155.761	1479461.524	0.118
5334	474152.991	1479463.672	1.456
5365	474153.222	1479464.162	1.947
5262	474154.225	1479463.033	-0.041
5328	474152.769	1479462.956	3.068
5404	474154.268	1479459.535	5.382
5512	474152.604	1479460.250	4.150
5459	474153.008	1479460.505	4.644
5454	474151.825	1479460.411	6.445
5455	474153.050	1479458.279	7.101
5522	474151.573	1479460.006	5.207
5409	474149.499	1479459.904	8.310
5351	474149.911	1479459.881	7.735
5307	474148.114	1479459.176	11.962

5403	474150.028	1479459.775	9.132
5403	474149.043	1479460.023	5.702
5458	474149.024	1479458.177	5.326
5546	474149.450	1479459.328	6.924
5555	474148.728	1479458.697	6.122
5514	474146.489	1479460.246	8.299
5478	474146.619	1479457.880	3.603
5507	474146.347	1479459.133	6.925
5567	474145.696	1479459.124	5.389
5528	474144.016	1479459.662	4.766
5617	474144.972	1479458.382	8.249
5603	474143.857	1479458.155	5.657
5711	474144.523	1479457.842	4.541
5539	474143.662	1479457.640	4.769
5459	474144.970	1479457.998	2.876
5469	474145.790	1479458.708	5.997
5529	474146.479	1479456.936	5.908
5477	474145.893	1479457.988	3.484
5533	474145.742	1479457.914	3.553
5626	474143.997	1479456.551	5.497
5666	474143.997	1479456.551	5.497

Area 3

SITE	METER	DETECTOR	# PNTS	AVG CPM	SD	
	1	184009	664	5449	458.3	6823.815
	3	184009	625	5031	346.1	6069.425
	1	190204	640	5907	360.9	6989.476
	3	190204	592	5448	325.6	6425

Bkg Location	ESID 011	ESID 0012
A1	4	4
A1	4	3
B1	4	5
C1	3	3
D1	4	4
E1	3	3
F1	3	4
G1	4	4
H1	3	5
I1	4	5
A2	4	5
A2	5	5
B2	3	4
C2	3	5
D2	4	4
E2	4	5
F2	4	4
G2	3	4
H2	5	4
I2	4	5
A3	3	3
A3	4	5
B3	4	5
C3	3	5
D3	4	4
E3	4	3
F3	3	5
G3	5	5
H3	5	6
I3	3	4

ESID CROSS REF

		S/N
ESID 0011	Micro Rem	C665J
ESID 0012	Micro Rem	1897

Note: Readings are in urem/hr

CTO 15 Nal Backgrounds @ 4" from asphalt

Date		10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007	10/30/2007
INST SER #		**2027**	**2028**	**2023**	**2025**	**2024**	**2026**	**149961**	**172018**
SITE 4	**A**	3500	3170	3510	3620	3930	3530	3891	3952
Dup	**A**	3540	3230	3570	3620	3880	3750	4007	3900
	B	2380	2009	2560	3120	2650	3100	2630	2555
	C	2470	2005	2340	2820	2580	2630	3525	3674
	D	2270	1925	2200	2320	2500	2630	2626	2629
	E	2500	2002	2250	2320	2590	2540	2560	2408
	F	2490	2140	2230	2470	2620	2560	4600	4537
	G	4380	3999	4370	4660	4760	4560	4733	4461
	H	5100	4460	4690	4700	5360	4800	4852	4682
	I	2900	2600	2780	2870	3230	2960	3147	3018
SITE 5	**A**	4320	3740	4120	4230	4360	4390	4465	4379
Dup	**A**	4220	3700	4120	4380	4500	4410	4475	4320
	B	4320	3620	4110	4280	4420	4410	4350	4408
	C	4400	3760	4005	4240	4410	4220	4523	4372
	D	4100	3610	3930	4200	4210	4160	4357	4375
	E	4450	3990	4460	4520	5002	4740	4890	4966
	F	4007	3440	3870	4520	4120	4110	4387	4454
	G	3970	3420	3850	3960	4370	4020	4469	4397
	H	4007	3550	3850	4007	4240	4140	4507	4435
	I	4850	4220	4660	4670	4900	4890	5199	4906
SITE 6	**A**	3810	3310	3800	3900	3940	3930	4070	3953
Dup	**A**	3820	3350	3830	3860	4050	3980	4229	4106
	B	3730	3290	3630	3800	3940	3810	4267	3996
	C	3850	3400	3810	3940	3980	3860	4201	4276
	D	3670	3150	3380	3530	3900	3810	3941	4008
	E	3330	2840	3290	3300	3490	3530	3585	3618
	F	3580	3200	3510	3610	3780	3730	3455	3426
	G	3520	3050	3250	3610	3700	3540	3890	3933
	H	3690	3180	3340	3500	3750	3670	3795	3951
	I	3550	2990	3310	3550	3700	3590	3797	3884
SITE 7	**A**	7100	6390	7050	7420	7180	7150	7272	7190
Dup	**A**	7090	6410	7050	7470	7200	7190	7416	7406
	B	7170	6480	7040	7210	7350	7260	7488	7538
	C	5070	4630	5020	5200	5250	5250	5474	5342
	D	6790	6230	6850	7200	6240	7090	7583	7238
	E	5550	4810	5320	5540	5680	5530	5574	5479
	F	7610	6640	7000	7330	7530	7240	7550	7433
	G	7300	6300	7060	7490	7420	7160	7327	7574
	H	7250	6450	7370	7430	7450	7230	7585	7358
	I	7310	6470	6840	6850	6870	6660	7539	7450
MEAN		4474	3929	4330	4532	4625	4544	4806	4750
STD DEV		1563	1428	1541	1565	1485	1470	1503	1486
IL		9163	8212	8952	9226	9080	8953	9315	9209

149961 and 172018 are 2221's--others are ASP's

MEAN	**4499**
STD DEV	**1505**
IL	**9014**

CTO-15 43-93 Alpha Backgrounds from Asphalt - 5 minute static

Date:	7/13/2007			
Serial #:	PR244553	PR244489	PR244512	PR244541
A	2.20	2.00	3.40	1.40
DUP A	2.00	2.00	1.80	1.40
B	1.20	1.40	2.80	1.00
C	1.60	2.00	2.00	2.20
D	1.80	2.60	1.40	3.00
E	2.60	2.60	3.00	2.00
F	1.60	2.40	1.80	1.80
G	2.80	1.80	3.00	2.20
H	1.20	2.80	1.60	2.00
I	3.20	0.80	2.00	2.00
MEAN	**2.0**	**2.0**	**2.3**	**1.9**
STD DEV	**0.68**	**0.61**	**0.70**	**0.55**
EFFICIENCY	**20.3**	**18.9**	**19.05**	**17.96**
MDA (1 min count time)	**179.3**	**192.5**	**199.7**	**199.4**

CTO-15 43-93 Beta Backgrounds from Asphalt - 5 minute static

Date:	7/13/2007			
Serial #:	PR244553	PR244489	PR244512	PR244541
A	203.2	214.0	263.0	179.8
DUP A	201.4	223.8	256.6	192.6
B	186.2	190.6	236.8	182.2
C	183.4	197.4	235.6	179.4
D	194.4	209.8	251.0	170.0
E	197.0	211.6	240.6	190.0
F	195.0	194.4	243.0	171.8
G	191.8	209.8	229.8	169.8
H	191.0	207.6	236.6	177.0
I	213.4	203.6	254.6	187.2
MEAN	**195.7**	**206.3**	**244.8**	**180.0**
STD DEV	**8.72**	**9.97**	**10.89**	**8.14**
EFFICIENCY	**26.9**	**28.2**	**29.85**	**28.12**
MDA (1 min count time)	**892.5**	**872.8**	**894.2**	**820.8**

TtECI

Background Determination Data Sheet

Project/Location:			Alameda Point						
Instrument Model:			2360			Instrument Serial No.		227439	
Last Calibration Date:			10/22/2007			Calibration Due Date:		10/22/2008	
Detector Model:			43-89			Detector Serial No.:		240339	
Today's Date:			11/6/2007			Data Collected by:		Steve Rolfe	
Instrument Efficiency ε_i:		33%	Surface Efficiency Factor ε_s:		25%	Total Efficiency ε:		8.3%	
	X	Alpha	Concrete	Beta-Gamma				Other	
Remarks:		Instrument Ambient Background							
Type of Surface:			Concrete			Count Time:	60	Minutes	

Count Number			Gross Counts	Net CPM
1	Concrete	A	501	8.4
2	Concrete	A	489	8.2
3	Concrete	B	467	7.8
4	Concrete	C	409	6.8
5	Concrete	D	314	5.2
6	Concrete	E	179	3.0
7	Concrete	F	366	6.1
8	Concrete	G	358	6.0
9	Concrete	H	411	6.9
10	Concrete	I	346	5.8
Mean Count:			384.00	6.4
Standard Deviation (σ)			95.64	

Background Count Rate:	6.4	CPM	Instrument MDC:	15	dpm/100cm^2
Calculations Completed by:	Steve Rolfe			Date:	11/6/2007
Reviewed by:	Daniel Spicuzza			Date:	11/6/2007

TtECI

Background Determination Data Sheet

Project/Location:			Alameda Point						
Instrument Model:			2360			Instrument Serial No.		227439	
Last Calibration Date:			10/22/2007			Calibration Due Date:		10/22/2008	
Detector Model:			43-89			Detector Serial No.:		240339	
Today's Date:			11/6/2007			Data Collected by:		Steve Rolfe	
Instrument Efficiency ε_i:		31%	Surface Efficiency Factor ε_s:		25%	Total Efficiency ε:		7.8%	
		Alpha	X	Beta-Gamma				Other	
Remarks:		Instrument Ambient Background							
Type of Surface:			Concrete			Count Time:	60	Minutes	

Count Number			Gross Counts	Net CPM
1	Concrete	A	17730	295.5
2	Concrete	A	17228	287.1
3	Concrete	B	16585	276.4
4	Concrete	C	14752	245.9
5	Concrete	D	15965	266.1
6	Concrete	E	15757	262.6
7	Concrete	F	15872	264.5
8	Concrete	G	15720	262.0
9	Concrete	H	17650	294.2
10	Concrete	I	15698	261.6
Mean Count:			16295.70	271.6
Standard Deviation (σ)			971.54	

Background Count Rate:	271.6	CPM	Instrument MDC:	103	dpm/100cm^2
Calculations Completed by:	Steve Rolfe			Date:	11/6/2007
Reviewed by:	Daniel Spicuzza			Date:	11/6/2007

TtECI

Background Determination Data Sheet

Project/Location:		Alameda Point					
Instrument Model:		2360		Instrument Serial No.		227422	
Last Calibration Date:		10/22/2007		Calibration Due Date:		10/22/2008	
Detector Model:		43-89		Detector Serial No.:		240340	
Today's Date:		11/6/2007		Data Collected by:		Tina Standfuss	
Instrument Efficiency ε_i:	34%	Surface Efficiency Factor ε_s:	25%	Total Efficiency ε:	8.5%		
		Alpha	X	Beta-Gamma		Other	
Remarks:	Instrument Ambient Background						
Type of Surface:		Concrete		Count Time:	60	Minutes	

Count Number			Gross Counts	Net CPM
1	Concrete	A	15209	253.5
2	Concrete	A	15378	256.3
3	Concrete	B	13665	227.8
4	Concrete	C	12234	203.9
5	Concrete	D	12970	216.2
6	Concrete	E	13309	221.8
7	Concrete	F	12557	209.3
8	Concrete	G	12516	208.6
9	Concrete	H	13159	219.3
10	Concrete	I	13920	232.0
Mean Count:			13491.70	224.9
Standard Deviation (σ)			1082.41	

Background Count Rate:	224.9	CPM	Instrument MDC:	85	dpm/100cm^2
Calculations Completed by:	Tina Standfuss			Date:	11/6/2007
Reviewed by:	Daniel Spicuzza			Date:	11/6/2007

TtECI

Background Determination Data Sheet

Project/Location:			Alameda Point					
Instrument Model:			2360			Instrument Serial No.	227399	
Last Calibration Date:			10/22/2007			Calibration Due Date:	10/22/2008	
Detector Model:			43-89			Detector Serial No.:	240348	
Today's Date:			11/6/2007			Data Collected by:	Jamie Young	
Instrument Efficiency ε_i:	37%		Surface Efficiency Factor ε_s:	25%		Total Efficiency ε:	9.3%	
		Alpha	X	Beta-Gamma				Other
Remarks:	Instrument Ambient Background							
Type of Surface:			Concrete			Count Time:	60	Minutes

Count Number			Gross Counts	Net CPM
1	Concrete	A	16210	270.2
2	Concrete	A	15873	264.6
3	Concrete	B	15984	266.4
4	Concrete	C	16252	270.9
5	Concrete	D	14612	243.5
6	Concrete	E	16401	273.4
7	Concrete	F	14954	249.2
8	Concrete	G	15290	254.8
9	Concrete	H	15351	255.9
10	Concrete	I	15545	259.1
Mean Count:			15647.20	260.8
Standard Deviation (σ)			595.64	

Background Count Rate:	260.8	CPM	Instrument MDC:	84	dpm/100cm^2
Calculations Completed by:	Jamie Young			Date:	11/6/2007
Reviewed by:	Daniel Spicuzza			Date:	11/6/2007

TtECI

Background Determination Data Sheet

Project/Location:			Alameda Point						
Instrument Model:			2360			Instrument Serial No.		227399	
Last Calibration Date:			10/22/2007		Calibration Due Date:		10/22/2008		
Detector Model:			43-89			Detector Serial No.:		240348	
Today's Date:			11/6/2007			Data Collected by:		Jamie Young	
Instrument Efficiency ε_i:		33%	Surface Efficiency Factor ε_s:		25%	Total Efficiency ε_T:	8.3%		
	X	Alpha		Beta-Gamma				Other	
Remarks:		Instrument Ambient Background							
Type of Surface:			Concrete		Count Time:	60	Minutes		

Count Number			Gross Counts	Net CPM
1	Concrete	A	373	6.2
2	Concrete	A	426	7.1
3	Concrete	B	529	8.8
4	Concrete	C	430	7.2
5	Concrete	D	364	6.1
6	Concrete	E	341	5.7
7	Concrete	F	225	3.8
8	Concrete	G	315	5.3
9	Concrete	H	315	5.3
10	Concrete	I	293	4.9
Mean Count:			361.10	6.0
Standard Deviation (σ)			85.06	

Background Count Rate:	6.0	CPM	Instrument MDC:	15	dpm/100cm^2
Calculations Completed by:	Jamie Young			Date:	11/6/2007
Reviewed by:	Daniel Spicuza			Date:	11/6/2007

TtECI

Background Determination Data Sheet

Project/Location:			Alameda Point						
Instrument Model:			2360			Instrument Serial No.		227422	
Last Calibration Date:			10/22/2007			Calibration Due Date:		10/22/2008	
Detector Model:			43-89			Detector Serial No.:		240340	
Today's Date:			11/6/2007			Data Collected by:		Tina Standfuss	
Instrument Efficiency ε_i:		31%	Surface Efficiency Factor ε_s:		25%	Total Efficiency ε:		7.8%	
	X	Alpha		Beta-Gamma				Other	
Remarks:		Instrument Ambient Background							
Type of Surface:			Concrete			Count Time:	60	Minutes	

Count Number			Gross Counts	Net CPM
1	Concrete	A	425	7.1
2	Concrete	A	404	6.7
3	Concrete	B	587	9.8
4	Concrete	C	352	5.9
5	Concrete	D	294	4.9
6	Concrete	E	220	3.7
7	Concrete	F	319	5.3
8	Concrete	G	141	2.4
9	Concrete	H	426	7.1
10	Concrete	I	284	4.7
Mean Count:			345.20	5.8
Standard Deviation (σ)			124.41	

Background Count Rate:	5.8	CPM	Instrument MDC:	15	dpm/100cm^2
Calculations Completed by:	Tina Standfuss			Date:	11/6/2007
Reviewed by:	Daniel Spicuzza			Date:	

CTO 15 NaI Bkgd for concrete

Date		11/12/2007	11/12/2007	11/12/2007	11/12/2007	11/12/2007	11/12/2007	11/12/2007	11/12/2007
Serial #		**2027**	**2028**	**2023**	**2025**	**2026**	**2024**	**149961**	**172018**
Concrete site	**A**	4620	4200	4850	4730	4850	4620	4885	4797
	Dup A	4720	4200	4540	4820	4550	4580	4059	4580
	B	5020	4450	4990	5020	4870	4510	4538	4589
	C	4510	4200	4340	4560	4450	4710	4465	4619
	D	4540	4190	4210	4570	4230	4470	4276	4267
	E	5110	4430	5260	5320	5050	5510	5037	5126
	F	4750	4350	4840	4750	4890	4950	5035	4852
	G	5020	4630	4820	4930	4920	5320	5097	4979
	H	5720	4920	5190	5250	5330	5460	5581	5123
	I	5240	4710	4820	5000	4720	5370	4943	5049
MEAN		4925	4428	4786	4895	4786	4950	4792	4798
STD DEV		376	254	338	260	314	424	452	282
IL		6053	5190	5800	5675	5728	6222	6148	5644

149961 and 172018 are 2221's--others are ASP's

5808

CTO-15 43-93 Alpha Backgrounds from Concrete - 30 minutes

Date:	5/14/2007	5/14/2007	5/14/2007	8/20/2007	8/20/2007	9/8/2007	9/8/2007	9/8/2007	9/8/2007
Serial #:	PR244553	PR244554	PR244512	PR244554	PR238091	PR244489	PR238114	PR244541	PR244506
A	4.00	4.50	5.50	4.10	4.47	5.13	4.93	4.57	5.73
DUP A	4.50	3.40	3.50	4.70	5.87	4.90	5.10	4.80	5.47
B	6.20	5.40	3.30	4.60	4.93	5.60	5.53	4.67	5.67
C	2.90	4.10	3.30	4.23	6.10	4.73	4.10	3.80	3.90
D	4.50	3.40	2.25	4.73	5.57	4.93	4.50	3.73	4.53
E	5.20	2.00	3.60	4.33	4.30	3.63	3.70	4.07	4.40
F	6.10	3.00	4.30	4.30	5.37	5.57	6.33	4.20	6.43
G	5.40	4.10	3.90	4.73	5.60	5.70	6.10	5.07	4.90
H	2.90	4.60	5.10	4.50	4.70	3.23	2.93	3.07	6.47
I	3.50	3.40	4.90	4.13	4.90	3.10	3.60	4.47	5.43
MEAN	**4.5**	**3.8**	**4.0**	**4.4**	**5.2**	**4.7**	**4.7**	**4.2**	**5.3**
STD DEV	**1.21**	**0.96**	**0.99**	**0.25**	**0.61**	**0.98**	**1.12**	**0.60**	**0.85**
EFFICIENCY	**20.3**	**19.7**	**19.05**	**18.41**	**19.87**	**18.9**	**18.84**	**17.96**	**19.65**
MDA (5 min count time)	**88**	**84**	**89**	**96**	**96**	**96**	**97**	**97**	**97**

CTO-15 43-93 Beta Backgrounds from Concrete - 30 minutes

Date:	5/14/2007	5/14/2007	5/14/2007	8/20/2007	8/20/2007	9/8/2007	9/8/2007	9/8/2007	9/8/2007
Serial #:	PR244553	PR244554	PR244512	PR244554	PR238091	PR244489	PR238114	PR244541	PR244506
A	186	234	242	149	231	157	166	192	272
DUP A	181	237	237	150	240	153	162	185	269
B	194	235	228	139	256	157	162	181	266
C	158	212	214	129	229	137	140	163	240
D	162	204	210	126	260	141	147	160	244
E	177	233	245	140	267	153	161	183	272
F	174	223	229	129	269	143	158	168	268
G	171	218	223	143	254	139	159	162	277
H	174	235	240	133	261	140	164	163	267
I	162	234	241	143	284	144	156	170	283
MEAN	**173.9**	**226.5**	**230.9**	**138.0**	**255.0**	**146.2**	**157.6**	**172.8**	**265.9**
STD DEV	**11.3**	**11.6**	**12.2**	**8.3**	**17.5**	**7.8**	**7.9**	**11.5**	**13.6**
EFFICIENCY	**26.9**	**29.1**	**29.85**	**26.24**	**32.77**	**28.20**	**26.70**	**28.12**	**33.58**
MDA (5 min count time)	**360**	**379**	**373**	**330**	**356**	**316**	**346**	**344**	**355**

CTO-15 NaI Backgrounds @ 4" from Gravel

Date:	9/8/2007	9/8/2007	9/8/2007	9/8/2007	9/8/2007	9/8/2007	
Serial #:	**PR249946**	**PR252080**	**PR249927**	**PR252066**	**PR252114**	**PR252083**	
SITE 1 A	6880	6430	6720	6930	7120	6890	
DUP A	6810	6450	6800	6820	7110	6940	
B	6980	6400	6790	7000	6970	6770	
C	7520	6490	6700	6950	7470	7010	
D	6490	6400	6860	6990	6470	6420	
E	6970	6370	6930	7130	7110	6990	
F	7230	6620	6930	7120	7450	7040	
G	6350	6210	6950	6850	6670	6490	
H	6390	6020	6460	6420	6470	6380	
I	6630	6020	6560	6470	6720	6510	**MEAN**
MEAN	**6825**	**6341**	**6770**	**6868**	**6956**	**6744**	**6751**
STD DEV	**374.2**	**197.5**	**163.5**	**244.2**	**364.0**	**265.8**	**268.2**
AL	**7948**	**6933**	**7261**	**7601**	**8048**	**7542**	**7555**

APPENDIX E

SURVEY AREA GAMMA SPECTROSCOPY DATA
(Available on CD only)

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ORTEC Spectrum name: SMP HS 001 15 Min Colim@6Det@Pos

Sample description
smp hs 01 15 min array down Coli@6Det@Pos4 10_16_07

Acquisition information
Start time:	16-Oct-2007 13:42:17
Live time:	900
Real time:	908
Dead time:	0.92 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename:	SMPHS0~1.AN1

BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:	_____	
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 001 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2160

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.38	74.79	1300.	568.	0.631	29.75	1.217	BI-207	D
119.08	77.19	1207.	1057.	1.174	16.73	1.218	PB-214	D
134.33	87.04	1048.	534.	0.593	42.69	1.498	BI-207	s
319.26	206.88	822.	91.	0.101	191.63	1.420	U-237	
373.18	241.82	770.	1670.	1.855	10.18	1.321	PB-214	D
398.97	258.53	692.	184.	0.204	98.42	2.073	XE-138	s
423.49	274.42	623.	125.	0.139	129.88	1.495	SR-91	s
741.03	480.22	297.	150.	0.167	91.22	2.055	W-187	sM
787.70	510.60	382.	105.	0.116	84.51	1.509	TL-208	D
1025.87	664.95	107.	193.	0.214	31.38	1.629	PA-234	D
1084.07	702.60	145.	81.	0.090	114.22	1.922	NB-94	M
1143.01	740.82	108.	88.	0.098	99.04	1.644	MO-99	sM
1184.71	767.86	182.	461.	0.512	20.96	2.127	BI-214	s
1211.96	785.52	154.	122.	0.136	60.62	1.820	BI-212	s
1243.13	805.41	103.	141.	0.157	39.51	1.746	PA-234	D
1282.76	831.43	63.	34.	0.038	157.22	0.898	PA-234	sM
1440.11	933.47	162.	274.	0.305	30.70	1.947	BI-214	s
1781.47	1154.85	120.	153.	0.170	50.26	2.057	BI-214	s
1909.15	1237.68	93.	384.	0.426	20.61	2.224	J-133	
1975.33	1280.61	85.	121.	0.134	51.77	2.231	BI-214	s
2124.21	1377.14	51.	264.	0.293	21.79	2.297	BI-214	D
2135.96	1384.76	53.	55.	0.061	69.30	2.305	AG-110M	D
2160.91	1400.86	66.	91.	0.101	49.52	2.322	BI-214	D
2170.99	1407.40	65.	160.	0.178	31.97	2.330	BI-214	D

ORTEC Spectrum name: SMP HS 001 15 Min Colim@6Det@Pos

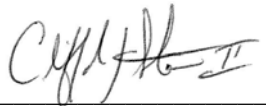
Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2327.60	1509.16	80.	140.	0.156	44.61	2.284	BI-214
2441.18	1582.86	49.	74.	0.082	69.57	1.947	- s
2667.24	1729.57	16.	179.	0.199	25.84	2.519	BI-214
2848.71	1847.36	21.	99.	0.110	42.15	2.132	BI-214
3398.33	2204.18	4.	207.	0.230	21.84	2.432	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

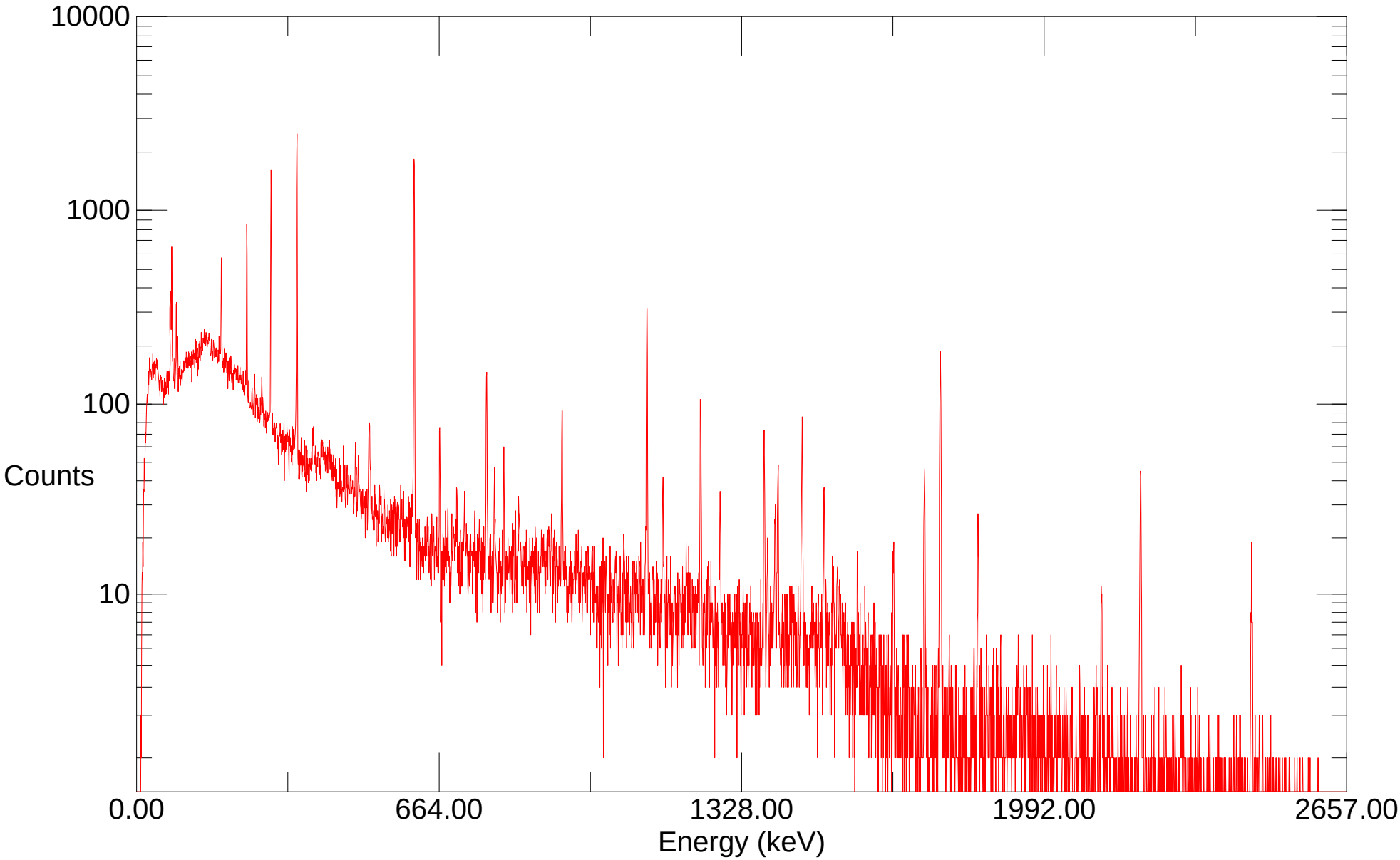
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.56	12.04	27.	5.	0.006	414.20	0.958
Pb-210	71.14	46.10	864.	26.	0.029	680.87	0.788
Th-234	97.12	62.94	550.	42.	0.047	316.79	0.822
Th-234	147.00	95.26	848.	56.	0.062	224.23	0.000s
Ra-226	287.24	186.13	1352.	934.	1.038	28.17	1.458
Pb-212	368.26	238.63	833.	93.	0.103	135.51	1.318D
Pb-214	455.57	295.21	614.	3607.	4.008	5.78	1.356D
Tl-210	459.88	298.00	1925.	34.	0.038	546.19	1.358D
Pb-212	463.10	300.09	445.	6.	0.007	1506.96	1.359D
Ac-228	519.33	336.53	418.	122.	0.135	121.55	2.592s
Pb-214	542.58	351.60	782.	6157.	6.841	4.53	1.524
Tl-208	788.26	510.84	414.	73.	0.081	123.21	1.509D
Tl-208	904.23	586.01	176.	21.	0.023	296.81	0.675s
Bi-214	939.38	608.80	304.	5214.	5.793	4.50	1.712
Cs-137	1020.86	661.62	95.	7.	0.007	627.06	1.626D
Bi-212	1123.00	727.84	33.	0.	0.000	2110.69	0.000s
Pa-234m	1182.48	766.41	145.	0.	0.000	0.00	2.125D
Tl-210	1233.83	799.70	71.	8.	0.009	451.84	1.741D
Tl-208	1331.40	862.97	142.	23.	0.026	276.39	0.719s
Ac-228	1404.41	910.31	120.	51.	0.057	113.30	2.171
Ac-228	1494.47	968.72	98.	28.	0.032	173.68	0.985s
Pa-234m	1542.19	999.66	103.	40.	0.045	135.37	2.826s
Bi-214	1727.29	1119.72	128.	1112.	1.236	10.79	2.133s
Tl-210	2017.00	1307.64	36.	4.	0.004	703.56	0.000s
K-40	2252.33	1460.32	70.	301.	0.334	23.29	1.965s
Bi-212	2494.76	1617.63	40.	27.	0.030	146.43	0.992s
Bi-214	2720.63	1764.22	24.	824.	0.915	11.13	2.695
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: 

Detector: #1 digiDart - HPGe gs\

smp hs 01 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 1:42:17 PM Real Time: 908.40 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 002 15 Min Colim@6Det@Pos

Sample description
smp hs 02 15 min array down Coli@6Det@Pos4 10_16_07

Acquisition information
Start time:	16-Oct-2007 14:19:24
Live time:	900
Real time:	908
Dead time:	0.84 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS0~2.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1899

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.54	74.90	507.	253.	0.281	42.23	1.217	BI-207	D
119.11	77.22	574.	377.	0.418	31.12	1.218	PB-214	D
133.31	86.39	600.	287.	0.319	65.17	1.827	BI-207	s
194.94	126.32	561.	93.	0.103	155.94	0.737	PA-234	s
373.08	241.69	527.	815.	0.906	15.91	1.321	PB-214	D
399.32	258.76	555.	142.	0.158	124.49	2.024	XE-138	s
787.72	510.51	263.	58.	0.064	126.02	1.509	J-133	D
1025.82	664.84	88.	84.	0.094	62.08	1.844	PA-234	
1085.22	703.35	74.	38.	0.042	119.00	1.009	RH-106M	M
1184.63	767.73	80.	212.	0.235	27.33	1.714	BI-214	D
1212.00	785.55	78.	80.	0.089	66.45	1.865	BI-212	sM
1243.08	805.62	73.	52.	0.058	80.92	1.746	PA-234	D
1440.32	933.60	84.	145.	0.161	42.65	1.709	BI-214	
1487.45	963.63	45.	36.	0.040	92.99	1.887	EU-152	D
1781.35	1154.78	52.	78.	0.087	59.91	2.701	BI-214	sM
1909.26	1237.75	72.	227.	0.252	29.28	2.155	J-133	M
1974.97	1280.37	48.	74.	0.082	63.20	2.112	BI-214	M
2124.89	1377.64	15.	168.	0.186	26.26	2.538	BI-214	s
2161.22	1401.15	36.	45.	0.050	72.90	2.323	BI-214	D
2171.23	1407.65	31.	83.	0.092	43.75	2.330	BI-214	D
2326.94	1508.73	33.	77.	0.086	52.94	2.393	BI-214	
2666.82	1729.30	12.	77.	0.086	41.82	1.738	BI-214	s
3398.12	2204.04	3.	137.	0.152	26.85	2.703	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

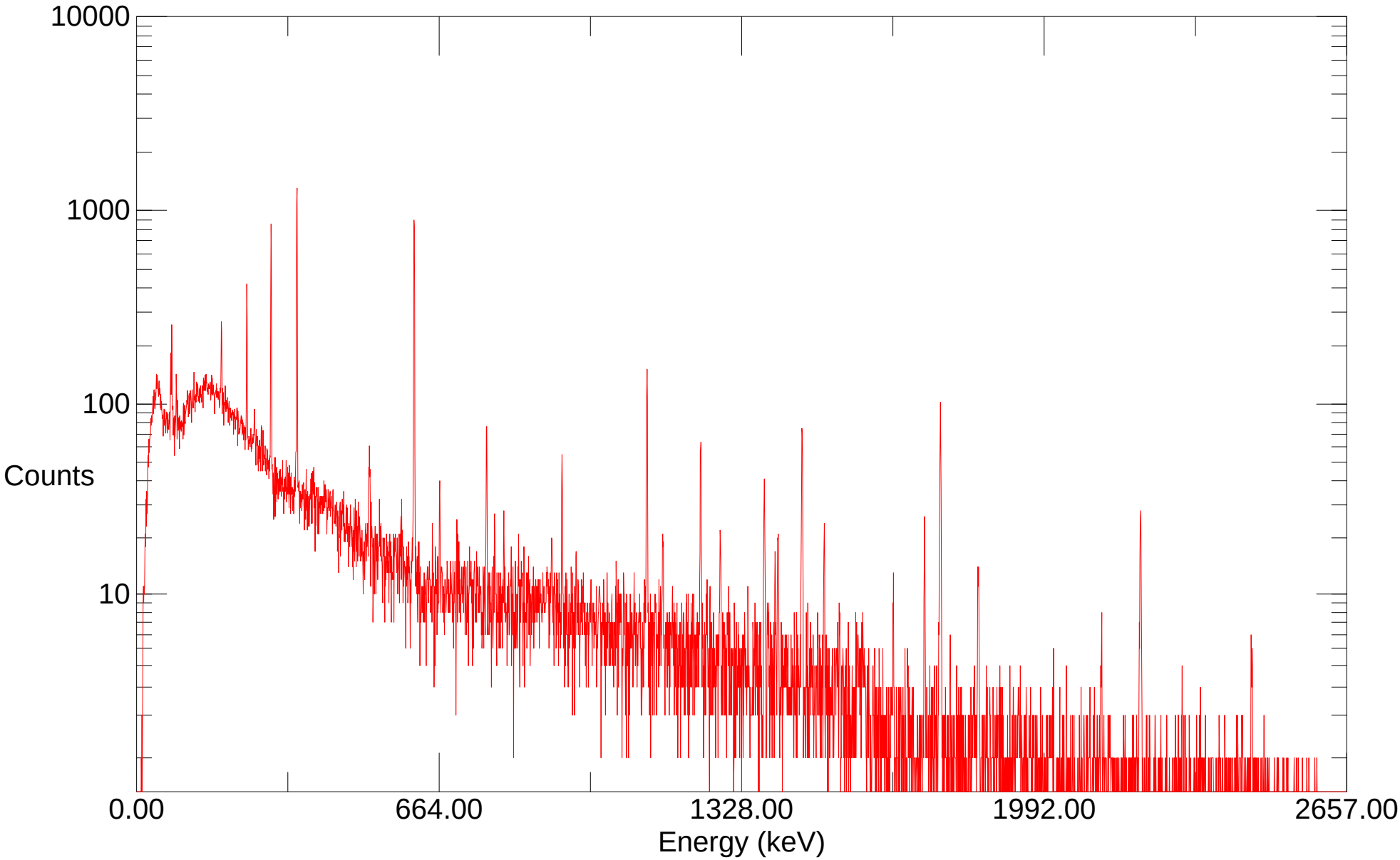
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.47	10.69	2.	1.	0.001	670.82	0.477s
Pb-210	70.39	45.62	808.	74.	0.082	248.67	1.792s
Th-234	96.15	62.31	372.	38.	0.042	292.98	1.317
Th-234	143.07	92.71	330.	30.	0.033	344.24	0.917
Ra-226	286.91	185.91	846.	528.	0.587	40.90	1.771s
Pb-212	368.26	238.63	328.	32.	0.036	244.09	1.319D
Pb-214	455.57	295.21	314.	1930.	2.144	7.86	1.356D
Tl-210	459.88	298.00	990.	54.	0.060	251.51	1.358D
Pb-212	463.10	300.09	208.	29.	0.033	215.53	1.359D
Ac-228	524.52	339.89	220.	50.	0.056	203.47	0.925s
Pb-214	542.57	351.59	470.	3157.	3.508	6.42	1.511
Tl-208	788.26	510.84	270.	51.	0.057	142.01	1.509D
Tl-208	900.00	583.27	104.	0.	0.000	0.00	0.000s
Bi-214	939.34	608.77	208.	2636.	2.929	6.57	1.799
Cs-137	1020.91	661.65	53.	0.	0.000	3088.69	1.626
Bi-212	1119.88	725.82	59.	13.	0.015	275.77	0.900s
Pa-234m	1182.48	766.41	270.	6.	0.007	1141.10	1.713D
Tl-210	1233.83	799.70	41.	2.	0.002	1782.13	1.741D
Tl-208	1326.92	860.06	54.	61.	0.068	103.04	1.589s
Ac-228	1405.15	910.79	105.	68.	0.076	92.07	2.636s
Ac-228	1495.08	969.11	64.	16.	0.018	220.06	1.892D
Pa-234m	1545.51	1001.82	64.	11.	0.012	384.35	1.564
Bi-214	1727.47	1119.83	93.	543.	0.603	16.15	2.346
Tl-210	2019.00	1308.94	4.	2.	0.002	424.26	0.292s
K-40	2252.27	1460.28	35.	301.	0.334	20.51	2.302
Bi-212	2496.12	1618.52	13.	26.	0.029	101.33	1.355s
Bi-214	2720.61	1764.21	12.	424.	0.471	15.51	2.430
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____

SMP HS 002 15 Min Colim@6Det@Pos1

smp hs 02 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 2:19:24 PM Real Time: 907.58 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 003 15 Min Colim@6Det@Pos

Sample description
SMP HS 003 down Coli@6Det@Pos4 10_17_07

Acquisition information
Start time:	17-Oct-2007 15:29:35
Live time:	900
Real time:	926
Dead time:	2.86 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS0~3.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1533

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.40	74.82	1064.	561.	0.624	27.71	1.217	BI-207	D
119.04	77.17	949.	884.	0.983	17.89	1.218	PB-214	D
134.63	87.70	924.	432.	0.480	33.15	1.224	PB-214	D
177.99	115.33	828.	74.	0.082	235.90	0.858	PA-234	
222.37	144.09	646.	102.	0.113	132.84	1.074	U-235	
373.30	241.74	665.	1367.	1.518	11.40	1.321	PB-214	D
399.66	258.97	869.	215.	0.239	106.85	1.851	XE-138	s
424.07	274.79	688.	148.	0.165	126.73	1.115	SR-91	s
788.26	510.84	264.	246.	0.273	55.81	2.422	TL-208	sM
1026.14	665.12	116.	162.	0.181	36.63	1.629	BI-214	D
1084.18	702.67	88.	74.	0.082	91.91	1.612	NB-94	
1109.61	719.16	68.	72.	0.080	84.57	2.396	SB-126	s
1185.02	767.99	111.	417.	0.463	18.21	1.714	BI-214	D
1212.24	785.71	154.	101.	0.112	71.93	2.173	PB-214	s
1243.00	805.70	86.	113.	0.125	44.94	1.746	PA-234	D
1293.61	838.47	115.	50.	0.056	113.31	2.169	J-135	sM
1344.83	871.68	86.	32.	0.036	144.85	0.838	CS-138	s
1440.42	933.67	110.	235.	0.261	30.34	1.589	BI-214	s
1780.92	1154.50	106.	119.	0.132	53.85	1.643	BI-214	s
1909.36	1237.81	108.	365.	0.406	22.91	1.774	BI-214	
1976.47	1281.35	54.	71.	0.079	64.50	2.781	BI-214	s
2124.65	1377.48	47.	203.	0.226	27.95	2.713	BI-214	
2161.47	1401.39	39.	69.	0.076	52.96	2.323	BI-214	D
2171.84	1408.12	43.	128.	0.143	34.13	2.330	EU-152	D

ORTEC Spectrum name: SMP HS 003 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2327.42	1509.05	45.	159.	0.177	34.74	2.496	BI-214	s
2563.33	1662.13	20.	45.	0.050	73.12	1.525	BI-214	s
2667.55	1729.77	13.	152.	0.169	28.20	2.580	BI-214	
2848.72	1847.36	7.	99.	0.110	33.52	2.277	BI-214	
3399.06	2204.65	4.	173.	0.192	23.99	2.972	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

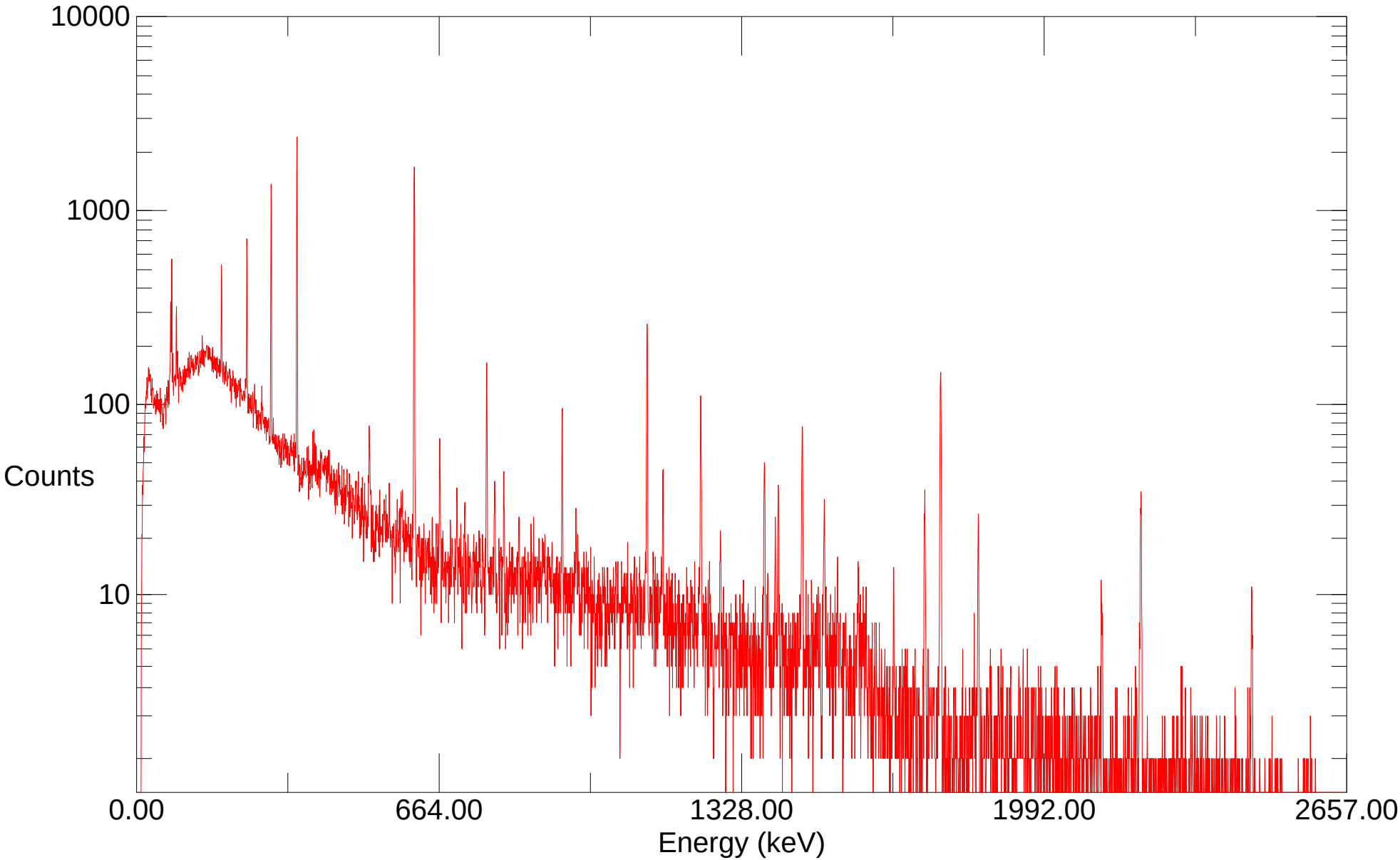
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.77	12.18	48.	10.	0.011	310.35	0.903
Pb-210	71.80	46.53	465.	35.	0.039	349.49	0.665
Th-234	95.96	62.19	676.	116.	0.129	152.91	2.312s
Th-234	143.21	92.80	972.	7.	0.008	1869.16	1.227D
Ra-226	287.41	186.23	1112.	866.	0.962	27.77	1.373
Pb-212	368.26	238.63	763.	81.	0.090	149.00	1.319D
Pb-214	455.57	295.21	434.	3106.	3.451	6.09	1.356D
Tl-210	459.88	298.00	1818.	3.	0.004	5638.23	1.358D
Pb-212	463.10	300.09	503.	44.	0.049	218.82	1.359D
Ac-228	521.25	337.77	357.	53.	0.059	230.59	0.795s
Pb-214	542.77	351.72	518.	5093.	5.659	4.74	1.346
Tl-208	788.26	510.84	308.	0.	0.000	45.56	2.257D
Tl-208	899.54	582.97	158.	22.	0.025	360.56	0.772s
Bi-214	939.67	608.99	245.	4346.	4.829	4.96	1.564
Cs-137	1020.86	661.62	106.	28.	0.031	168.00	1.626D
Bi-212	1121.33	726.76	81.	43.	0.048	154.20	1.704s
Pa-234m	1182.48	766.41	461.	19.	0.021	497.20	1.713D
Tl-210	1233.83	799.70	72.	41.	0.046	98.63	1.741D
Tl-208	1326.13	859.55	42.	23.	0.026	180.26	0.861s
Ac-228	1407.94	912.60	104.	40.	0.044	140.71	1.786s
Ac-228	1494.72	968.88	103.	26.	0.029	202.86	1.022s
Pa-234m	1546.81	1002.66	82.	33.	0.036	157.30	0.988s
Bi-214	1727.72	1119.99	112.	896.	0.996	12.10	2.120
Tl-210	2020.00	1309.59	17.	0.	0.000	0.00	0.000s
K-40	2252.85	1460.66	67.	305.	0.339	23.04	2.474
Bi-212	2498.13	1619.82	12.	13.	0.015	150.00	0.937s
Bi-214	2721.23	1764.61	19.	650.	0.722	12.46	2.755
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____

SMP HS 003 15 Min Colim@6Det@Pos4

SMP HS 003 down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 3:29:35 PM Real Time: 926.46 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 004 01_11_08.An1

Sample description
SMP HS 004 01_11_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 004 01_11_08.An1

Acquisition information
Start time: 11-Jan-2008 15:34:55
Live time: 900
Real time: 904
Dead time: 0.48 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 004 01_11_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 004 01_11_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1701

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
18.50	11.53	271.	91.	0.101	83.12	1.181	PB-214	D
117.97	76.45	550.	512.	0.569	37.46	1.168	PB-214	s
134.73	87.30	290.	127.	0.141	62.82	1.224	PB-214	D
373.44	241.99	240.	422.	0.469	30.68	1.466	PB-214	s
788.85	511.16	136.	51.	0.057	105.24	1.509	TL-208	D
1027.01	664.92	63.	46.	0.052	84.79	1.630	PA-234	D
1185.31	768.29	42.	105.	0.117	39.18	1.714	BI-214	D
1440.77	933.89	28.	72.	0.079	50.13	1.765	BI-214	
1783.23	1156.00	37.	31.	0.035	108.79	1.048	BI-214	s
1910.21	1238.37	52.	112.	0.125	45.90	2.232	CO-56	
1974.46	1280.05	24.	35.	0.039	89.73	1.755	BI-214	s
2125.11	1377.78	18.	65.	0.072	50.10	1.588	BI-214	
2172.77	1408.70	15.	47.	0.052	63.67	2.752	EU-152	
2667.86	1729.97	3.	33.	0.037	59.09	1.822	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

ORTEC Spectrum name: SMP HS 004 01_11_08.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

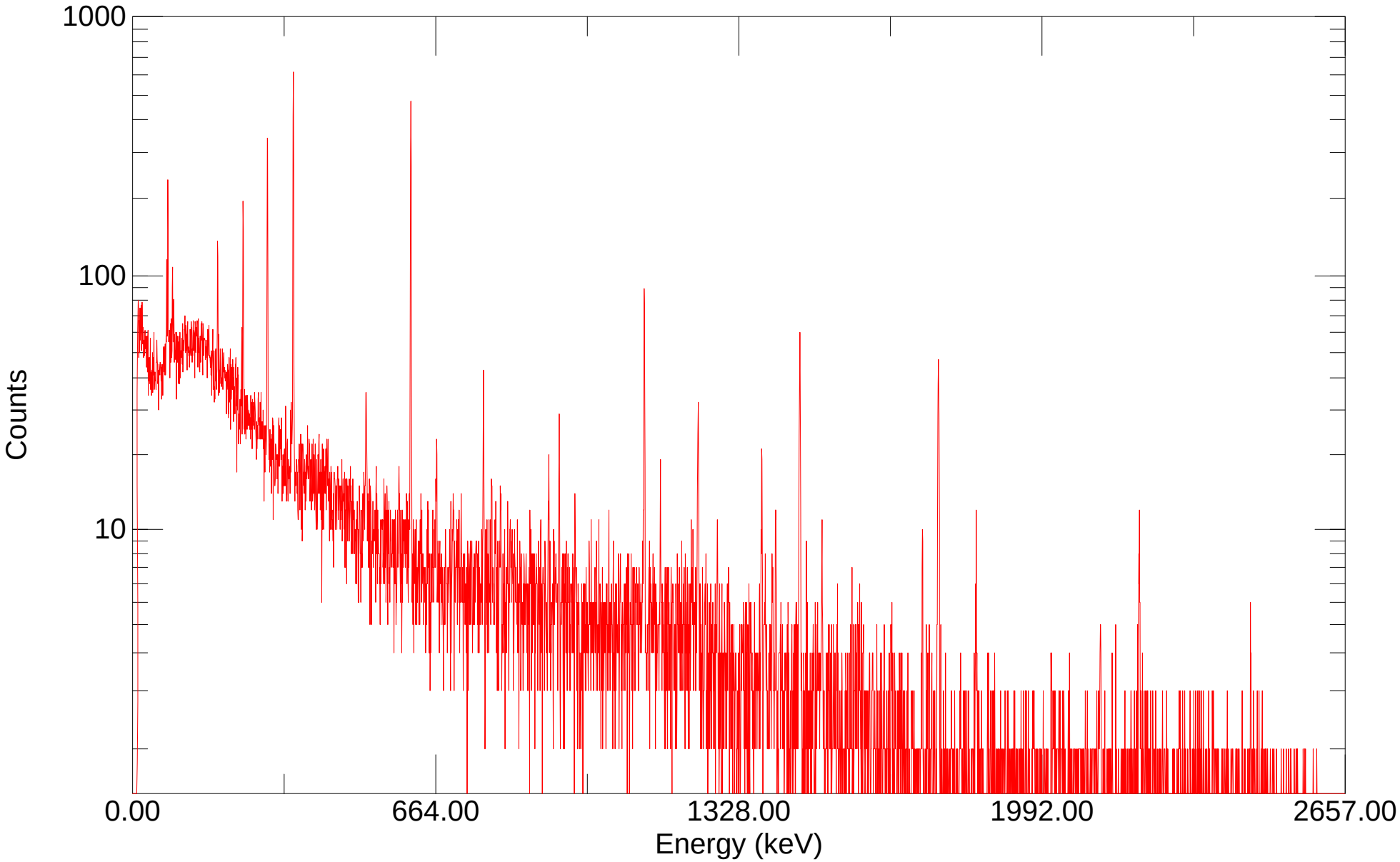
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	233.	52.	0.058	130.42	1.180D
Pb-210	70.87	45.93	213.	53.	0.059	170.28	0.892s
Th-234	97.00	62.86	108.	8.	0.009	625.25	0.648
Th-234	143.21	92.80	302.	14.	0.015	543.51	1.228D
Ra-226	287.24	186.13	280.	245.	0.272	49.66	1.430s
Pb-212	368.26	238.63	161.	0.	0.000	0.00	1.067D
Pb-214	455.57	295.21	136.	842.	0.936	11.88	1.356D
Tl-210	459.88	298.00	546.	22.	0.024	455.63	1.358D
Pb-212	463.10	300.09	152.	17.	0.019	318.74	1.359D
Ac-228	522.71	338.72	78.	24.	0.027	229.13	1.512
Pb-214	542.84	351.77	213.	1327.	1.475	9.93	1.375
Tl-208	788.26	510.84	152.	29.	0.033	186.96	1.509D
Tl-208	900.39	583.53	56.	33.	0.037	116.30	1.461
Bi-214	939.81	609.08	107.	1184.	1.315	9.95	1.574
Cs-137	1020.86	661.62	51.	14.	0.015	234.80	1.627D
Bi-212	1119.64	725.66	42.	8.	0.009	398.63	0.579s
Pa-234m	1182.48	766.41	134.	7.	0.007	747.22	1.713D
Tl-210	1232.92	799.11	23.	8.	0.009	275.57	1.090
Tl-208	1321.90	856.81	50.	18.	0.020	216.02	1.129
Ac-228	1405.89	911.27	42.	57.	0.063	73.87	1.225
Ac-228	1495.82	969.59	34.	30.	0.033	114.89	1.373s
Pa-234m	1543.19	1000.31	32.	14.	0.016	208.02	1.146s
Bi-214	1728.19	1120.30	51.	290.	0.323	22.55	1.945
Tl-210	2019.00	1308.94	4.	1.	0.001	793.73	0.260s
K-40	2253.80	1461.28	18.	232.	0.258	22.55	2.159
Bi-212	2498.70	1620.19	4.	12.	0.014	115.95	3.144s
Bi-214	2721.87	1765.03	0.	219.	0.243	20.27	3.022
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____

SMP HS 004 01_11_08

SMP HS 004 01_11_08



Acquired: 1/11/2008 3:34:55 PM Real Time: 904.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 05 15 Min Colim@6Det@Pos1

Sample description
smp hs 05 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 05 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Oct-2007 15:59:42
Live time: 900
Real time: 941
Dead time: 4.33 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM714C~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 05 15 Min Colim@6Det@Pos1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1925

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
39.83	25.82	7538.	406.	0.452	151.00	2.397	CD-109	s
115.33	74.77	7940.	2080.	2.311	19.33	1.217	BI-207	D
119.03	77.17	7059.	3429.	3.810	11.59	1.218	PB-214	D
134.59	87.20	6177.	1742.	1.936	20.45	1.224	BI-207	D
138.92	90.01	6291.	579.	0.643	59.45	1.226	PB-214	D
240.06	155.55	7435.	350.	0.389	105.64	1.266	TA-182	D
244.22	158.24	9069.	325.	0.362	125.26	1.267	BA-140	D
302.41	195.96	11552.	558.	0.621	135.99	0.958	KR-88	sM
373.13	241.78	12292.	10026.	11.141	9.57	1.483	PB-214	
399.08	258.60	8965.	919.	1.021	79.42	1.617	XE-138	s
423.24	274.26	7475.	844.	0.938	75.98	1.733	SR-91	s
433.68	281.02	4928.	246.	0.273	182.61	1.046	SE-75	s
565.06	366.17	1808.	164.	0.183	146.93	1.192	MO-99	M
596.22	386.35	2717.	474.	0.527	48.65	1.418	-	D
599.81	388.68	3315.	510.	0.567	49.70	1.420	RH-106M	D
626.14	405.76	2604.	298.	0.331	110.35	1.537	J-134	M
701.55	454.63	2349.	374.	0.416	92.48	2.584	TE-131	sM
712.02	461.42	2490.	314.	0.349	118.00	2.155	CS-138	sM
740.50	480.09	1790.	267.	0.297	69.69	1.486	W-187	D
750.89	486.82	1743.	399.	0.444	46.83	1.491	LA-140	D
787.82	510.61	2434.	492.	0.547	44.63	1.509	TL-208	D
894.17	579.49	1043.	273.	0.303	77.44	1.644	KR-89	s
1001.42	649.02	819.	144.	0.160	142.04	1.688	J-132	s
1026.03	665.02	870.	953.	1.059	16.34	1.629	PA-234	D

ORTEC Spectrum name: SMP HS 05 15 Min Colim@6Det@Pos1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1065.15	690.34	462.	56.	0.063	217.33	0.948	-	sM
1084.25	702.72	1116.	435.	0.483	62.63	2.225	NB-94	sM
1109.93	719.37	1018.	316.	0.351	79.15	2.104	SB-126	sM
1184.73	767.87	1370.	3134.	3.482	8.52	1.945	BI-214	
1211.86	785.46	974.	642.	0.713	27.27	1.871	BI-212	M
1243.05	805.50	795.	789.	0.877	18.53	1.746	PA-234	D
1265.78	820.42	858.	190.	0.211	119.91	1.557	PA-234	M
1293.87	838.63	891.	417.	0.463	56.69	1.761	J-135	M
1357.44	879.85	634.	148.	0.165	121.85	1.483	CE-143	s
1371.37	888.89	662.	140.	0.155	132.18	1.251	SC-46	s
1440.40	933.65	1157.	1765.	1.961	13.18	1.992	BI-214	
1464.61	949.35	318.	114.	0.127	97.97	1.843	PA-234	
1486.52	963.51	548.	238.	0.264	46.09	1.886	EU-152	D
1604.88	1040.32	454.	54.	0.061	189.95	1.649	J-134	s
1622.03	1051.44	546.	201.	0.223	62.52	2.769	CS-136	s
1648.98	1068.92	537.	202.	0.224	61.71	1.324	-	s
1748.71	1133.61	539.	124.	0.138	98.31	1.591	J-135	M
1781.10	1154.62	799.	800.	0.889	23.31	2.041	BI-214	sM
1862.57	1207.46	424.	287.	0.319	41.27	2.443	-	sM
1909.09	1237.64	586.	2760.	3.066	7.69	2.353	J-133	M
1975.22	1280.54	536.	653.	0.726	23.51	2.119	BI-214	M
2124.45	1377.30	340.	1707.	1.896	8.59	2.297	BI-214	D
2136.71	1385.25	369.	344.	0.382	28.67	2.306	AG-110M	D
2161.12	1401.08	345.	614.	0.682	17.63	2.323	BI-214	D
2171.17	1407.60	380.	1035.	1.150	12.28	2.330	BI-214	D
2327.24	1508.80	434.	872.	0.969	14.36	2.441	BI-214	D
2337.68	1515.58	416.	68.	0.075	132.97	2.448	KR-88	D
2372.76	1538.59	486.	164.	0.182	61.66	2.474	RB-89	D
2379.84	1543.19	425.	131.	0.145	71.99	2.479	-	D
2442.43	1583.67	312.	357.	0.397	36.79	2.644	AC-228	s
2561.52	1660.96	246.	471.	0.524	25.60	2.756	BI-214	s
2611.32	1693.28	174.	137.	0.152	64.39	1.861	KR-89	s
2667.01	1729.42	142.	1092.	1.214	11.11	2.689	BI-214	
2834.32	1838.04	105.	132.	0.146	42.17	2.829	RH-106M	D
2848.67	1847.35	97.	717.	0.797	12.62	2.840	BI-214	D
3053.23	1980.12	33.	22.	0.025	129.62	1.029	-	s
3266.50	2118.58	45.	366.	0.406	19.06	2.925	BI-214	
3398.07	2204.01	28.	1482.	1.647	8.15	2.923	BI-214	
3773.52	2447.84	8.	435.	0.484	14.98	3.090	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 05 15 Min Colim@6Det@Pos1

********** I D E N T I F I E D P E A K S U M M A R Y **********

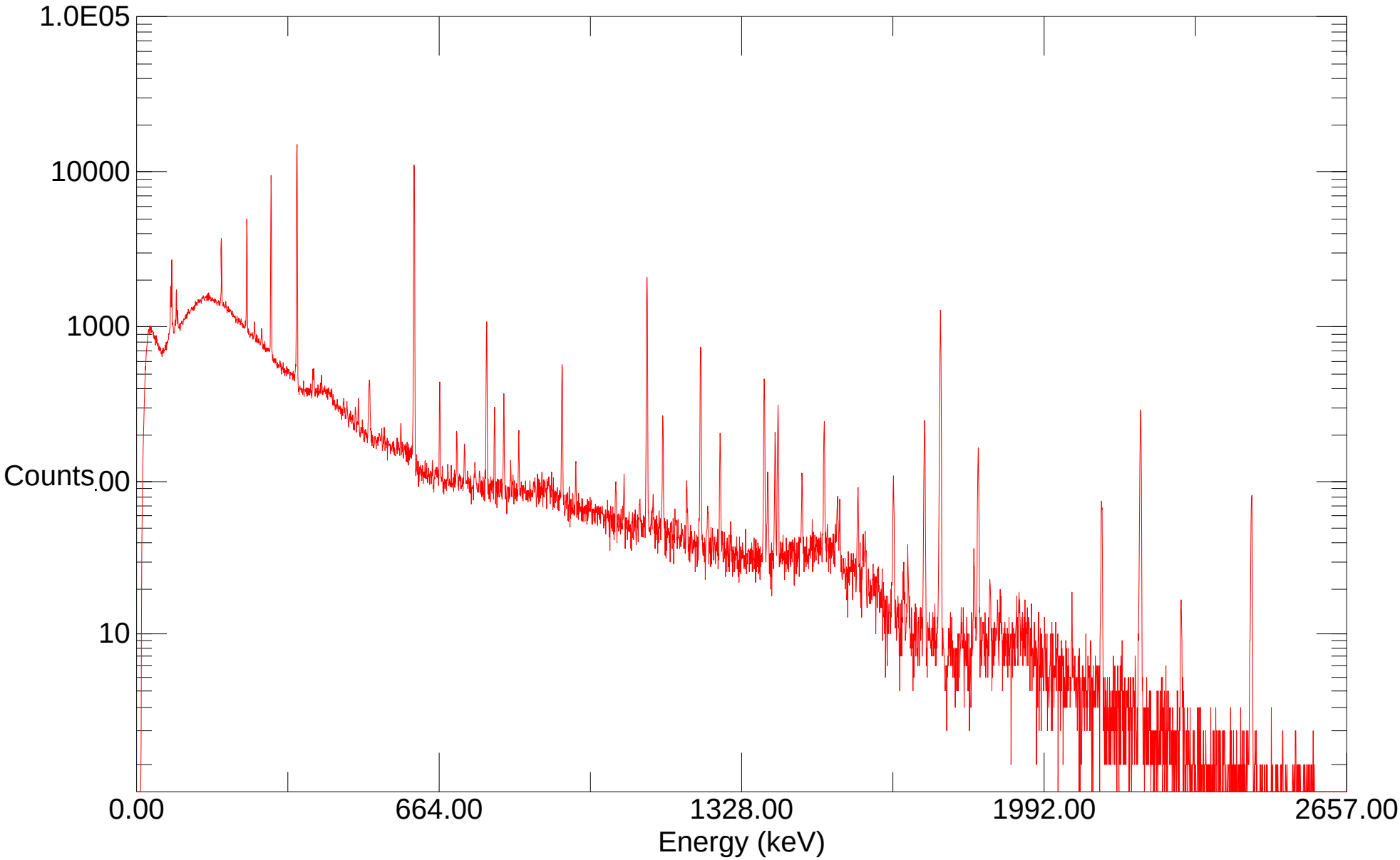
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	117.	20.	0.022	331.36	0.000s
Pb-210	72.98	47.30	3672.	98.	0.108	350.16	0.994
Th-234	100.00	64.80	5757.	136.	0.151	257.59	0.000s
Th-234	143.21	92.80	7102.	0.	0.000	35754.16	1.228D
Ra-226	287.05	186.01	13985.	5408.	6.009	16.58	1.414s
Pb-212	368.26	238.63	6000.	0.	0.000	0.00	0.602D
Pb-214	455.57	295.21	5183.	21018.	23.353	2.53	1.356D
Tl-210	459.88	298.00	12756.	65.	0.073	733.35	1.358D
Pb-212	463.10	300.09	5049.	0.	0.000	30145.54	1.359D
Ac-228	521.59	338.00	3824.	138.	0.153	301.68	0.907s
Pb-214	542.63	351.63	5982.	38041.	42.268	1.88	1.577
Tl-208	788.26	510.84	2517.	409.	0.454	54.17	1.509D
Tl-208	899.80	583.14	1018.	0.	0.000	0.00	1.375D
Bi-214	939.41	608.82	2050.	33378.	37.087	1.81	1.791
Cs-137	1020.86	661.62	822.	12.	0.013	1006.97	1.626D
Bi-212	1123.78	728.35	528.	50.	0.056	278.98	1.731
Pa-234m	1182.48	766.41	2403.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	758.	45.	0.050	264.69	1.741D
Tl-208	1319.02	854.94	884.	22.	0.025	675.13	0.436s
Ac-228	1404.58	910.42	690.	183.	0.203	107.79	1.499s
Ac-228	1495.08	969.11	459.	16.	0.018	568.37	1.891D
Pa-234m	1543.00	1000.19	538.	12.	0.014	884.67	0.000s
Bi-214	1727.44	1119.81	856.	7422.	8.247	4.18	2.188
Tl-210	2020.34	1309.81	204.	16.	0.018	405.58	0.720s
K-40	2251.83	1460.00	567.	334.	0.371	44.92	2.084s
Bi-212	2493.54	1616.84	270.	41.	0.046	229.76	1.091s
Bi-214	2720.71	1764.28	212.	5456.	6.063	4.31	2.546
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____

SMP HS 05 15 Min Colim@6Det@Pos1

smp hs 05 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 3:59:42 PM Real Time: 940.70 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 006 15 Min Colim@6Det@Pos

Sample description
smp hs 06 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 006 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Oct-2007 14:56:23
Live time: 900
Real time: 914
Dead time: 1.51 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMC1A4~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 006 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1965

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.38	74.80	2913.	1748.	1.943	14.93	1.217	BI-207	D
119.03	77.17	2617.	2595.	2.883	10.23	1.218	PB-214	D
134.48	86.90	1851.	1067.	1.186	19.41	1.224	BI-207	D
139.16	89.94	2520.	374.	0.416	58.96	1.226	PB-214	D
373.19	241.81	1489.	3469.	3.855	6.94	1.321	PB-214	D
399.11	258.62	1236.	210.	0.234	108.26	1.362	XE-138	
423.64	274.52	1296.	365.	0.406	71.15	1.956	SR-91	s
597.92	387.47	925.	244.	0.271	93.59	3.190	RH-106M	sM
712.67	461.84	495.	161.	0.179	104.26	2.471	CS-138	sM
741.22	480.41	440.	78.	0.087	119.22	1.486	W-187	D
750.98	486.74	403.	184.	0.205	51.25	1.491	LA-140	D
787.58	510.43	573.	140.	0.155	76.93	1.509	J-133	D
822.23	532.86	262.	84.	0.093	127.77	0.843	-	sM
894.44	579.44	279.	150.	0.167	53.07	1.561	KR-89	D
907.51	587.92	220.	43.	0.048	153.45	1.568	KR-89	D
1026.08	664.85	194.	376.	0.418	22.07	1.629	PA-234	D
1083.92	702.51	220.	118.	0.132	92.37	2.846	NB-94	sM
1109.28	718.95	245.	88.	0.098	134.56	1.756	SB-126	sM
1184.57	767.76	310.	1036.	1.151	12.84	1.944	BI-214	s
1211.94	785.51	316.	199.	0.221	52.32	1.907	BI-212	s
1243.13	805.49	215.	258.	0.287	30.43	1.746	PA-234	D
1293.76	838.56	273.	131.	0.145	67.31	1.405	J-135	M
1440.07	933.44	355.	595.	0.661	21.94	2.012	BI-214	
1622.38	1051.67	138.	70.	0.077	90.18	1.442	-	

ORTEC Spectrum name: SMP HS 006 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1684.23	1091.78	107.	42.	0.047	120.93	1.674	EU-152	
1747.89	1133.08	135.	72.	0.080	84.32	1.238	J-135	s
1780.86	1154.46	185.	286.	0.318	32.05	1.907	BI-214	s
1909.10	1237.65	215.	880.	0.977	14.38	2.193	J-133	
1975.54	1280.74	156.	223.	0.248	39.15	2.155	BI-214	s
2124.34	1377.16	125.	479.	0.532	16.91	2.297	BI-214	D
2137.03	1385.39	119.	108.	0.121	51.41	2.306	AG-110M	D
2160.81	1400.88	130.	178.	0.197	35.33	2.322	BI-214	D
2171.13	1407.58	133.	295.	0.328	24.09	2.330	BI-214	D
2327.04	1508.80	146.	269.	0.299	27.70	2.634	BI-214	
2370.80	1537.19	134.	59.	0.065	112.51	1.680	RB-89	
2441.23	1582.89	104.	104.	0.116	63.55	2.155	-	
2561.70	1661.08	73.	142.	0.157	45.39	1.743	BI-214	s
2666.95	1729.38	52.	366.	0.407	20.10	2.297	BI-214	
2848.31	1847.09	15.	205.	0.228	23.29	2.603	BI-214	
3266.31	2118.46	10.	102.	0.114	34.89	2.752	BI-214	
3397.90	2203.90	4.	428.	0.476	14.81	2.961	BI-214	
3773.21	2447.63	0.	112.	0.124	28.35	2.908	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

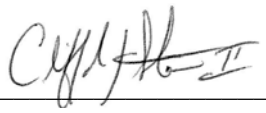
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	18.	4.	0.004	511.30	0.000s
Pb-210	72.16	46.77	1687.	176.	0.196	150.23	2.979s
Th-234	98.78	64.01	1200.	36.	0.040	542.37	0.878
Th-234	143.21	92.80	1928.	9.	0.010	1984.01	1.228D
Ra-226	287.19	186.10	2601.	2094.	2.327	18.35	1.292s
Pb-212	368.26	238.63	1362.	69.	0.077	228.25	1.318D
Pb-214	455.57	295.21	999.	7499.	8.332	3.90	1.356D
Tl-210	459.88	298.00	3939.	67.	0.074	400.03	1.358D
Pb-212	463.10	300.09	795.	46.	0.051	266.36	1.359D
Ac-228	522.06	338.30	914.	116.	0.128	186.21	0.945s
Pb-214	542.58	351.60	1294.	12980.	14.423	3.02	1.534
Tl-208	788.26	510.84	616.	97.	0.107	113.15	1.509D
Tl-208	899.80	583.14	266.	0.	0.000	0.00	0.676D
Bi-214	939.39	608.80	539.	10705.	11.894	3.13	1.723
Cs-137	1020.86	661.62	228.	38.	0.042	177.89	1.626D
Bi-212	1126.11	729.86	222.	8.	0.009	889.79	0.506s
Pa-234m	1182.48	766.41	843.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	151.	18.	0.020	302.78	1.741D
Tl-208	1324.88	858.74	255.	25.	0.028	325.85	0.944s
Ac-228	1404.06	910.09	245.	62.	0.069	189.39	2.097s
Ac-228	1495.28	969.24	116.	42.	0.046	171.26	1.432

ORTEC Spectrum name: SMP HS 006 15 Min Colim@6Det@Pos

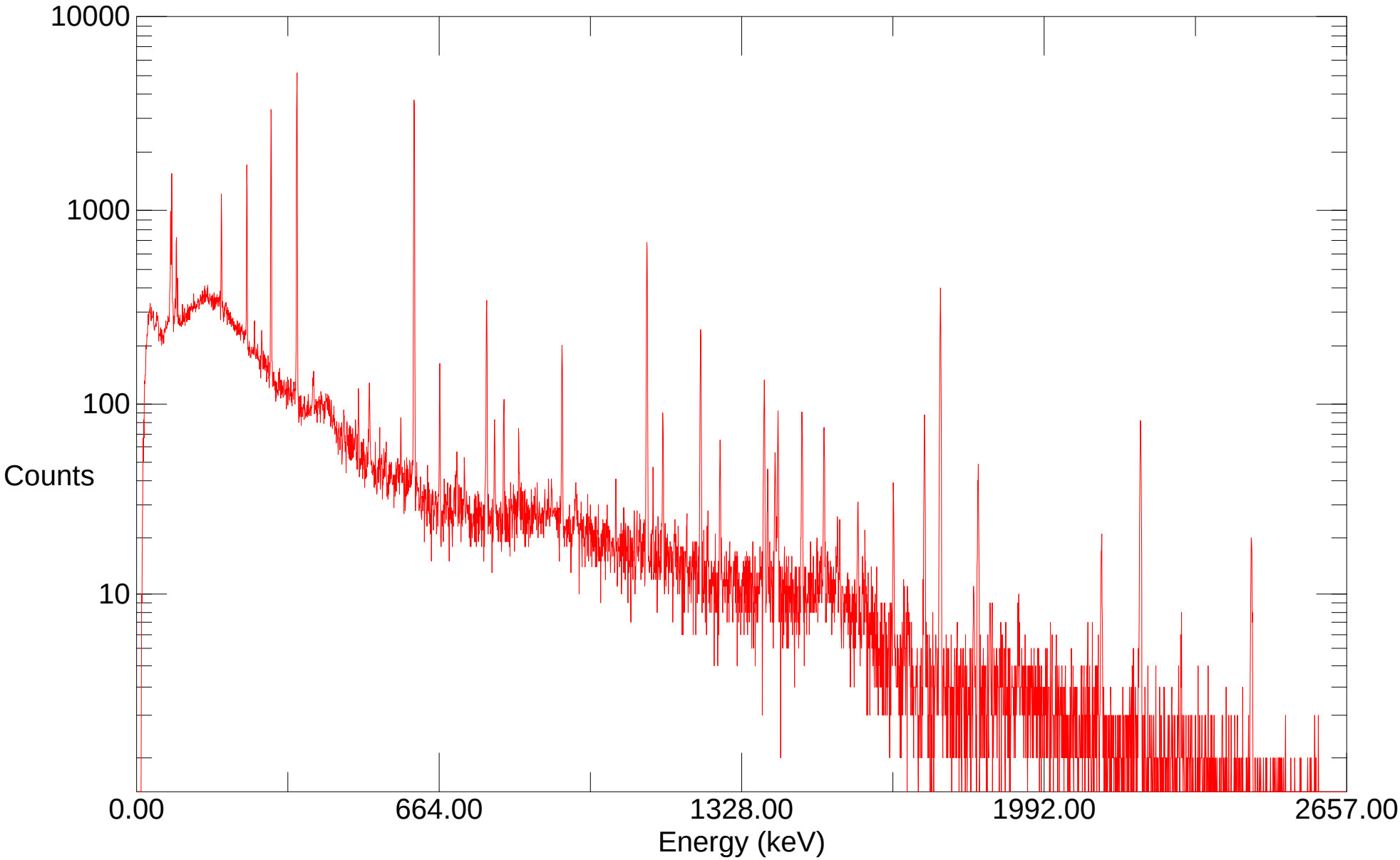
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pa-234m	1541.49	999.21	128.	6.	0.006	891.74	0.496s
Bi-214	1727.36	1119.76	235.	2278.	2.531	7.38	1.976
Tl-210	2023.64	1311.95	114.	34.	0.038	171.09	1.751s
K-40	2252.28	1460.29	120.	349.	0.388	23.84	2.458
Bi-212	2504.61	1624.03	56.	17.	0.019	240.03	0.604s
Bi-214	2720.59	1764.20	41.	1653.	1.836	7.75	2.501
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: 

SMP HS 006 15 Min Colim@6Det@Pos1

smp hs 06 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 2:56:23 PM Real Time: 913.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 007 15 Min Colim@6Det@Pos

Sample description
SMP HS 007 array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 007 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 17-Oct-2007 10:53:51
Live time: 900
Real time: 928
Dead time: 2.99 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM81A4~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 007 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2364

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.41	74.83	3903.	779.	0.866	35.66	1.217	BI-207	D
118.98	77.14	3473.	991.	1.102	26.96	1.218	PB-214	D
134.61	87.23	3615.	464.	0.516	78.99	1.421	BI-207	
174.62	113.15	4251.	387.	0.430	102.23	2.467	LU-177	s
361.80	234.43	3513.	182.	0.202	140.17	1.316	J-134	D
373.15	241.78	3899.	5647.	6.274	6.16	1.321	PB-214	D
399.04	258.57	4437.	631.	0.701	75.22	1.552	XE-138	s
423.87	274.67	4535.	484.	0.538	103.15	2.258	SR-91	s
552.14	358.09	1743.	150.	0.167	120.66	1.398	KR-89	D
572.58	371.04	1221.	237.	0.263	90.58	2.317	PA-234	sM
598.12	387.60	1992.	456.	0.507	67.14	1.413	-	sM
616.83	399.72	1645.	134.	0.149	194.36	1.251	SE-75	M
701.35	454.50	1580.	393.	0.437	75.85	1.095	TE-131	sM
712.62	461.81	1510.	306.	0.340	94.88	2.139	CS-138	sM
740.40	479.82	1192.	346.	0.385	71.95	1.069	W-187	sM
751.20	486.82	1573.	281.	0.312	109.43	2.132	LA-140	sM
787.74	510.71	1392.	674.	0.748	26.19	1.509	TL-208	D
821.99	532.70	908.	150.	0.167	136.97	1.035	ND-147	M
894.14	579.25	898.	202.	0.224	66.42	1.561	KR-89	D
905.03	586.31	723.	73.	0.081	159.71	1.567	KR-89	D
1014.35	657.51	496.	113.	0.125	88.35	1.623	RB-89	D
1025.93	665.02	524.	761.	0.845	16.77	1.629	PA-234	D
1084.68	703.00	630.	294.	0.327	65.13	1.276	RH-106M	s
1109.46	719.65	593.	166.	0.185	66.40	1.673	SB-126	D

ORTEC Spectrum name: SMP HS 007 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1145.77	742.61	704.	126.	0.140	163.26	0.944	PA-234	sM
1184.67	767.83	868.	2025.	2.250	10.39	1.628	BI-214	
1211.68	785.34	674.	464.	0.516	32.24	1.998	BI-212	s
1243.05	805.68	520.	534.	0.593	22.29	1.746	PA-234	D
1265.22	819.94	570.	134.	0.149	79.98	1.758	PA-234	D
1274.76	826.12	503.	121.	0.134	83.37	1.764	PA-234	D
1294.28	838.90	588.	292.	0.324	66.03	1.945	J-135	sM
1440.05	933.43	876.	1148.	1.275	17.54	1.842	BI-214	
1486.44	963.36	462.	152.	0.169	64.73	1.886	EU-152	D
1622.20	1051.55	442.	161.	0.179	73.61	2.319	CS-136	s
1649.18	1069.05	380.	158.	0.176	66.48	1.586	-	s
1747.99	1133.14	350.	98.	0.109	101.24	2.181	J-135	
1781.19	1154.67	445.	549.	0.610	25.08	2.275	BI-214	s
1822.85	1181.70	416.	49.	0.054	226.31	1.357	KR-88	
1862.51	1207.43	384.	170.	0.189	65.48	2.058	-	s
1909.03	1237.60	402.	1849.	2.054	9.45	2.154	J-133	
1932.76	1252.99	343.	128.	0.142	83.57	1.495	KR-88	s
1975.15	1280.49	340.	431.	0.479	28.02	2.346	BI-214	
2124.36	1377.20	245.	1177.	1.308	10.41	2.297	BI-214	D
2136.50	1385.07	222.	241.	0.268	32.56	2.306	AG-110M	D
2160.81	1400.92	303.	355.	0.394	26.21	2.323	BI-214	D
2171.11	1407.61	268.	685.	0.761	15.31	2.330	BI-214	D
2326.90	1508.71	371.	590.	0.656	20.97	2.439	BI-214	
2372.28	1538.20	299.	154.	0.171	53.44	2.474	RB-89	D
2380.73	1543.69	253.	99.	0.109	74.92	2.480	-	D
2441.25	1582.91	236.	204.	0.227	46.19	2.830	AC-228	
2561.51	1660.95	120.	303.	0.337	26.62	2.775	BI-214	
2610.66	1692.85	117.	79.	0.087	86.03	1.781	KR-89	s
2666.80	1729.28	75.	777.	0.863	16.33	2.502	BI-214	
2834.41	1838.04	57.	84.	0.093	50.62	2.829	RH-106M	D
2848.55	1847.22	69.	469.	0.521	15.78	2.840	BI-214	D
3266.63	2118.66	27.	275.	0.306	21.54	2.564	BI-214	
3398.04	2203.99	20.	1012.	1.124	9.97	2.527	BI-214	
3535.10	2292.99	14.	70.	0.078	49.43	1.625	-	s
3773.39	2447.75	0.	295.	0.328	17.47	3.080	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.43	11.96	240.	0.	0.000	0.00	1.053
Pb-210	71.00	46.02	1299.	58.	0.064	297.38	0.648
Th-234	98.00	63.51	1294.	46.	0.051	377.71	0.648
Th-234	143.15	92.76	2840.	27.	0.030	1109.28	0.637s

ORTEC Spectrum name: SMP HS 007 15 Min Colim@6Det@Pos

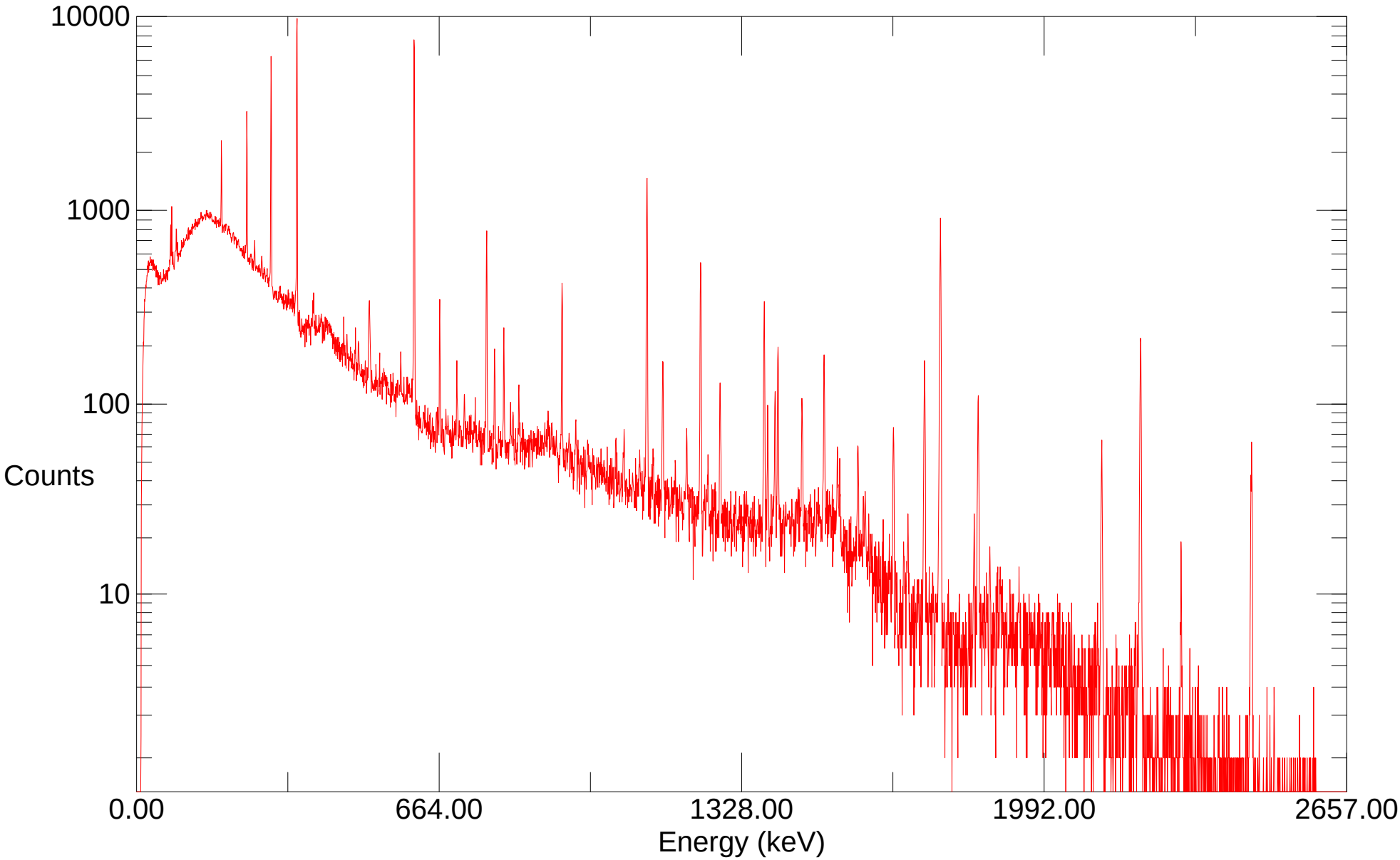
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ra-226	287.19	186.09	5632.	3020.	3.356	16.73	1.254
Pb-212	368.26	238.63	2930.	0.	0.000	0.00	1.591D
Pb-214	455.57	295.21	2806.	13022.	14.469	3.14	1.356D
Tl-210	459.88	298.00	7415.	123.	0.136	299.07	1.358D
Pb-212	463.10	300.09	2256.	13.	0.014	1603.66	1.359D
Ac-228	521.40	337.87	1872.	83.	0.092	314.50	1.304
Pb-214	543.08	351.92	2524.	22990.	25.545	2.19	1.394D
Tl-208	788.26	510.84	2037.	29.	0.032	673.55	1.509D
Tl-208	899.80	583.14	642.	0.	0.000	0.00	0.972D
Bi-214	939.38	608.80	1405.	20438.	22.709	2.33	1.619
Cs-137	1020.86	661.62	568.	81.	0.090	129.38	1.626D
Bi-212	1121.96	727.17	524.	41.	0.046	240.83	1.679D
Pa-234m	1182.48	766.41	1568.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	292.	3.	0.004	2093.78	1.741D
Tl-208	1326.01	859.48	791.	55.	0.061	282.99	1.601
Ac-228	1405.88	911.27	565.	93.	0.103	190.38	2.479s
Ac-228	1495.08	969.11	398.	79.	0.088	111.64	1.892D
Pa-234m	1546.22	1002.28	472.	79.	0.088	146.83	1.117s
Bi-214	1727.37	1119.77	535.	4877.	5.419	5.05	1.975
Tl-210	2026.35	1313.71	284.	45.	0.050	204.07	1.038s
K-40	2252.36	1460.34	324.	332.	0.369	34.00	2.436
Bi-212	2500.66	1621.46	187.	47.	0.052	182.76	0.647s
Bi-214	2720.61	1764.21	141.	3725.	4.139	5.19	2.366
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HPGe gs\

SMP HS 007 array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 10:53:51 AM Real Time: 927.78 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 008 15 Min Colim@6Det@Pos

Sample description
SMP HS 008 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 008 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Oct-2007 11:39:26
Live time: 900
Real time: 912
Dead time: 1.32 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM40A4~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 008 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2288

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
57.88	37.52	1407.	100.	0.111	227.05	1.296	CE-144	
114.99	74.45	1497.	519.	0.577	34.25	1.217	BI-207	D
119.11	77.11	1667.	898.	0.998	21.73	1.218	PB-214	D
133.93	86.79	2349.	484.	0.538	71.76	1.656	BI-207	s
373.18	241.80	1759.	2612.	2.902	8.99	1.321	PB-214	D
399.00	258.55	1337.	333.	0.370	71.79	2.699	XE-138	s
423.77	274.60	1172.	232.	0.257	96.17	2.318	SR-91	s
518.38	335.91	880.	183.	0.203	110.98	2.022	TH-227	s
626.35	405.89	1001.	153.	0.170	160.01	1.947	RH-106M	sM
693.36	449.47	394.	89.	0.099	99.30	1.464	RH-106M	D
701.60	454.82	523.	137.	0.153	75.12	1.467	TE-131	D
750.77	486.54	468.	133.	0.148	112.17	2.585	LA-140	sM
787.26	510.36	706.	128.	0.142	91.85	1.508	J-133	D
882.70	572.06	287.	82.	0.091	135.59	1.759	PA-234	M
895.63	580.44	473.	147.	0.163	115.83	1.989	TL-208	s
1026.03	665.09	231.	334.	0.371	25.33	1.629	BI-214	D
1052.80	682.33	180.	51.	0.057	181.40	1.922	RH-106M	
1083.82	702.44	258.	184.	0.204	70.58	2.339	NB-94	s
1110.32	719.61	205.	81.	0.090	82.26	1.674	SB-126	D
1184.74	767.78	312.	804.	0.894	14.10	1.714	BI-214	D
1211.71	785.36	310.	222.	0.247	45.87	2.471	BI-212	sM
1243.42	805.92	251.	246.	0.273	37.76	1.786	BI-214	s
1293.57	838.44	228.	139.	0.154	59.15	2.990	J-135	sM
1440.13	933.47	277.	495.	0.550	22.47	1.924	BI-214	

ORTEC Spectrum name: SMP HS 008 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1485.83	962.95	208.	62.	0.069	105.90	1.886	TB-160	D
1781.15	1154.65	256.	248.	0.275	43.98	2.255	BI-214	sM
1822.72	1181.61	87.	33.	0.037	138.13	1.956	KR-88	M
1909.08	1237.63	175.	751.	0.834	14.75	2.009	J-133	M
1975.38	1280.64	177.	216.	0.240	42.22	2.525	BI-214	sM
2124.30	1376.98	120.	481.	0.534	16.77	2.297	BI-214	D
2136.27	1384.75	86.	126.	0.139	41.29	2.305	AG-110M	D
2160.88	1400.98	119.	145.	0.161	40.51	2.323	BI-214	D
2171.06	1407.58	124.	267.	0.297	25.44	2.330	BI-214	D
2326.86	1508.68	115.	265.	0.294	29.25	2.473	BI-214	
2371.68	1537.77	145.	43.	0.048	157.01	1.776	RB-89	
2441.24	1582.91	132.	109.	0.121	65.08	3.130	AC-228	s
2460.08	1595.14	81.	47.	0.052	92.53	2.539	LA-140	D
2466.25	1599.14	100.	52.	0.058	90.89	2.543	EU-154	D
2561.09	1660.68	65.	129.	0.143	45.31	1.976	BI-214	s
2666.89	1729.35	45.	291.	0.323	21.83	2.369	BI-214	
2848.65	1847.32	42.	218.	0.242	27.76	2.649	BI-214	
3266.60	2118.65	4.	130.	0.144	27.92	3.385	BI-214	
3397.85	2203.87	15.	423.	0.470	15.59	2.495	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	29.	6.	0.006	396.05	0.000s
Pb-210	71.41	46.28	1832.	186.	0.207	162.93	1.736s
Th-234	96.79	62.72	1332.	173.	0.192	143.34	1.886s
Th-234	144.36	93.55	1170.	69.	0.077	280.56	1.233
Ra-226	287.11	186.04	2756.	2114.	2.349	17.89	1.519s
Pb-212	368.26	238.63	1520.	130.	0.144	129.92	1.318D
Pb-214	455.57	295.21	1580.	5473.	6.081	5.09	1.356D
Tl-210	459.88	298.00	3522.	0.	0.000	25178.56	1.358D
Pb-212	463.10	300.09	1102.	25.	0.028	559.81	1.359D
Ac-228	522.59	338.64	902.	0.	0.000	12742.06	1.385
Pb-214	542.59	351.60	1568.	10186.	11.318	3.59	1.658s
Tl-208	788.26	510.84	720.	114.	0.126	104.09	1.509D
Tl-208	899.80	583.14	238.	0.	0.000	0.00	0.849D
Bi-214	939.37	608.79	612.	9406.	10.451	3.43	1.826
Cs-137	1020.86	661.62	273.	17.	0.019	421.76	1.626D
Bi-212	1121.96	727.17	185.	41.	0.046	147.40	1.680D
Pa-234m	1182.48	766.41	985.	86.	0.096	157.98	1.713D
Tl-210	1233.83	799.70	116.	0.	0.000	0.00	0.988D
Tl-208	1327.79	860.63	152.	72.	0.080	120.19	3.142s
Ac-228	1405.42	910.97	200.	36.	0.040	268.22	1.555s

ORTEC Spectrum name: SMP HS 008 15 Min Colim@6Det@Pos

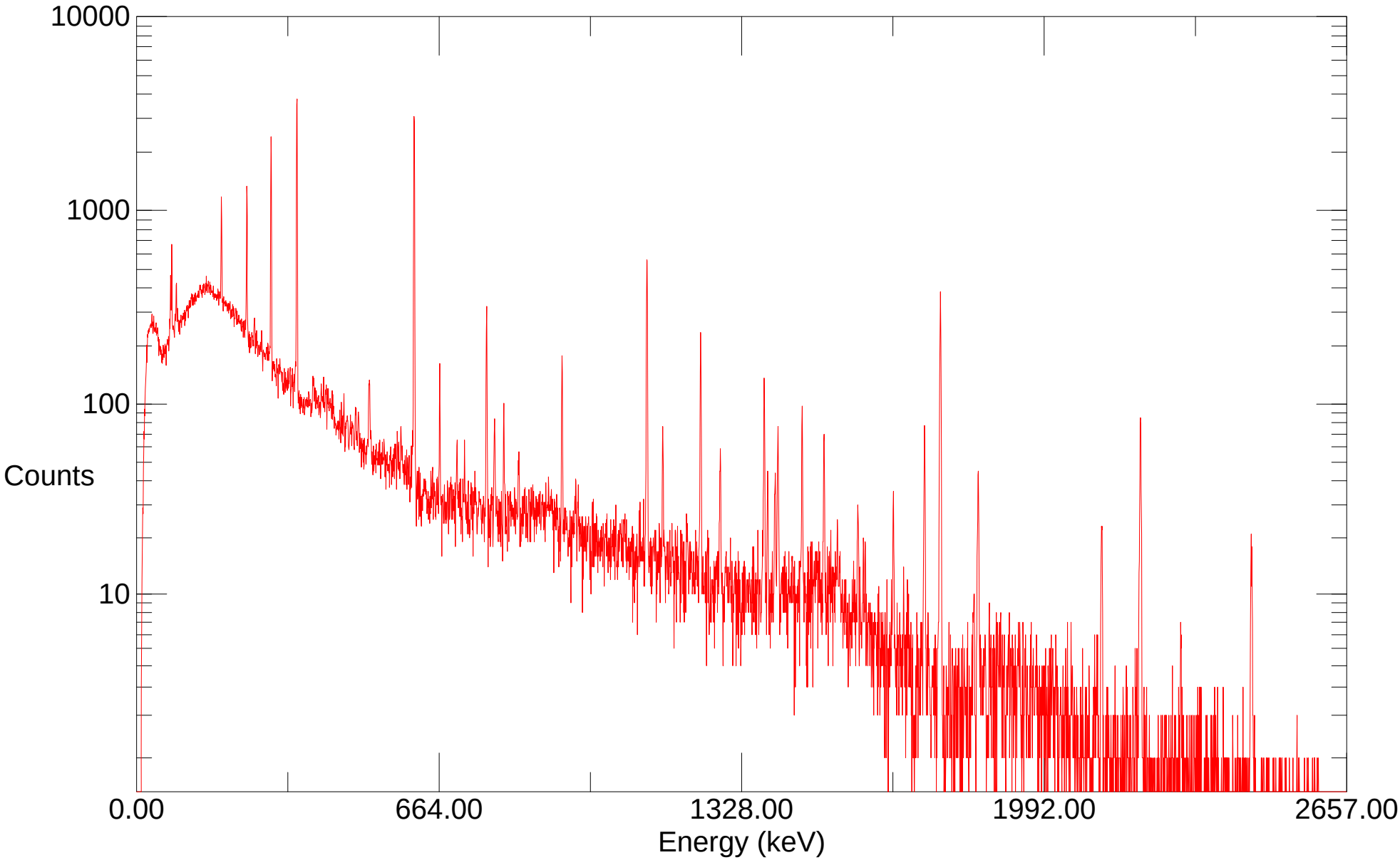
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1495.08	969.11	183.	40.	0.044	152.11	1.892D
Pa-234m	1545.42	1001.76	140.	67.	0.074	93.96	0.642s
Bi-214	1727.35	1119.75	246.	2065.	2.294	8.02	2.263
Tl-210	2022.93	1311.49	43.	5.	0.005	589.58	0.848s
K-40	2252.26	1460.28	168.	315.	0.350	29.92	2.045s
Bi-212	2499.04	1620.41	56.	17.	0.019	251.84	1.079s
Bi-214	2720.56	1764.18	38.	1596.	1.773	7.91	2.531
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 008 15 Min Colim@6Det@Pos1

SMP HS 008 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 11:39:26 AM Real Time: 912.08 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 009 15 Min Colim@6Det@Pos

Sample description
SMP HS 009 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 009 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Oct-2007 11:09:25
Live time: 900
Real time: 906
Dead time: 0.66 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0FF3~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 009 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2024

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
18.90	12.19	384.	151.	0.168	60.14	1.181	PB-214	D
115.42	74.80	892.	269.	0.299	50.54	1.217	BI-207	D
119.15	77.21	792.	480.	0.533	28.42	1.218	PB-214	D
134.44	87.12	630.	220.	0.244	71.38	1.454	BI-207	s
373.24	241.86	612.	818.	0.909	22.84	1.406	PB-214	
624.95	404.98	174.	57.	0.063	144.43	0.900	J-134	M
642.81	416.56	156.	48.	0.053	162.02	0.999	J-135	M
700.95	454.25	128.	83.	0.092	97.19	1.102	TE-131	sM
740.70	480.01	90.	46.	0.051	123.91	1.377	W-187	M
787.61	510.43	266.	46.	0.051	156.34	1.509	J-133	D
1026.05	664.65	98.	93.	0.104	54.56	1.629	PA-234	D
1184.73	767.87	88.	290.	0.322	24.35	2.134	BI-214	s
1212.35	785.77	63.	63.	0.070	96.36	2.035	PB-214	sM
1242.53	805.66	87.	60.	0.066	77.14	1.746	PA-234	D
1359.36	881.10	38.	15.	0.017	190.79	1.027	PA-234	s
1440.24	933.54	82.	179.	0.199	35.55	2.048	BI-214	s
1780.97	1154.53	32.	63.	0.070	55.87	1.888	BI-214	M
1909.00	1237.58	72.	198.	0.220	30.83	1.683	J-133	M
1974.43	1280.03	35.	54.	0.060	67.43	2.471	BI-214	M
2124.47	1377.36	66.	144.	0.161	42.63	1.722	BI-214	
2160.73	1400.67	29.	51.	0.057	61.04	2.323	BI-214	D
2170.92	1407.29	26.	107.	0.119	35.18	2.330	BI-214	D
2326.30	1508.32	35.	107.	0.119	42.80	1.303	BI-214	s
2561.78	1661.13	23.	40.	0.045	83.90	1.511	BI-214	s

ORTEC Spectrum name: SMP HS 009 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2666.67	1729.20	8.	80.	0.089	39.63	1.888	BI-214	
3397.31	2203.52	0.	137.	0.152	25.63	1.548	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

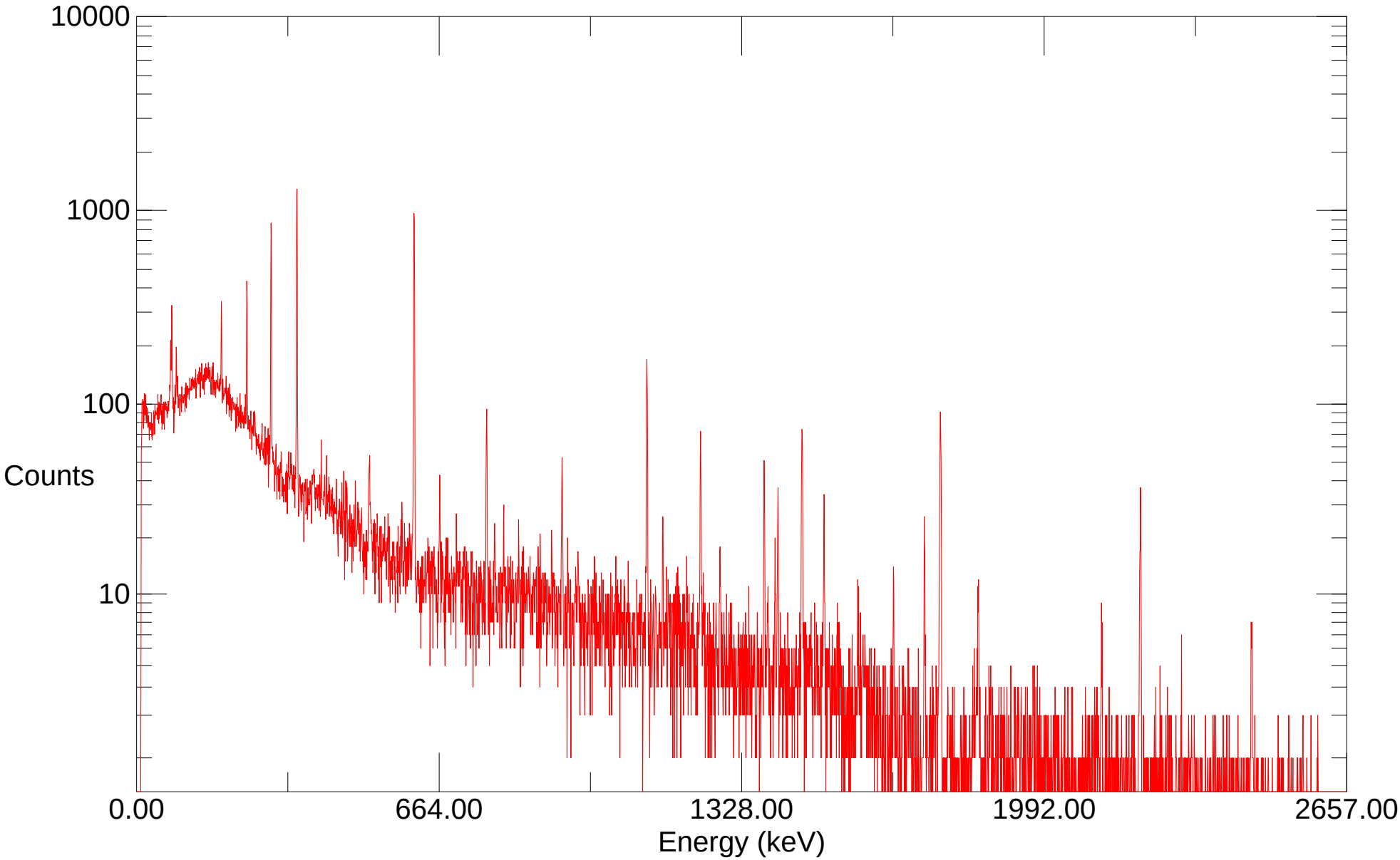
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	238.	96.	0.107	74.66	1.180D
Pb-210	71.84	46.56	486.	57.	0.063	235.43	0.723
Th-234	99.22	64.30	816.	37.	0.041	369.52	1.323s
Th-234	143.48	92.98	549.	62.	0.069	229.93	1.972s
Ra-226	286.98	185.96	900.	538.	0.598	39.58	1.446s
Pb-212	368.26	238.63	435.	0.	0.000	0.00	0.925D
Pb-214	455.57	295.21	366.	1968.	2.187	7.92	1.356D
Tl-210	459.88	298.00	1121.	64.	0.072	223.65	1.358D
Pb-212	463.10	300.09	379.	49.	0.054	174.54	1.359D
Ac-228	522.64	338.67	412.	70.	0.078	223.22	1.054s
Pb-214	542.56	351.59	433.	3447.	3.830	6.04	1.602
Tl-208	788.26	510.84	255.	57.	0.064	124.26	1.509D
Tl-208	898.85	582.52	72.	39.	0.043	139.10	1.260
Bi-214	939.34	608.77	202.	2786.	3.096	6.37	1.716
Cs-137	1020.86	661.62	59.	20.	0.022	176.95	1.627D
Bi-212	1122.09	727.25	55.	18.	0.020	193.27	1.153
Pa-234m	1182.48	766.41	75.	0.	0.000	0.00	2.135D
Tl-210	1233.83	799.70	50.	20.	0.022	168.27	1.741D
Tl-208	1330.81	862.58	104.	34.	0.038	168.19	0.880s
Ac-228	1403.92	909.99	81.	36.	0.040	134.38	1.637
Ac-228	1494.84	968.95	86.	37.	0.041	139.26	2.305s
Pa-234m	1549.67	1004.51	74.	29.	0.032	163.89	0.658s
Bi-214	1727.44	1119.81	77.	602.	0.669	14.84	2.301
Tl-210	2022.00	1310.89	20.	5.	0.006	431.28	0.000s
K-40	2252.41	1460.38	49.	300.	0.333	21.53	2.635
Bi-212	2498.00	1619.74	7.	0.	0.000	1014.89	0.000s
Bi-214	2720.74	1764.29	13.	427.	0.474	15.33	2.814
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 009 15 Min Colim@6Det@Pos1

SMP HS 009 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 11:09:25 AM Real Time: 906.02 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 010 15 Min Colim@6Det@Pos

Sample description
smp hs 010 col @6 det @ pos 4 10_31_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 010 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	31-Oct-2007 09:08:16
Live time:	900
Real time:	906
Dead time:	0.70 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM467F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3122

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.20	77.24	290.	102.	0.113	98.30	1.377	PB-214	
278.53	180.70	371.	89.	0.099	97.53	1.281	MO-99	D
787.44	510.39	209.	55.	0.062	117.64	1.509	J-133	D
1025.66	664.67	74.	76.	0.085	58.93	1.629	PA-234	D
1109.60	719.16	35.	28.	0.031	109.18	1.276	SB-126	M
1184.40	767.65	100.	201.	0.224	33.88	1.795	BI-214	s
1242.74	805.06	68.	75.	0.084	57.72	1.746	PA-234	D
1439.99	933.39	72.	109.	0.121	49.62	2.203	BI-214	s
1781.94	1155.16	62.	54.	0.061	90.99	2.337	BI-214	
1908.74	1237.41	68.	163.	0.181	36.22	1.842	J-133	
2122.85	1376.32	42.	134.	0.148	38.69	2.330	BI-214	s
2170.60	1407.29	39.	66.	0.073	62.57	1.041	BI-214	s
2325.81	1508.00	29.	64.	0.071	61.66	1.875	BI-214	
2666.72	1729.23	4.	57.	0.063	44.42	1.545	BI-214	s
3396.90	2203.25	4.	100.	0.111	33.35	1.599	BI-214	s
3772.06	2446.89	0.	38.	0.042	48.67	1.827	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 010 15 Min Colim@6Det@Pos

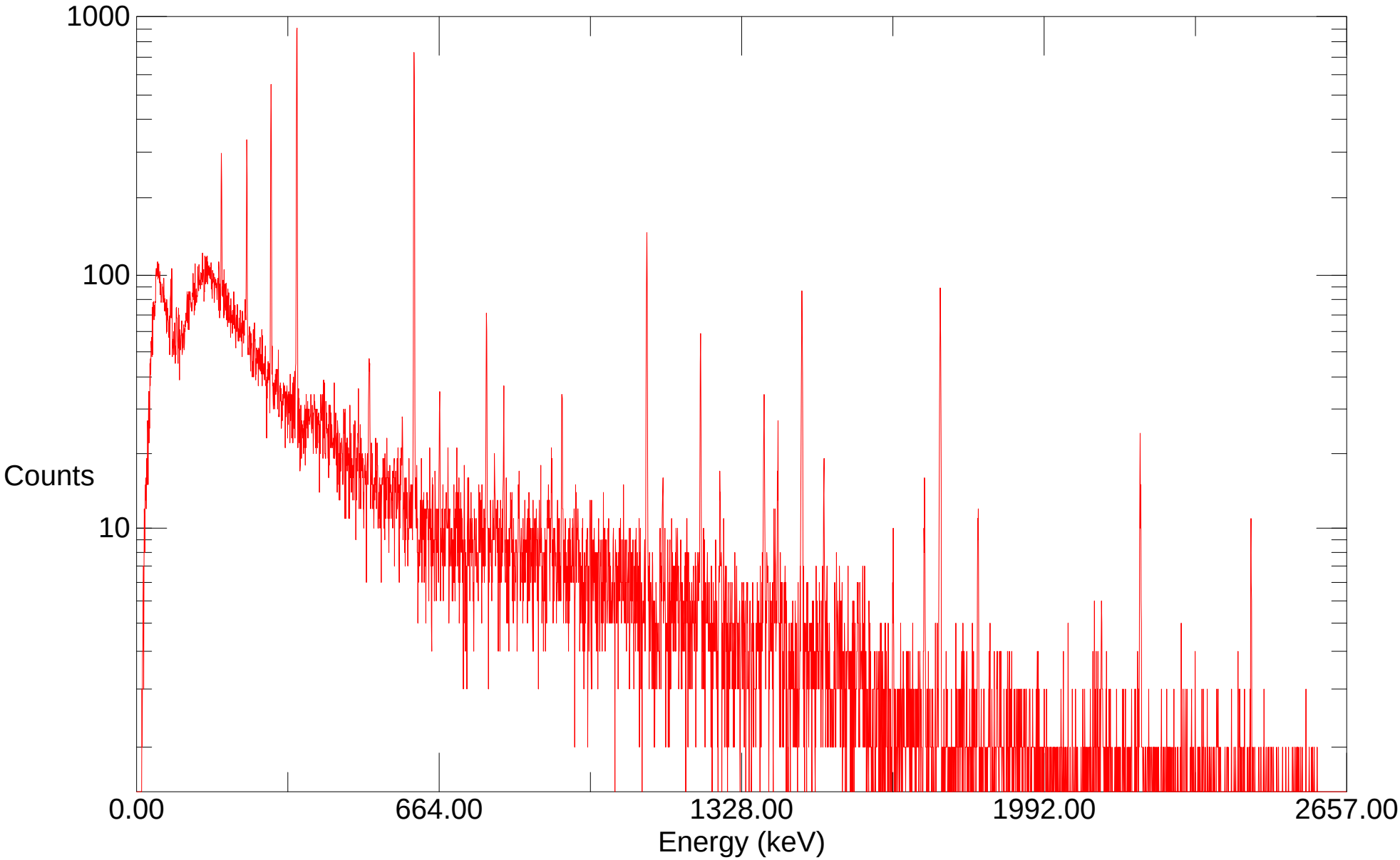
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.33	11.89	2.	1.	0.001	624.50	0.583s
Pb-210	70.57	45.74	488.	24.	0.026	530.94	0.772
Th-234	102.00	66.10	416.	18.	0.020	485.91	0.000s
Th-234	142.75	92.51	252.	81.	0.090	122.22	0.947s
Ra-226	287.37	186.21	601.	514.	0.571	24.17	1.285D
Pb-212	368.26	238.63	375.	0.	0.000	0.00	1.568D
Pb-214	373.02	241.71	464.	656.	0.729	24.95	1.477
Pb-214	455.57	295.21	361.	1295.	1.439	10.40	1.356D
Tl-210	459.88	298.00	726.	45.	0.050	259.28	1.357D
Pb-212	463.10	300.09	287.	6.	0.007	1148.00	1.359D
Ac-228	519.31	336.52	202.	18.	0.020	352.43	0.494s
Pb-214	542.41	351.49	378.	2487.	2.763	7.26	1.660s
Tl-208	788.26	510.84	218.	46.	0.051	142.79	1.509D
Tl-208	899.80	583.14	100.	40.	0.044	116.23	1.564D
Bi-214	939.21	608.69	168.	2016.	2.240	7.55	1.724
Cs-137	1020.86	661.62	85.	1.	0.001	3671.30	1.626D
Bi-212	1122.21	727.33	66.	42.	0.047	108.09	1.634s
Pa-234m	1182.48	766.41	110.	0.	0.000	0.00	1.803D
Tl-210	1233.83	799.70	52.	11.	0.012	286.70	1.741D
Tl-208	1329.55	861.77	73.	10.	0.011	444.59	0.767s
Ac-228	1404.70	910.50	81.	43.	0.048	114.15	1.079s
Ac-228	1494.41	968.68	54.	46.	0.051	134.29	2.853s
Pa-234m	1540.21	998.38	37.	13.	0.014	236.58	0.517s
Bi-214	1727.01	1119.53	70.	461.	0.512	17.15	1.995
Tl-210	2020.00	1309.59	11.	1.	0.001	1179.16	0.842s
K-40	2251.86	1460.02	28.	350.	0.389	18.54	2.254
Bi-212	2496.53	1618.78	4.	8.	0.009	156.85	2.919
Bi-214	2719.96	1763.79	16.	364.	0.405	17.09	2.450
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

Reviewed by: _____
Supervisor

SMP HS 010 15 Min Colim@6Det@Pos4

smp hs 010 col @6 det @ pos 4 10_31_07



Acquired: 10/31/2007 9:08:16 AM Real Time: 906.32 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 011 15 Min Colim@6Det@Pos

Sample description
smp hs 11 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 011 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	16-Oct-2007 15:39:26
Live time:	900
Real time:	907
Dead time:	0.76 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM016F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1839

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
117.88	76.39	765.	708.	0.787	29.71	1.262	PB-214	s
134.51	86.93	568.	204.	0.226	53.96	1.224	BI-207	D
139.18	89.96	569.	88.	0.098	119.00	1.226	PB-214	D
226.86	147.00	400.	110.	0.122	105.98	1.767	CE-141	s
618.05	400.51	148.	60.	0.067	141.42	1.542	SE-75	sM
1026.20	665.48	81.	68.	0.075	67.44	1.629	BI-214	D
1082.25	701.42	75.	38.	0.042	121.79	0.957	NB-94	sM
1184.59	767.77	114.	213.	0.236	34.37	1.976	BI-214	s
1243.53	805.99	66.	51.	0.057	86.45	2.091	BI-214	
1439.96	933.37	82.	114.	0.126	51.07	1.996	BI-214	
1781.53	1154.90	51.	77.	0.086	62.93	2.184	BI-214	s
1908.68	1237.37	58.	198.	0.219	30.33	2.686	J-133	s
1975.19	1280.52	48.	58.	0.064	80.77	1.491	BI-214	
2124.13	1377.14	51.	106.	0.118	48.22	2.065	BI-214	
2171.75	1408.04	32.	99.	0.110	44.57	2.037	EU-152	
2326.73	1508.60	30.	66.	0.073	61.99	2.169	BI-214	
2667.34	1729.64	3.	69.	0.076	39.47	1.441	BI-214	s
3266.36	2118.49	2.	34.	0.038	56.56	2.095	BI-214	s
3398.43	2204.24	0.	124.	0.138	26.94	2.091	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 011 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

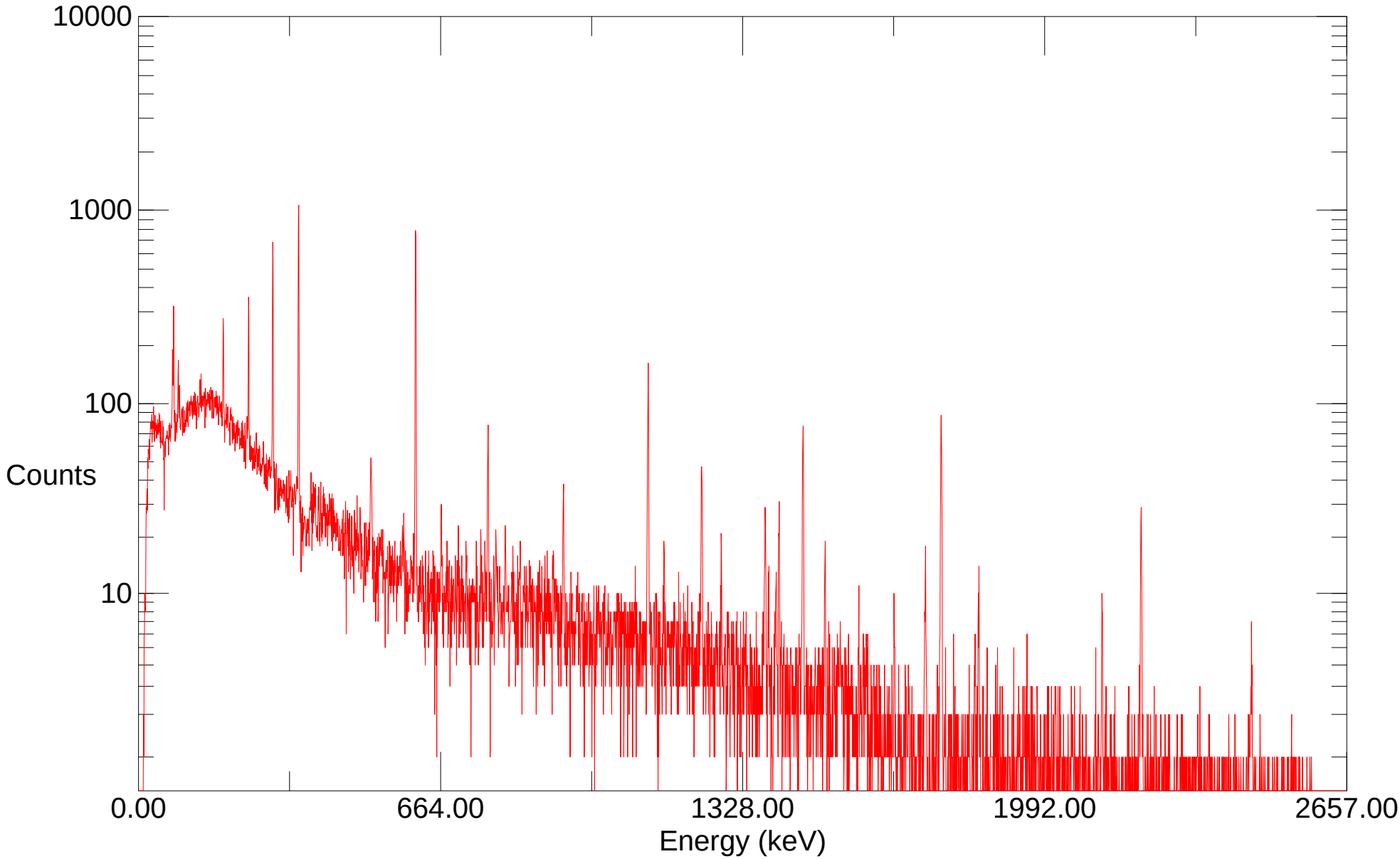
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	2.	1.	0.001	624.50	0.583s
Pb-210	70.03	45.38	528.	78.	0.087	200.52	1.033s
Th-234	99.04	64.18	360.	27.	0.030	425.57	0.540s
Th-234	143.21	92.80	486.	0.	0.000	9353.08	1.228D
Ra-226	287.41	186.23	700.	575.	0.639	36.05	1.493s
Pb-212	368.26	238.63	451.	65.	0.072	143.24	1.318D
Pb-214	373.43	241.98	408.	718.	0.798	16.37	1.321D
Pb-214	455.57	295.21	294.	1532.	1.702	9.02	1.356D
Tl-210	459.88	298.00	877.	48.	0.054	263.11	1.358D
Pb-212	463.10	300.09	212.	30.	0.033	214.47	1.359D
Ac-228	522.76	338.75	135.	49.	0.054	148.59	2.707s
Pb-214	542.64	351.64	356.	2621.	2.913	6.89	1.537
Tl-208	788.26	510.84	154.	188.	0.209	55.02	3.366D
Tl-208	900.01	583.28	66.	44.	0.049	124.99	1.924s
Bi-214	939.40	608.81	156.	2228.	2.476	7.03	1.724
Cs-137	1020.86	661.62	74.	10.	0.011	389.84	1.626D
Bi-212	1122.69	727.64	55.	13.	0.015	267.07	1.088
Pa-234m	1182.48	766.41	63.	0.	0.000	0.00	2.033D
Tl-210	1233.55	799.52	38.	0.	0.000	2615.34	1.741
Tl-208	1324.93	858.78	55.	46.	0.051	131.00	1.837s
Ac-228	1405.04	910.72	62.	34.	0.038	119.31	2.986s
Ac-228	1494.29	968.60	38.	14.	0.015	218.77	1.904
Pa-234m	1541.88	999.46	32.	20.	0.023	145.79	1.037s
Bi-214	1727.31	1119.73	77.	506.	0.562	16.37	1.844
Tl-210	2022.00	1310.89	10.	1.	0.001	1260.95	0.000s
K-40	2252.39	1460.36	35.	276.	0.307	21.54	2.194
Bi-212	2503.38	1623.23	13.	5.	0.006	374.18	0.780s
Bi-214	2720.83	1764.35	6.	375.	0.417	15.98	2.568
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 011 15 Min Colim@6Det@Pos1

smp hs 11 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 3:39:26 PM Real Time: 906.86 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 012 15 Min Colim@6Det@Pos

Sample description
smp hs 012 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 012 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	22-Oct-2007 10:56:25
Live time:	900
Real time:	914
Dead time:	1.57 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCC6F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 012 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2193

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
115.13	74.59	253.	157.	0.174	16.44	1.217	BI-207	D
118.97	77.08	329.	221.	0.246	13.39	1.218	PB-214	D
134.25	87.00	285.	99.	0.110	35.55	0.898	TB-160	s
404.50	262.11	150.	78.	0.086	35.45	2.111	J-132	s
787.51	510.51	135.	104.	0.115	18.66	1.509	J-133	D
1183.94	767.35	60.	106.	0.117	15.77	1.293	J-134	s
1294.70	839.17	50.	31.	0.034	41.35	1.854	J-135	M
1440.02	933.40	44.	86.	0.096	17.17	1.592	BI-214	s
1909.25	1237.74	36.	64.	0.071	20.49	2.616	J-133	sM
2123.98	1377.05	26.	68.	0.076	17.77	2.278	BI-214	s
2326.81	1508.65	22.	56.	0.062	21.80	2.207	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	16.92	10.98	6.	4.	0.005	98.39	0.984
Pb-210	73.68	47.75	392.	53.	0.059	84.65	1.003
Th-234	94.00	60.92	217.	22.	0.024	97.06	0.000s
Th-234	145.72	94.43	384.	31.	0.035	94.25	1.739s

ORTEC Spectrum name: SMP HS 012 15 Min Colim@6Det@Pos

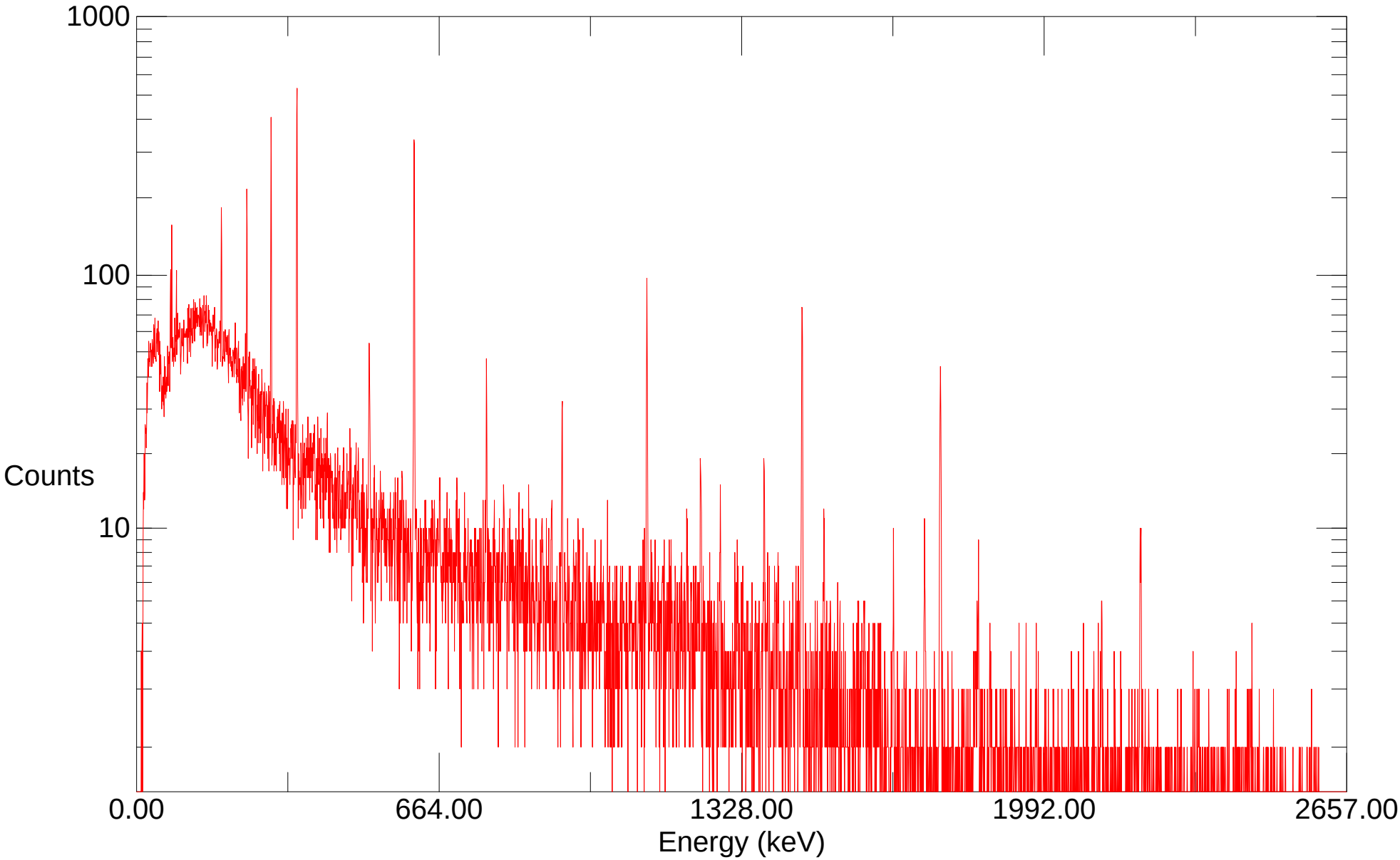
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ra-226	287.00	185.97	315.	308.	0.342	13.49	1.449
Pb-212	368.26	238.63	236.	79.	0.088	29.52	1.318D
Pb-214	373.43	241.98	176.	424.	0.471	6.58	1.321D
Pb-214	455.57	295.21	151.	830.	0.922	4.06	1.356D
Tl-210	459.88	298.00	457.	13.	0.014	235.26	1.358D
Pb-212	463.10	300.09	142.	34.	0.038	51.84	1.359D
Ac-228	522.40	338.52	119.	26.	0.029	91.14	2.127s
Pb-214	542.66	351.65	204.	1192.	1.324	3.56	1.406
Tl-208	788.26	510.84	217.	22.	0.024	97.28	1.509D
Tl-208	898.59	582.36	54.	49.	0.054	37.96	2.464s
Bi-214	939.33	608.77	104.	945.	1.050	3.75	1.694
Cs-137	1018.02	659.78	55.	29.	0.032	65.34	2.311s
Bi-212	1121.97	727.17	46.	16.	0.017	74.05	1.099s
Pa-234m	1182.48	766.41	50.	0.	0.000	0.00	1.344D
Tl-210	1235.11	800.53	29.	3.	0.003	260.34	1.570
Tl-208	1326.85	860.02	48.	20.	0.022	61.97	0.958s
Ac-228	1404.70	910.50	50.	45.	0.050	32.96	2.964s
Ac-228	1493.98	968.40	28.	14.	0.016	61.72	1.381
Pa-234m	1544.00	1000.84	11.	0.	0.000	0.00	0.000s
Bi-214	1727.34	1119.74	44.	259.	0.287	7.79	1.485
Tl-210	2021.00	1310.24	7.	1.	0.001	359.01	0.730s
K-40	2252.53	1460.45	15.	282.	0.313	6.49	2.103
Bi-212	2493.25	1616.65	11.	18.	0.020	44.25	0.901s
Bi-214	2720.79	1764.33	3.	200.	0.222	7.33	2.900
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HPGe gs\

smp hs 012 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 10:56:25 AM Real Time: 914.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 013 15 Min Colim@6Det@Pos

Sample description
smp hs 013 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 013 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 22-Oct-2007 09:37:07
Live time: 900
Real time: 911
Dead time: 1.17 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM8C6F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 013 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1819

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
115.46	74.85	1187.	581.	0.646	9.35	1.217	BI-207	D
119.04	77.17	1048.	1050.	1.167	5.34	1.218	PB-214	D
134.56	87.77	1010.	466.	0.517	10.71	1.224	PB-214	D
360.51	233.76	647.	79.	0.088	46.65	1.315	XE-133M	D
399.78	259.05	365.	134.	0.149	28.04	1.582	XE-138	
494.56	320.47	280.	99.	0.110	37.24	1.522	CR-51	s
596.21	386.39	243.	80.	0.089	29.84	1.418	-	D
600.09	388.90	377.	86.	0.095	33.88	1.420	RH-106M	D
750.95	486.65	216.	116.	0.129	31.13	2.356	LA-140	sM
787.27	510.31	259.	125.	0.138	20.35	1.508	J-133	D
893.53	579.22	113.	89.	0.099	19.92	1.561	KR-89	D
921.46	597.19	102.	44.	0.049	50.31	1.035	J-134	
951.59	616.71	76.	64.	0.072	34.15	1.449	RH-106M	s
1026.04	665.14	135.	141.	0.157	14.34	1.629	BI-214	D
1109.99	719.60	65.	52.	0.058	25.93	1.673	SB-126	D
1184.70	767.85	154.	409.	0.455	7.32	1.604	BI-214	
1211.55	785.26	84.	91.	0.101	18.62	2.437	BI-212	s
1243.02	805.80	104.	102.	0.113	17.35	1.746	PA-234	D
1291.88	837.34	134.	56.	0.062	38.22	1.089	J-135	M
1439.77	933.24	155.	230.	0.256	12.08	1.685	BI-214	
1747.38	1132.74	66.	51.	0.057	30.94	0.861	J-135	s
1780.67	1154.34	93.	126.	0.140	16.63	1.833	BI-214	
1909.15	1237.68	76.	348.	0.387	7.27	2.313	J-133	
1975.16	1280.50	96.	74.	0.082	28.57	1.634	BI-214	

ORTEC Spectrum name: SMP HS 013 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2010.76	1303.55	25.	26.	0.029	33.39	2.219	EU-152	D
2124.11	1377.13	51.	245.	0.272	8.33	1.887	BI-214	
2160.86	1401.03	52.	81.	0.090	16.81	2.323	BI-214	D
2170.94	1407.57	45.	138.	0.153	10.98	2.330	BI-214	D
2327.34	1508.99	66.	134.	0.148	15.18	1.484	BI-214	s
2560.43	1660.25	14.	79.	0.088	15.08	2.649	BI-214	s
2666.05	1728.80	22.	145.	0.161	10.63	1.562	BI-214	s
2848.23	1847.05	6.	98.	0.109	11.08	2.737	BI-214	
3397.80	2203.83	2.	170.	0.189	7.85	2.896	BI-214	
3772.63	2447.26	0.	65.	0.072	12.40	1.429	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

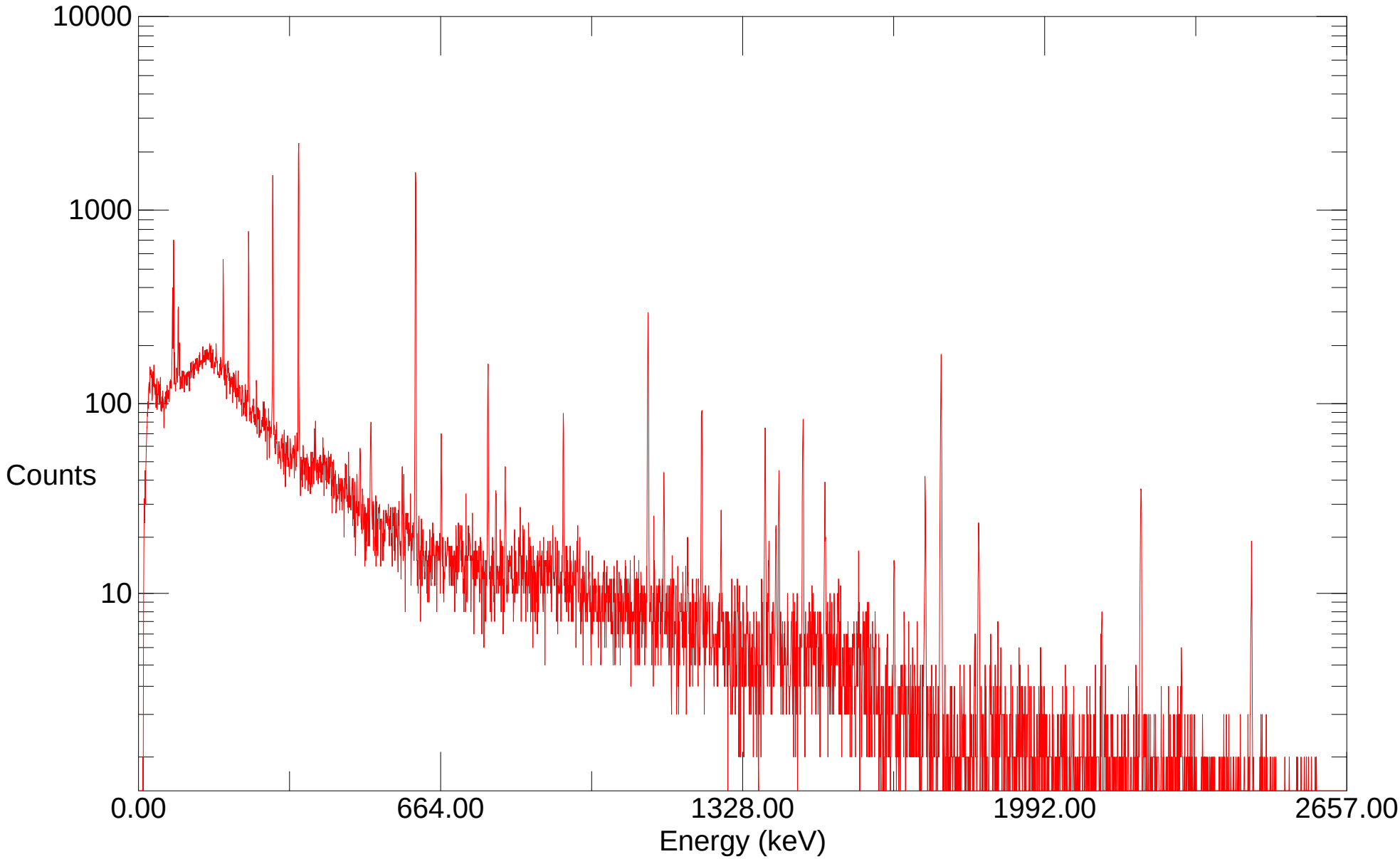
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	18.67	12.11	44.	9.	0.010	107.28	0.848
Pb-210	72.90	47.24	668.	110.	0.123	50.54	0.841s
Th-234	96.41	62.48	800.	75.	0.083	85.11	1.127s
Th-234	143.21	92.80	620.	16.	0.018	219.13	1.227D
Ra-226	287.00	185.97	1385.	809.	0.899	11.80	1.142
Pb-212	368.26	238.63	648.	83.	0.092	44.66	1.318D
Pb-214	373.43	241.98	576.	1463.	1.626	3.49	1.321D
Pb-214	455.57	295.21	453.	3212.	3.569	2.00	1.356D
Tl-210	459.88	298.00	1575.	53.	0.059	107.49	1.358D
Pb-212	463.10	300.09	392.	21.	0.023	137.87	1.359D
Ac-228	524.01	339.57	435.	99.	0.110	52.57	4.169s
Pb-214	542.59	351.60	612.	5061.	5.623	1.64	1.428
Tl-208	788.26	510.84	349.	44.	0.049	62.26	1.509D
Tl-208	899.80	583.14	116.	88.	0.097	20.41	1.564D
Bi-214	939.32	608.76	217.	4183.	4.648	1.67	1.604
Cs-137	1020.86	661.62	84.	7.	0.008	184.30	1.626D
Bi-212	1121.96	727.17	126.	25.	0.028	66.14	1.680D
Pa-234m	1182.48	766.41	316.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	75.	3.	0.004	386.92	1.741D
Tl-208	1324.52	858.51	82.	70.	0.077	35.41	0.813s
Ac-228	1404.24	910.20	113.	37.	0.041	50.21	1.843s
Ac-228	1495.31	969.26	62.	28.	0.031	45.21	1.634
Pa-234m	1537.46	996.59	83.	10.	0.011	157.53	0.521s
Bi-214	1727.15	1119.62	93.	933.	1.036	3.78	1.906
Tl-210	2020.63	1310.00	42.	23.	0.025	45.22	2.226D
K-40	2252.17	1460.22	66.	295.	0.328	8.01	2.300
Bi-212	2498.84	1620.28	26.	13.	0.015	69.57	0.897s
Bi-214	2720.31	1764.02	8.	728.	0.809	3.80	2.357
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 013 15 Min Colim@6Det@Pos4

smp hs 013 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 9:37:07 AM Real Time: 910.64 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 014 15 Min Colim@6Det@Pos

Sample description
SMP HSS 014_15 Min Colim@6Det@Pos1
Pebbles in Bag

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 014 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 05-Oct-2007 13:47:27
Live time: 900
Real time: 909
Dead time: 1.03 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM416F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	25-Sep-2007 10:57:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2287

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.88	44.76	1175.	239.	0.265	63.99	1.199	EU-155	D
119.26	77.28	903.	281.	0.312	66.61	1.201	BI-207	
134.73	87.28	543.	142.	0.158	74.13	1.224	PB-214	D
398.85	258.45	785.	230.	0.256	91.68	2.030	XE-138	s
423.44	274.39	648.	170.	0.189	107.83	1.740	SR-91	s
789.28	511.50	360.	234.	0.260	67.28	3.479	RH-106M	s
941.58	610.19	379.	4528.	5.032	4.82	1.585	RU-103	D
995.83	645.39	48.	29.	0.032	136.06	0.734	RH-106M	s
1028.20	666.59	117.	161.	0.179	37.08	1.630	PA-234	D
1187.50	769.63	128.	420.	0.467	18.57	1.715	BI-214	D
1213.85	786.75	158.	101.	0.113	69.31	2.165	PA-234	sM
1246.10	807.66	165.	114.	0.127	66.16	2.152	RH-106M	sM
1296.62	840.41	160.	64.	0.072	105.70	2.354	J-135	sM
1443.78	935.84	170.	246.	0.273	35.37	1.757	AG-110M	s
1491.77	966.88	102.	25.	0.028	179.00	1.889	TB-160	D
1497.38	970.52	122.	30.	0.033	166.41	1.893	AC-228	D
1731.35	1122.35	168.	1028.	1.142	11.83	1.763	TA-182	
1784.75	1156.99	102.	131.	0.146	48.71	2.179	BI-214	sM
1913.74	1240.66	91.	359.	0.399	21.26	1.768	CO-56	M
1979.50	1283.31	96.	114.	0.126	58.00	2.293	BI-214	sM
2129.33	1380.52	74.	240.	0.267	27.17	2.205	BI-214	
2165.66	1404.19	61.	97.	0.108	45.80	2.326	BI-214	D
2176.06	1410.93	68.	131.	0.146	37.40	2.333	EU-152	D
2257.80	1463.82	63.	438.	0.487	16.27	2.391	K-40	D

ORTEC Spectrum name: SMP HS 014 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2331.82	1511.90	68.	144.	0.160	41.91	1.608	BI-214	s
2673.26	1733.48	23.	140.	0.156	32.22	2.978	BI-214	
2727.01	1768.29	0.	752.	0.835	10.94	2.744	XE-138	D
2854.74	1851.27	19.	107.	0.119	39.66	1.232	XE-138	s
3405.92	2209.11	6.	220.	0.244	21.42	2.379	-	
3782.28	2453.53	0.	61.	0.068	38.41	2.281	-	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

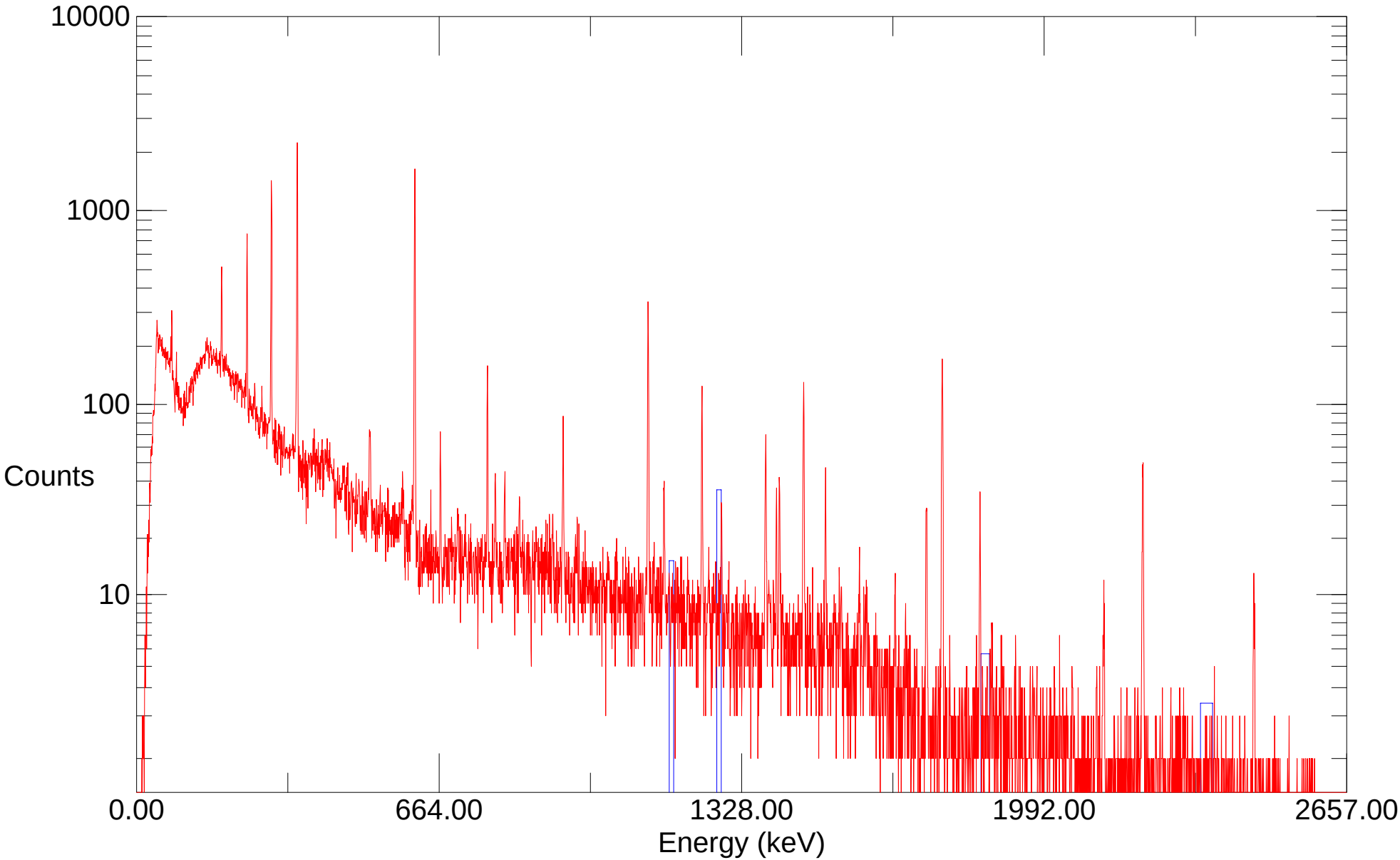
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	1.	0.	0.000	360.56	0.510s
Pb-210	71.75	46.50	1293.	114.	0.126	137.23	1.200D
Th-234	97.33	63.08	815.	75.	0.083	216.43	0.873
Th-234	143.21	92.80	486.	36.	0.040	264.92	1.228D
Ra-226	287.90	186.55	1435.	1071.	1.190	27.56	1.706s
Pb-212	368.26	238.63	627.	125.	0.139	89.17	1.319D
Pb-214	373.43	241.98	768.	1549.	1.721	10.76	1.321D
Pb-214	455.57	295.21	709.	3333.	3.703	6.20	1.356D
Tl-210	459.88	298.00	3161.	30.	0.033	806.36	1.358D
Pb-212	463.10	300.09	493.	44.	0.049	218.31	1.359D
Ac-228	518.46	335.97	380.	11.	0.012	812.57	0.561s
Pb-214	543.66	352.30	632.	5782.	6.425	4.52	1.608s
Tl-208	788.26	510.84	360.	0.	0.000	0.00	3.479D
Tl-208	902.46	584.87	171.	99.	0.110	97.70	1.463s
Bi-214	940.17	609.31	4680.	80.	0.089	365.38	1.585D
Cs-137	1020.86	661.62	77.	8.	0.009	479.36	1.626D
Bi-212	1123.39	728.10	66.	32.	0.035	173.21	1.624
Pa-234m	1182.48	766.41	216.	12.	0.013	523.62	1.713D
Tl-210	1234.70	800.27	60.	24.	0.027	209.33	1.265
Tl-208	1328.00	860.76	27.	10.	0.011	264.10	0.648s
Ac-228	1408.05	912.67	128.	74.	0.082	86.76	2.758s
Ac-228	1495.08	969.11	165.	0.	0.000	5449.77	1.891D
Pa-234m	1543.40	1000.45	124.	24.	0.027	249.62	1.500
Bi-214	1728.22	1120.32	942.	0.	0.000	13021.52	2.035
Tl-210	2016.76	1307.49	48.	36.	0.041	117.03	2.734s
K-40	2253.07	1460.80	345.	7.	0.008	1071.27	2.388D
Bi-212	2500.97	1621.67	26.	19.	0.021	155.51	0.733s
Bi-214	2721.06	1764.50	464.	5.	0.005	1877.99	2.739D
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 014 15 Min Colim@6Det@Pos1
SMP HSS 014_15 Min Colim@6Det@Pos1
Pebbles in Bag



Acquired: 10/5/2007 1:47:27 PM Real Time: 909.34 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 015 15 Min Colim@6Det@Po

Sample description
smp hs 015 col @6 det @ pos 4 10_31_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 015 15 Min Colim@6Det@Pos1_Recount.An1

Acquisition information
Start time: 31-Oct-2007 12:53:33
Live time: 900
Real time: 922
Dead time: 2.41 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMDEEA~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3103

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.80	44.36	3582.	294.	0.327	87.98	1.199	EU-155	D
115.04	74.52	2576.	511.	0.568	44.16	1.217	BI-207	D
119.17	77.20	2622.	757.	0.841	30.70	1.218	PB-214	D
134.22	86.73	2444.	334.	0.371	64.94	1.224	BI-207	D
139.30	90.02	2297.	180.	0.199	115.48	1.226	PB-214	D
400.18	259.31	2601.	502.	0.558	72.72	1.924	XE-138	s
423.52	274.44	2854.	576.	0.641	71.98	2.385	SR-91	s
598.01	387.52	1540.	326.	0.362	93.56	2.369	RH-106M	sM
624.95	404.98	1264.	166.	0.185	152.05	1.452	J-134	sM
674.54	437.12	668.	134.	0.149	125.04	1.972	BA-140	sM
701.35	454.50	772.	123.	0.137	153.93	1.908	TE-131	sM
723.41	468.80	744.	124.	0.138	150.00	1.431	-	sM
741.02	480.46	629.	106.	0.118	104.64	1.486	W-187	D
750.12	486.36	625.	145.	0.161	77.13	1.491	LA-140	D
787.59	510.48	973.	175.	0.194	79.11	1.509	J-133	D
885.05	573.75	391.	97.	0.107	92.13	1.557	SB-126	D
894.60	579.94	492.	169.	0.188	60.21	1.562	KR-89	D
991.92	642.86	178.	46.	0.052	166.72	0.855	-	s
1025.86	664.94	316.	418.	0.464	23.29	1.629	PA-234	D
1084.62	702.96	462.	178.	0.198	98.45	1.692	RH-106M	sM
1109.29	718.95	346.	162.	0.181	90.72	2.055	SB-126	sM
1184.55	767.75	490.	1294.	1.438	12.36	1.881	BI-214	
1211.77	785.40	363.	319.	0.354	34.52	2.284	BI-212	s
1242.68	805.45	315.	272.	0.302	33.13	1.746	PA-234	D

ORTEC Spectrum name: SMP HS 015 15 Min Colim@6Det@Po

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1266.12	820.98	240.	86.	0.096	82.71	1.759	PA-234	D
1273.65	825.86	261.	62.	0.069	117.17	1.763	PA-234	D
1293.18	838.18	405.	146.	0.162	73.99	1.628	J-135	sM
1394.49	904.16	244.	54.	0.059	130.59	1.832	KR-89	D
1439.96	933.37	425.	696.	0.774	19.80	2.045	BI-214	
1486.54	963.75	277.	85.	0.095	88.94	1.886	EU-152	D
1589.54	1030.37	205.	56.	0.062	131.51	1.002	RB-89	s
1622.10	1051.49	172.	70.	0.078	93.04	1.166	-	s
1747.62	1132.90	243.	84.	0.094	103.88	2.478	J-135	s
1780.94	1154.51	268.	326.	0.362	32.18	2.343	BI-214	
1861.78	1206.95	210.	130.	0.144	66.48	1.555	-	s
1908.80	1237.45	264.	1064.	1.182	12.98	2.235	J-133	
1974.55	1280.11	247.	254.	0.282	38.83	2.239	BI-214	
2124.10	1377.03	155.	663.	0.736	14.12	2.297	BI-214	D
2136.08	1384.80	172.	161.	0.179	41.92	2.305	AG-110M	D
2160.43	1400.65	175.	265.	0.294	28.11	2.322	BI-214	D
2170.93	1407.46	163.	382.	0.425	20.88	2.330	BI-214	D
2326.90	1508.71	272.	383.	0.426	26.48	1.706	BI-214	
2440.67	1582.54	106.	132.	0.147	48.21	1.753	-	
2560.91	1660.56	85.	145.	0.161	44.36	1.625	BI-214	s
2666.52	1729.11	50.	444.	0.493	17.37	2.673	BI-214	
2848.66	1847.32	76.	280.	0.311	26.17	2.587	BI-214	
3265.79	2118.12	31.	136.	0.151	37.12	3.185	BI-214	
3397.33	2203.53	4.	632.	0.703	12.08	3.266	BI-214	
3773.08	2447.55	4.	190.	0.211	22.79	2.805	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	3.	1.	0.001	540.83	0.000s
Pb-210	71.75	46.50	3759.	194.	0.215	135.92	1.200D
Th-234	100.08	64.85	3192.	75.	0.083	334.45	0.848s
Th-234	143.21	92.80	1547.	0.	0.000	16687.12	1.228D
Ra-226	287.06	186.01	5621.	2569.	2.854	23.09	1.357s
Pb-212	368.26	238.63	2217.	0.	0.000	0.00	2.616D
Pb-214	373.05	241.73	3720.	4095.	4.550	11.91	1.395s
Pb-214	455.57	295.21	2038.	8795.	9.772	3.87	1.356D
Tl-210	459.88	298.00	4884.	42.	0.047	708.45	1.357D
Pb-212	463.10	300.09	1897.	24.	0.026	782.72	1.359D
Ac-228	522.84	338.81	1029.	126.	0.140	155.07	1.953s
Pb-214	542.46	351.52	2236.	15894.	17.660	2.84	1.591
Tl-208	788.26	510.84	991.	157.	0.175	88.13	1.509D
Tl-208	899.80	583.14	491.	0.	0.000	0.00	0.516D

ORTEC Spectrum name: SMP HS 015 15 Min Colim@6Det@Po

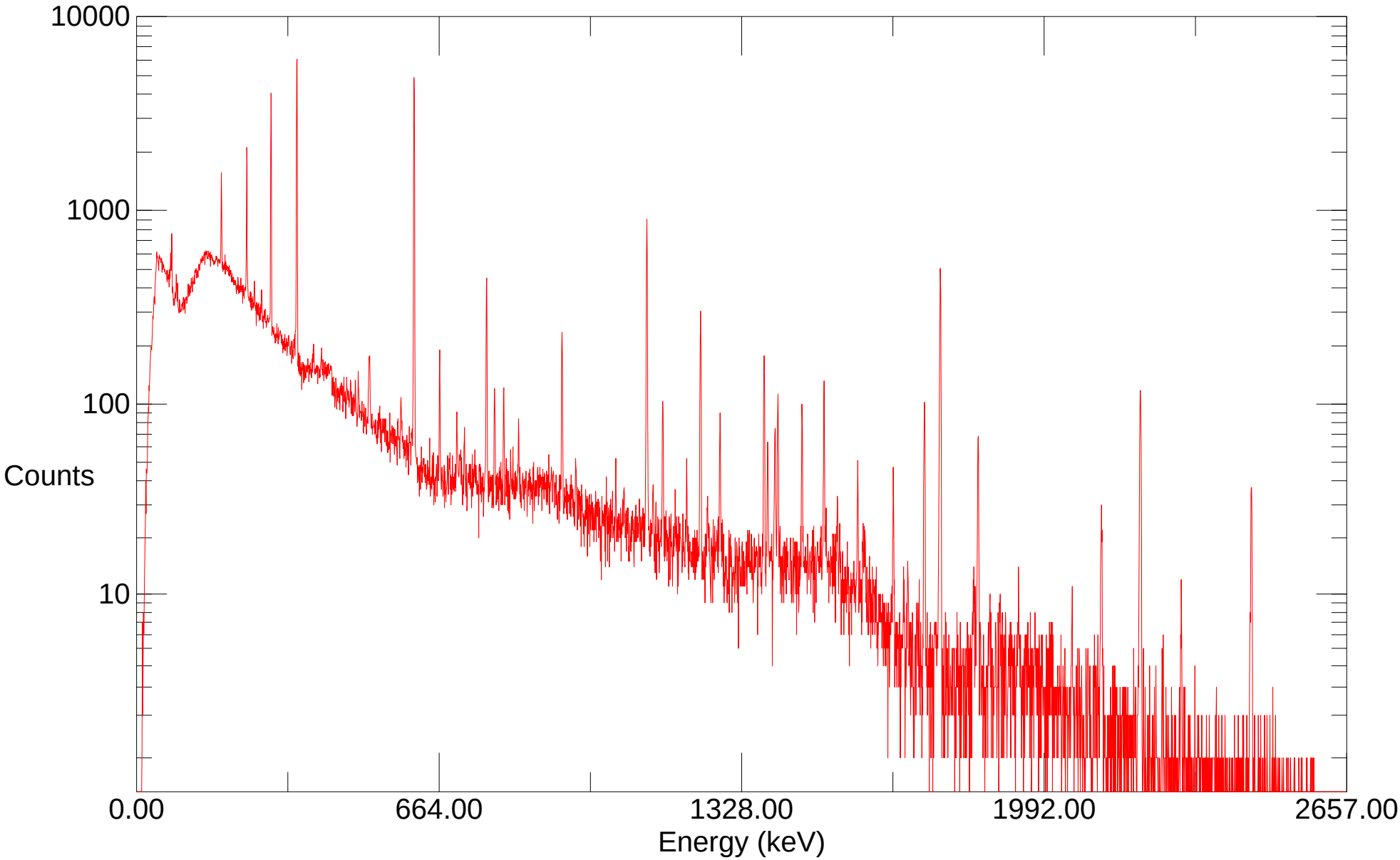
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	939.23	608.70	861.	13462.	14.958	2.85	1.687
Cs-137	1020.86	661.62	340.	48.	0.053	168.60	1.626D
Bi-212	1123.85	728.39	384.	86.	0.096	183.73	2.300s
Pa-234m	1182.48	766.41	1196.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	217.	16.	0.017	409.40	1.741D
Tl-208	1329.60	861.80	189.	40.	0.044	211.60	0.795s
Ac-228	1405.58	911.07	240.	42.	0.047	161.83	1.838D
Ac-228	1495.08	969.11	188.	29.	0.032	207.54	1.891D
Pa-234m	1539.08	997.65	224.	14.	0.015	531.59	0.984s
Bi-214	1727.10	1119.59	372.	3057.	3.397	6.62	2.033
Tl-210	2019.58	1309.32	89.	13.	0.014	352.18	1.818
K-40	2252.27	1460.29	241.	307.	0.341	35.33	1.993
Bi-212	2502.66	1622.76	82.	13.	0.014	371.39	1.025s
Bi-214	2720.27	1763.99	80.	2168.	2.409	7.00	2.649
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 015 15 Min Colim@6Det@Pos1_Recount

smp hs 015 col @6 det @ pos 4 10_31_07



Acquired: 10/31/2007 12:53:33 PM Real Time: 922.26 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 016 15 Min Colim@6Det@Pos

Sample description
SMP HS 16 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 016 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 19-Oct-2007 14:27:51
Live time: 900
Real time: 913
Dead time: 1.46 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMCD6F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1001

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.39	74.80	1171.	499.	0.554	32.05	1.217	BI-207	D
119.03	77.16	1051.	858.	0.954	19.01	1.218	PB-214	D
134.45	87.05	959.	401.	0.445	36.05	1.224	BI-207	D
139.09	90.05	831.	135.	0.150	94.07	1.226	PB-214	D
399.01	258.55	574.	216.	0.240	73.48	2.383	XE-138	s
423.62	274.50	603.	252.	0.280	71.12	3.249	SR-91	s
598.38	387.76	384.	135.	0.150	100.74	1.645	RH-106M	sM
739.43	479.19	300.	104.	0.116	125.87	1.012	W-187	sM
751.43	486.96	230.	92.	0.102	120.63	1.205	LA-140	sM
787.06	510.29	331.	109.	0.121	76.71	1.508	J-133	D
1026.21	665.04	135.	166.	0.184	37.73	1.629	BI-214	D
1184.97	768.02	222.	440.	0.489	23.78	1.784	BI-214	
1211.84	785.45	168.	168.	0.186	49.17	2.375	BI-212	sM
1243.33	805.86	163.	131.	0.145	59.65	1.976	BI-214	s
1440.67	933.83	163.	256.	0.284	33.19	1.575	BI-214	
1486.26	962.94	104.	45.	0.050	106.30	1.886	TB-160	D
1781.50	1154.87	54.	133.	0.148	36.93	2.411	BI-214	M
1909.36	1237.82	93.	369.	0.410	21.70	2.097	BI-214	sM
1975.54	1280.75	53.	102.	0.113	46.08	2.463	BI-214	M
2124.72	1377.45	48.	260.	0.289	21.78	2.297	BI-214	D
2136.78	1385.28	45.	51.	0.056	70.12	2.306	AG-110M	D
2161.34	1401.36	41.	91.	0.101	43.33	2.323	BI-214	D
2171.55	1407.98	73.	152.	0.169	34.02	2.330	BI-214	D
2327.29	1508.96	48.	135.	0.150	37.12	2.590	BI-214	

ORTEC Spectrum name: SMP HS 016 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2561.50	1660.95	26.	68.	0.075	57.13	1.062	BI-214	s
2667.09	1729.47	20.	161.	0.179	29.32	2.875	BI-214	
2849.23	1847.69	22.	93.	0.103	43.98	2.700	BI-214	
3267.11	2118.98	0.	54.	0.060	40.82	2.323	BI-214	s
3398.69	2204.42	6.	213.	0.237	21.56	2.589	BI-214	
3773.61	2447.90	0.	75.	0.083	34.64	2.745	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

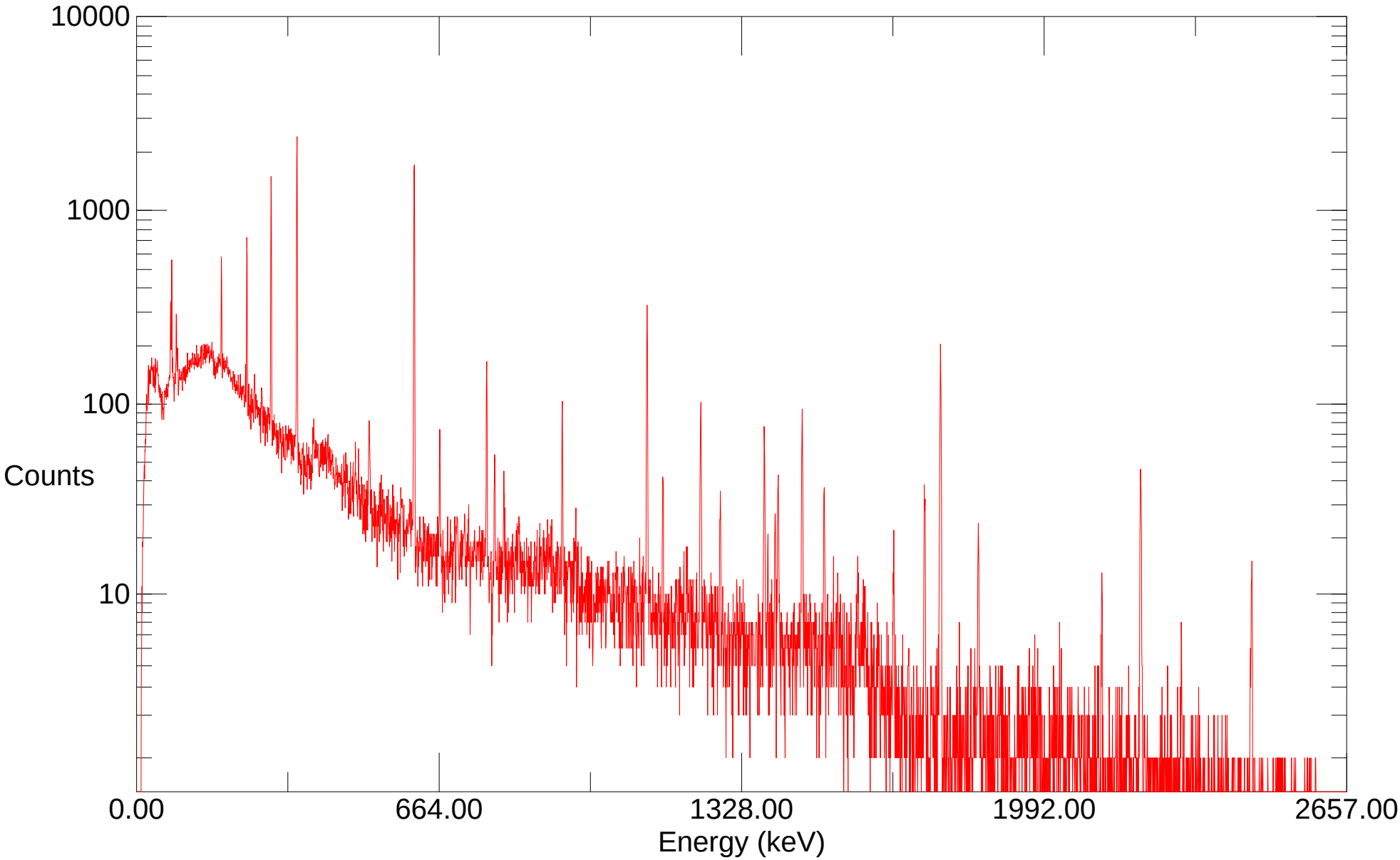
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.44	11.97	22.	4.	0.005	450.92	0.686
Pb-210	70.65	45.79	1068.	109.	0.121	203.17	1.657s
Th-234	94.92	61.51	672.	77.	0.086	216.96	2.696s
Th-234	143.21	92.80	931.	0.	0.000	12945.27	1.228D
Ra-226	287.20	186.10	1029.	937.	1.041	23.89	1.355
Pb-212	368.26	238.63	597.	0.	0.000	0.00	0.951D
Pb-214	373.26	241.87	756.	1499.	1.666	14.54	1.445
Pb-214	455.57	295.21	499.	3436.	3.817	5.81	1.356D
Tl-210	459.88	298.00	2035.	0.	0.000	19138.96	1.358D
Pb-212	463.10	300.09	487.	36.	0.040	265.17	1.359D
Ac-228	522.00	338.26	166.	20.	0.022	321.15	0.648s
Pb-214	542.70	351.67	714.	5582.	6.202	4.72	1.451
Tl-208	788.26	510.84	383.	66.	0.074	130.61	1.509D
Tl-208	900.63	583.68	118.	10.	0.011	647.75	0.763s
Bi-214	939.54	608.90	230.	4889.	5.432	4.58	1.683
Cs-137	1020.86	661.62	144.	11.	0.012	471.84	1.626D
Bi-212	1123.03	727.86	165.	69.	0.077	105.17	1.876s
Pa-234m	1182.48	766.41	345.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	50.	0.	0.000	0.00	0.441D
Tl-208	1335.00	865.30	138.	23.	0.026	272.67	0.000s
Ac-228	1405.56	911.06	57.	54.	0.060	93.29	2.380s
Ac-228	1495.08	969.11	88.	20.	0.022	210.85	1.892D
Pa-234m	1543.00	1000.19	14.	0.	0.000	1374.77	0.108s
Bi-214	1727.79	1120.04	140.	1030.	1.144	11.36	1.992
Tl-210	2018.69	1308.74	54.	22.	0.024	191.07	0.553s
K-40	2252.93	1460.71	99.	314.	0.349	25.46	2.043
Bi-212	2499.00	1620.39	5.	0.	0.000	821.58	0.000s
Bi-214	2721.01	1764.47	18.	809.	0.899	11.01	2.232
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 016 15 Min Colim@6Det@Pos4

SMP HS 16 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 2:27:51 PM Real Time: 913.36 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 17 15 Min Colim@6Det@Pos1

Sample description
smp hs 17 15 min array down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 17 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	16-Oct-2007 16:22:05
Live time:	900
Real time:	909
Dead time:	0.99 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMBE37~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 17 15 Min Colim@6Det@Pos1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1847

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.87	77.03	572.	132.	0.146	105.42	1.132	PB-214	
134.62	87.23	1102.	144.	0.159	164.71	1.636	BI-207	s
399.20	258.68	453.	130.	0.144	101.70	1.638	XE-138	s
598.21	387.65	332.	113.	0.126	111.79	0.922	-	sM
624.18	404.48	395.	99.	0.110	150.57	1.443	J-134	sM
787.40	510.35	296.	68.	0.075	113.55	1.509	J-133	D
1025.59	665.13	150.	129.	0.143	48.23	1.629	BI-214	D
1184.83	767.87	136.	395.	0.438	19.64	1.714	BI-214	D
1212.27	785.72	133.	78.	0.086	80.40	2.150	PB-214	sM
1243.06	806.05	113.	117.	0.130	47.32	1.746	BI-214	D
1293.52	838.40	121.	64.	0.071	136.70	1.463	J-135	sM
1440.10	933.45	110.	236.	0.262	30.82	1.507	BI-214	
1758.48	1139.95	80.	34.	0.038	146.06	1.166	KR-88	sM
1781.19	1154.68	91.	112.	0.124	53.58	2.362	BI-214	M
1909.18	1237.70	112.	354.	0.393	23.20	2.478	J-133	M
1975.37	1280.64	82.	74.	0.083	75.13	2.290	BI-214	M
2124.41	1377.32	68.	234.	0.259	27.85	2.360	BI-214	
2160.37	1400.82	53.	83.	0.092	49.94	2.322	BI-214	D
2171.80	1408.23	63.	128.	0.142	37.29	2.330	EU-152	D
2326.86	1508.68	67.	105.	0.117	53.27	1.847	BI-214	s
2667.10	1729.48	24.	163.	0.181	30.96	2.299	BI-214	s
2849.05	1847.58	21.	81.	0.090	46.88	1.854	BI-214	s
3264.71	2117.42	7.	53.	0.059	52.03	2.032	BI-214	s
3398.20	2204.10	0.	193.	0.214	21.59	2.627	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

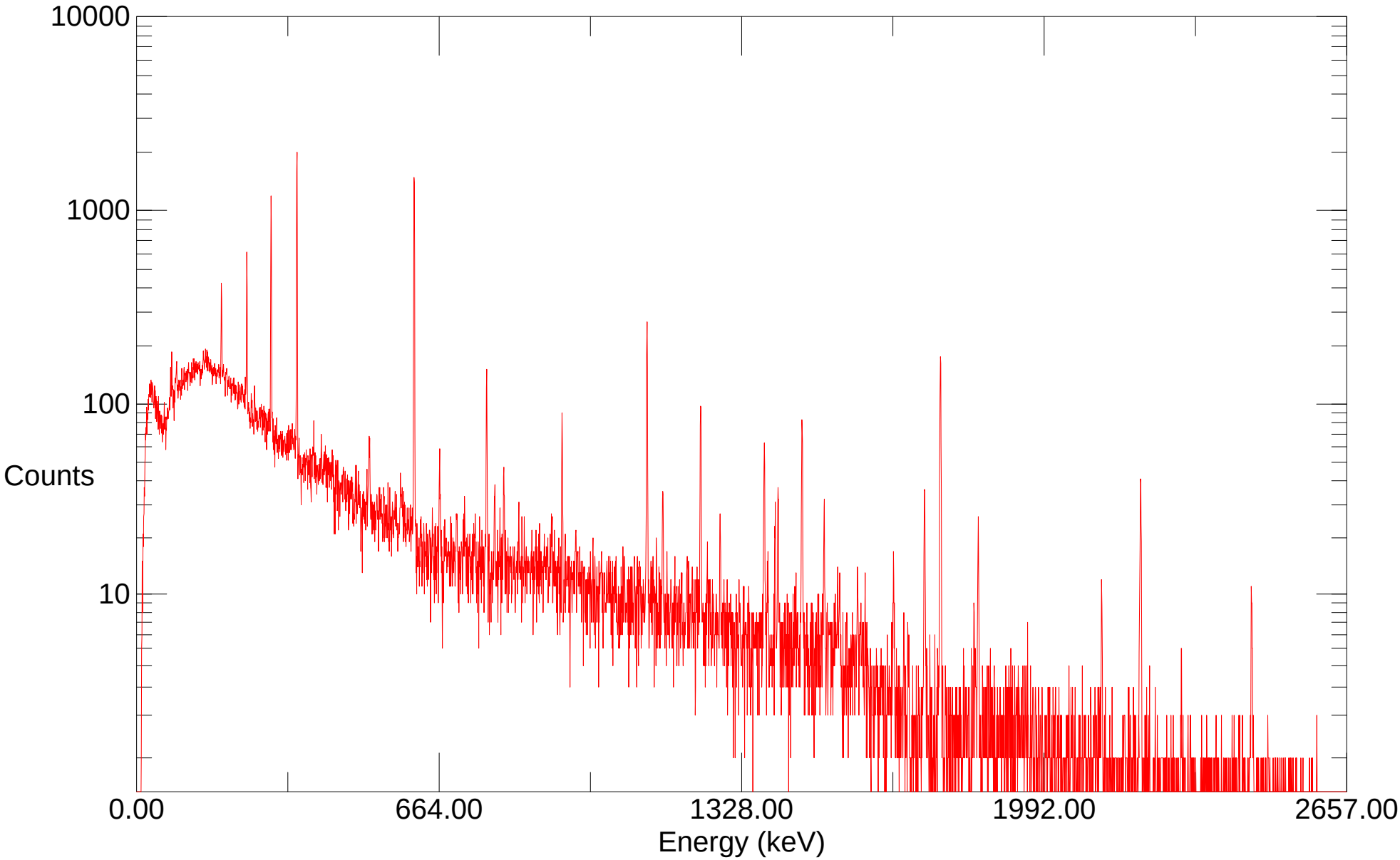
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	22.	4.	0.005	450.92	0.000s
Pb-210	73.45	47.60	490.	40.	0.044	239.53	0.623s
Th-234	97.22	63.00	330.	55.	0.061	189.74	1.620s
Th-234	143.35	92.89	784.	61.	0.068	294.63	1.248s
Ra-226	287.13	186.06	931.	699.	0.777	30.01	1.455s
Pb-212	368.26	238.63	310.	0.	0.000	0.00	0.648D
Pb-214	372.80	241.57	915.	1251.	1.390	19.69	1.346s
Pb-214	455.57	295.21	519.	2605.	2.894	6.95	1.356D
Tl-210	459.88	298.00	1518.	56.	0.062	297.75	1.358D
Pb-212	463.10	300.09	534.	22.	0.025	440.30	1.359D
Ac-228	520.32	337.17	544.	42.	0.047	264.47	1.026
Pb-214	542.63	351.63	557.	4661.	5.179	5.05	1.464
Tl-208	788.26	510.84	330.	65.	0.072	124.75	1.509D
Tl-208	899.85	583.17	168.	28.	0.031	300.00	0.873s
Bi-214	939.43	608.83	246.	4181.	4.646	5.03	1.712
Cs-137	1020.86	661.62	133.	23.	0.025	226.78	1.626D
Bi-212	1121.02	726.56	48.	20.	0.023	199.99	1.067
Pa-234m	1182.48	766.41	501.	6.	0.006	1632.96	1.713D
Tl-210	1233.83	799.70	56.	20.	0.022	173.59	1.741D
Tl-208	1325.53	859.16	132.	32.	0.036	289.87	1.687s
Ac-228	1403.94	910.01	152.	54.	0.060	125.46	1.040s
Ac-228	1499.33	971.87	156.	31.	0.034	229.79	0.751s
Pa-234m	1544.80	1001.36	83.	29.	0.032	165.76	1.428
Bi-214	1727.52	1119.86	112.	916.	1.018	11.93	2.014
Tl-210	2023.15	1311.63	21.	6.	0.007	358.82	1.301s
K-40	2252.43	1460.39	70.	323.	0.359	22.98	2.404s
Bi-212	2503.37	1623.22	30.	19.	0.021	186.16	1.622s
Bi-214	2720.87	1764.38	19.	767.	0.852	11.47	2.510
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 17 15 Min Colim@6Det@Pos1

smp hs 17 15 min array down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 4:22:05 PM Real Time: 909.02 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 018 15 Min Colim@6Det@Pos

Sample description
SMP HS 018 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 018 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 19-Oct-2007 09:56:23
Live time: 900
Real time: 912
Dead time: 1.30 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4C6F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 018 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1855

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.38	74.80	1378.	696.	0.773	25.33	1.217	BI-207	D
118.96	77.12	1150.	1248.	1.386	14.32	1.218	PB-214	D
134.58	87.13	945.	491.	0.545	29.82	1.224	BI-207	D
139.02	90.01	988.	209.	0.232	67.25	1.226	PB-214	D
219.03	141.93	1200.	119.	0.132	176.81	1.125	TC-99M	
398.49	258.22	1138.	172.	0.192	151.34	1.191	XE-138	s
423.51	274.43	651.	148.	0.164	112.45	1.822	SR-91	s
525.84	340.76	414.	72.	0.080	124.44	1.387	CS-136	D
555.72	360.11	410.	108.	0.121	134.34	0.875	-	sM
600.12	388.89	306.	110.	0.122	99.61	1.461	RH-106M	M
752.21	487.47	235.	133.	0.148	88.60	1.608	LA-140	sM
787.45	510.58	370.	126.	0.140	69.93	1.509	TL-208	D
894.02	579.56	126.	76.	0.084	72.01	1.561	KR-89	D
1026.08	665.16	145.	176.	0.196	36.74	1.629	BI-214	D
1083.28	702.09	102.	60.	0.067	112.78	1.297	NB-94	
1184.95	767.98	134.	529.	0.587	16.02	1.714	BI-214	D
1211.83	785.44	152.	133.	0.148	52.18	1.549	BI-212	
1243.24	805.77	117.	155.	0.172	38.20	1.746	PA-234	D
1293.52	838.41	105.	87.	0.097	92.33	1.639	J-135	sM
1440.00	933.39	228.	246.	0.274	39.30	2.222	BI-214	
1473.64	955.21	72.	19.	0.021	212.84	1.512	J-132	s
1487.00	963.93	106.	54.	0.060	89.85	1.887	EU-152	D
1781.06	1154.59	88.	125.	0.139	46.43	1.907	BI-214	
1862.35	1207.32	62.	63.	0.070	71.49	2.137	-	

ORTEC Spectrum name: SMP HS 018 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1909.20	1237.71	93.	439.	0.487	18.73	2.133	J-133	
1975.83	1280.94	85.	129.	0.143	48.03	1.423	BI-214	s
2124.32	1377.27	80.	310.	0.344	23.77	2.077	BI-214	s
2160.56	1400.77	66.	97.	0.107	47.09	2.323	BI-214	D
2171.44	1407.84	61.	161.	0.179	31.25	2.330	BI-214	D
2327.30	1508.97	82.	131.	0.145	48.41	2.000	BI-214	
2372.11	1538.05	37.	25.	0.027	124.95	1.310	RB-89	s
2560.74	1660.45	30.	78.	0.087	55.47	1.483	BI-214	s
2666.93	1729.37	20.	159.	0.177	28.55	3.103	BI-214	s
2848.00	1846.90	18.	117.	0.130	35.25	2.418	BI-214	
3266.68	2118.70	6.	95.	0.105	34.87	2.231	BI-214	
3398.26	2204.14	4.	237.	0.263	20.29	2.671	BI-214	
3773.36	2447.73	3.	71.	0.079	39.17	2.312	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	25.	5.	0.006	427.78	0.000s
Pb-210	73.14	47.40	635.	42.	0.047	339.91	2.043s
Th-234	98.20	63.64	672.	49.	0.054	320.30	0.793s
Th-234	143.21	92.80	1111.	26.	0.029	552.52	1.228D
Ra-226	287.19	186.09	1562.	1110.	1.233	26.63	1.323
Pb-212	368.26	238.63	909.	69.	0.076	189.98	1.318D
Pb-214	373.43	241.98	811.	1818.	2.020	9.68	1.321D
Pb-214	455.57	295.21	447.	3931.	4.368	5.30	1.356D
Tl-210	459.88	298.00	2150.	65.	0.072	304.67	1.358D
Pb-212	463.10	300.09	548.	114.	0.127	91.41	1.359D
Ac-228	522.09	338.32	526.	31.	0.035	317.72	1.385D
Pb-214	542.64	351.64	779.	6418.	7.131	4.34	1.428
Tl-208	788.26	510.84	437.	59.	0.065	156.52	1.509D
Tl-208	899.80	583.14	189.	43.	0.048	143.37	1.564D
Bi-214	939.45	608.84	258.	5502.	6.114	4.33	1.602
Cs-137	1020.86	661.62	77.	4.	0.005	894.78	1.626D
Bi-212	1123.96	728.46	84.	46.	0.051	140.78	1.400s
Pa-234m	1182.48	766.41	604.	21.	0.023	509.41	1.713D
Tl-210	1233.83	799.70	95.	22.	0.025	197.71	1.741D
Tl-208	1328.54	861.12	167.	54.	0.060	133.67	1.169
Ac-228	1406.24	911.50	197.	55.	0.061	142.58	2.291s
Ac-228	1495.08	969.11	116.	27.	0.030	178.11	1.891D
Pa-234m	1543.00	1000.19	97.	2.	0.002	2722.58	0.000s
Bi-214	1727.44	1119.81	128.	1221.	1.357	10.10	1.995
Tl-210	2013.92	1305.64	55.	12.	0.013	314.91	0.471s
K-40	2252.69	1460.56	73.	317.	0.352	23.56	2.688

ORTEC Spectrum name: SMP HS 018 15 Min Colim@6Det@Pos

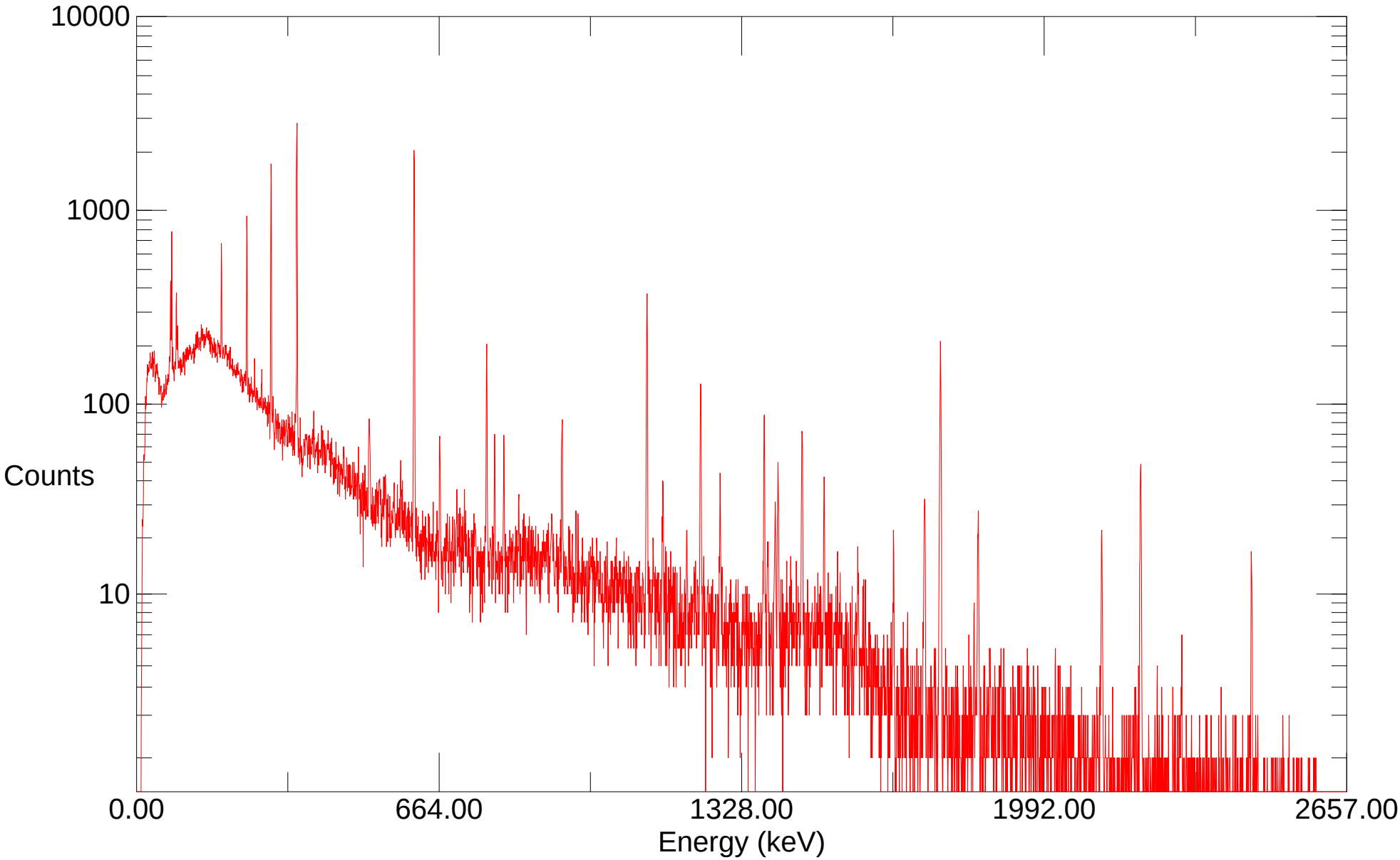
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-212	2497.79	1619.60	30.	17.	0.019	191.11	1.184s
Bi-214	2720.78	1764.32	9.	886.	0.984	10.28	2.453
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 018 15 Min Colim@6Det@Pos4

SMP HS 018 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 9:56:23 AM Real Time: 911.88 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 019 45 DG 15 Min Colim@6D

Sample description
SMP HS 019 array 45 DG Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 019 45 DG 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	18-Oct-2007 15:47:39
Live time:	900
Real time:	930
Dead time:	3.27 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMB403~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 019 45 DG 15 Min Colim@6D

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1122

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.55	74.97	1396.	485.	0.539	35.41	1.217	BI-207	D
118.97	77.18	1235.	820.	0.911	21.00	1.218	PB-214	D
134.49	87.00	1224.	467.	0.519	34.68	1.224	BI-207	D
139.24	90.08	1106.	238.	0.265	62.37	1.226	PB-214	D
191.87	124.33	1233.	161.	0.179	132.98	1.984	PA-234	s
399.95	259.16	668.	102.	0.114	144.54	1.628	XE-138	s
423.70	274.56	826.	150.	0.167	124.37	1.208	SR-91	s
672.15	435.58	270.	61.	0.068	166.12	1.396	XE-138	M
701.84	454.82	198.	94.	0.104	89.88	1.525	TE-131	M
740.31	479.76	333.	121.	0.134	109.55	1.568	W-187	sM
751.32	486.90	332.	77.	0.086	162.38	1.208	LA-140	M
788.13	510.76	484.	126.	0.140	78.62	1.509	TL-208	D
823.00	533.36	244.	79.	0.088	136.87	2.176	ND-147	sM
1026.20	665.14	184.	224.	0.248	32.66	1.629	BI-214	D
1084.20	702.69	152.	94.	0.104	93.27	1.932	NB-94	M
1185.08	768.09	202.	615.	0.683	17.05	1.838	BI-214	
1211.43	785.18	240.	185.	0.205	51.01	2.414	BI-212	sM
1243.35	805.77	143.	169.	0.188	37.92	1.746	PA-234	D
1294.12	838.79	214.	87.	0.097	93.10	1.616	J-135	sM
1440.58	933.77	255.	385.	0.428	28.76	2.165	BI-214	
1747.00	1132.50	142.	53.	0.059	123.88	0.839	J-135	sM
1781.26	1154.72	133.	184.	0.204	40.84	1.809	BI-214	M
1909.43	1237.86	163.	526.	0.585	19.10	2.376	BI-214	M
1975.62	1280.80	92.	149.	0.166	41.51	2.405	BI-214	sM

ORTEC Spectrum name: SMP HS 019 45 DG 15 Min Colim@6D

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2124.88	1377.63	88.	371.	0.412	18.91	2.297	BI-214	D
2137.29	1385.68	65.	70.	0.077	60.71	2.306	AG-110M	D
2161.69	1401.52	76.	128.	0.143	39.03	2.323	BI-214	D
2171.57	1407.93	73.	196.	0.218	28.35	2.330	BI-214	D
2327.34	1508.99	160.	181.	0.201	42.61	2.835	BI-214	s
2441.57	1583.12	88.	89.	0.099	75.35	1.881	-	
2466.02	1598.98	80.	60.	0.066	103.55	1.021	EU-154	s
2561.60	1661.01	35.	89.	0.099	51.50	2.906	BI-214	
2667.61	1729.81	21.	198.	0.220	25.21	2.881	BI-214	
2849.43	1847.82	26.	154.	0.171	30.98	1.893	BI-214	s
3267.71	2119.37	3.	78.	0.087	35.95	2.582	BI-214	
3398.86	2204.52	4.	276.	0.307	18.55	3.188	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.90	11.62	18.	4.	0.004	511.30	1.109
Pb-210	69.48	45.03	1756.	79.	0.088	357.43	2.483s
Th-234	98.70	63.96	948.	100.	0.112	197.30	1.962s
Th-234	143.21	92.80	1049.	84.	0.094	166.45	1.228D
Ra-226	287.24	186.13	2012.	1244.	1.382	26.76	1.411s
Pb-212	368.26	238.63	1189.	71.	0.079	207.86	1.318D
Pb-214	373.43	241.98	994.	2084.	2.315	9.19	1.321D
Pb-214	455.57	295.21	700.	4569.	5.077	5.07	1.356D
Tl-210	459.88	298.00	2758.	68.	0.075	331.55	1.358D
Pb-212	463.10	300.09	688.	62.	0.069	182.12	1.359D
Ac-228	523.37	339.15	612.	130.	0.144	130.34	3.776s
Pb-214	542.76	351.71	1010.	7800.	8.667	4.00	1.435
Tl-208	788.26	510.84	530.	80.	0.088	127.37	1.509D
Tl-208	901.85	584.47	153.	14.	0.015	376.88	0.623s
Bi-214	939.62	608.95	344.	6652.	7.391	3.97	1.662
Cs-137	1020.86	661.62	169.	31.	0.034	188.69	1.626D
Bi-212	1124.10	728.55	114.	7.	0.008	656.99	0.877s
Pa-234m	1182.48	766.41	153.	0.	0.000	0.00	1.832D
Tl-210	1233.83	799.70	102.	26.	0.029	173.54	1.741D
Tl-208	1322.50	857.20	208.	22.	0.024	346.59	1.134
Ac-228	1403.97	910.03	173.	50.	0.055	136.66	0.764s
Ac-228	1495.12	969.14	77.	57.	0.063	105.72	2.151
Pa-234m	1546.92	1002.73	176.	52.	0.058	152.35	1.303
Bi-214	1727.78	1120.03	173.	1498.	1.665	9.12	2.024
Tl-210	2022.00	1310.89	34.	1.	0.001	2491.99	0.000s
K-40	2253.15	1460.85	75.	291.	0.324	24.48	2.381s
Bi-212	2502.48	1622.64	23.	11.	0.012	220.06	1.012s

ORTEC Spectrum name: SMP HS 019 45 DG 15 Min Colim@6D

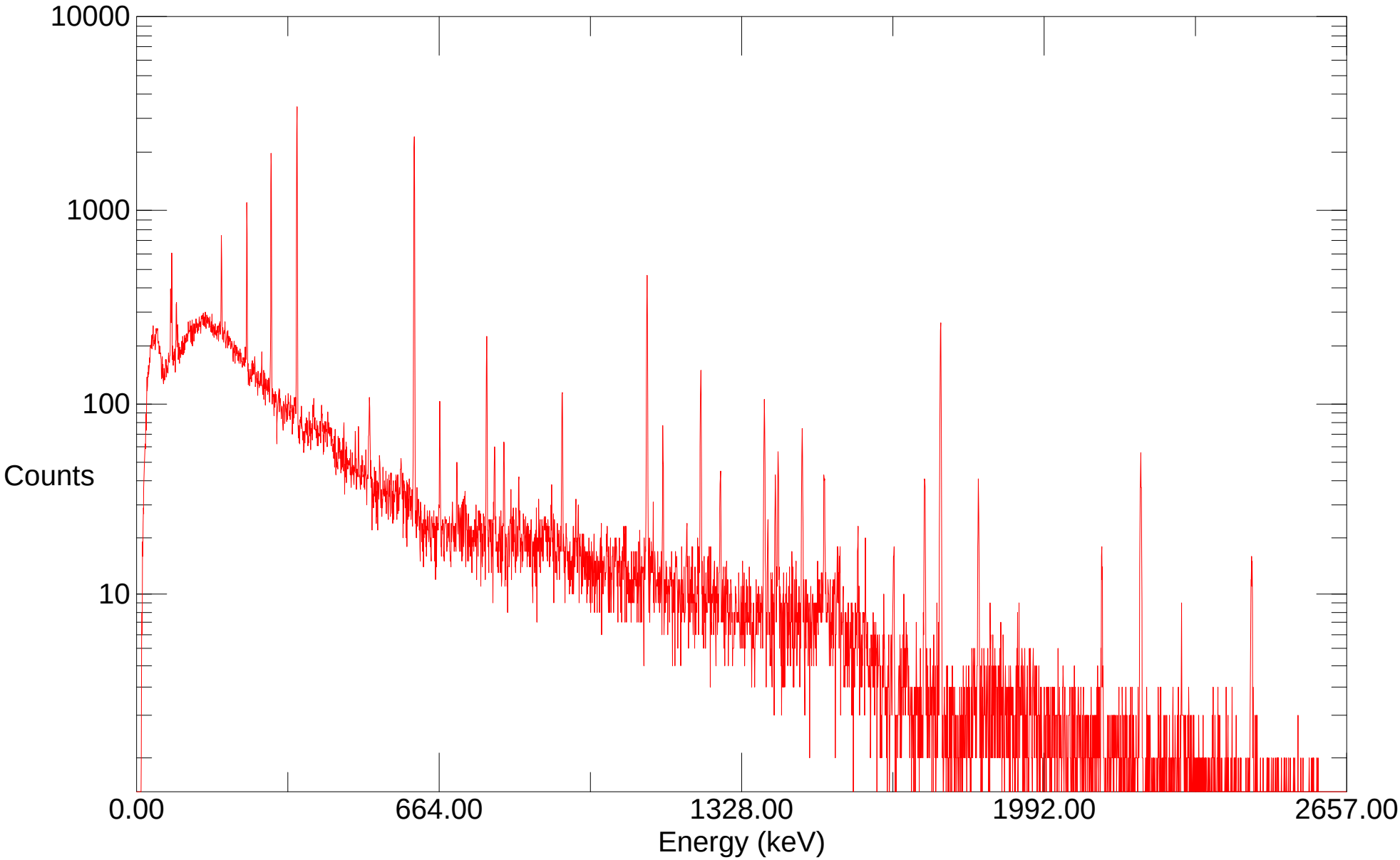
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	2721.29	1764.65	27.	1056.	1.174	9.72	2.291
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 019 45 DG 15 Min Colim@6Det@Pos4

SMP HS 019 array 45 DG Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 3:47:39 PM Real Time: 930.46 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 020 15 Colim@6Det@Pos4.An

Sample description
SMP HS 020 col @6 det @ 4 11_07_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 020 15 Colim@6Det@Pos4.An1

Acquisition information
Start time:	07-Nov-2007 14:51:03
Live time:	900
Real time:	913
Dead time:	1.41 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM3930~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 020 15 Colim@6Det@Pos4.An

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2196

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
110.35	71.51	189.	66.	0.073	130.32	2.158	W-187	s
146.21	94.65	160.	40.	0.044	142.41	1.229	PA-234	D

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	14.78	9.59	1.	1.	0.001	519.62	0.564	s
Pb-210	69.88	45.29	320.	64.	0.072	198.52	1.500	s
Th-234	98.15	63.61	324.	78.	0.087	158.49	1.855	s
Th-234	143.21	92.80	250.	1.	0.001	5550.42	1.228	D
Ra-226	288.04	186.65	296.	71.	0.079	166.41	1.125	s
Pb-212	368.26	238.63	200.	62.	0.069	103.40	1.318	D
Pb-214	373.43	241.98	182.	84.	0.093	75.68	1.320	D
Pb-214	455.57	295.21	130.	165.	0.183	37.52	1.356	D
Tl-210	459.88	298.00	206.	6.	0.006	1076.99	1.358	D
Pb-212	463.10	300.09	140.	17.	0.019	301.21	1.359	D
Ac-228	522.26	338.43	104.	40.	0.045	182.91	0.796	
Pb-214	542.56	351.58	150.	332.	0.369	24.90	1.581	s
Tl-208	788.15	510.77	113.	148.	0.165	45.45	3.893	s
Tl-208	899.61	583.02	60.	42.	0.047	101.52	1.428	s

ORTEC Spectrum name: SMP HS 020 15 Colim@6Det@Pos4.An

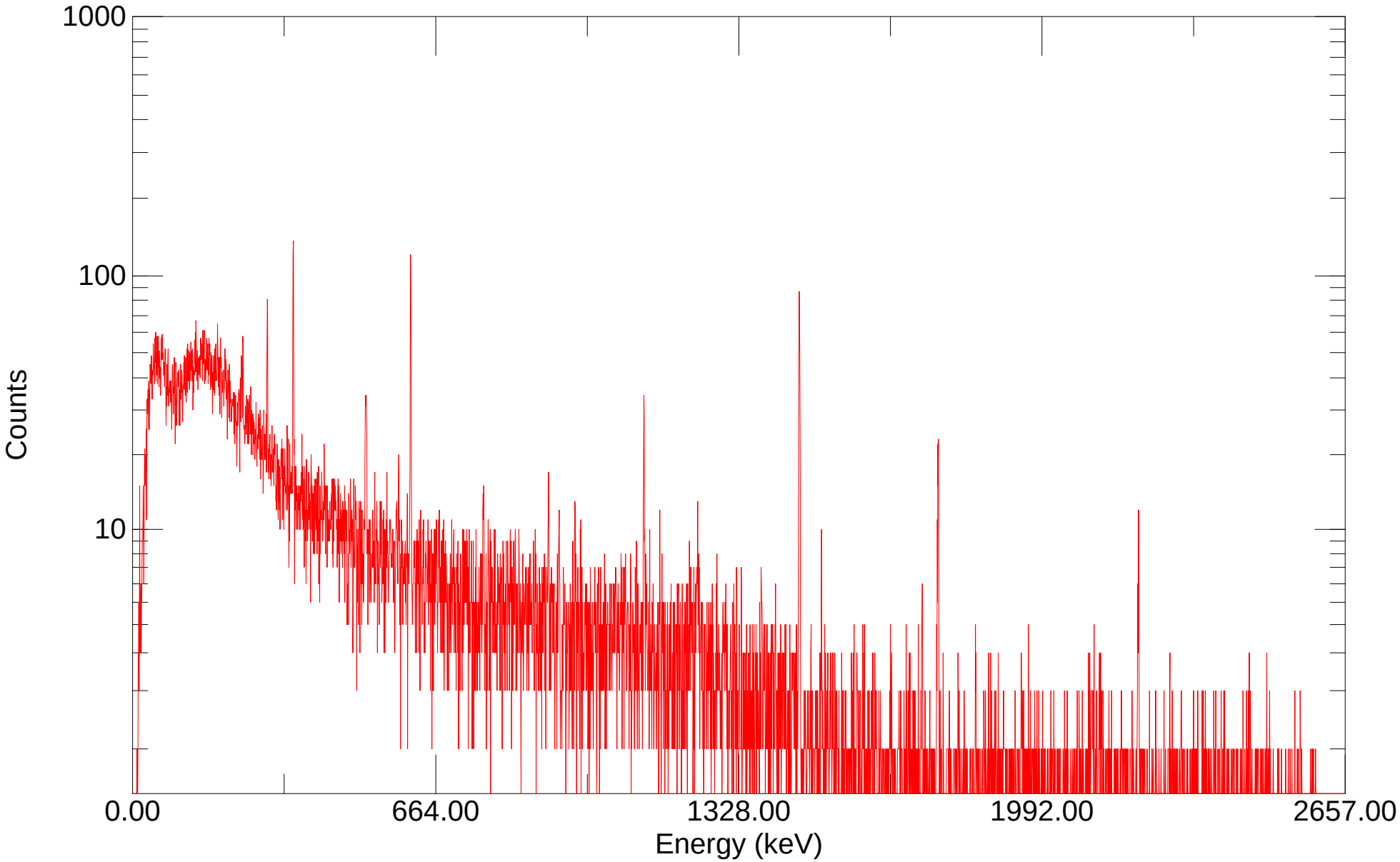
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	939.22	608.69	78.	316.	0.351	22.53	1.618
Cs-137	1017.69	659.57	34.	8.	0.009	326.92	0.549s
Bi-212	1119.00	725.25	59.	11.	0.013	352.72	0.519s
Pa-234m	1184.79	767.91	50.	34.	0.037	112.30	2.691s
Tl-210	1233.45	799.46	40.	14.	0.016	235.39	0.685s
Tl-208	1326.41	859.73	35.	24.	0.027	142.77	1.873s
Ac-228	1403.33	909.61	40.	47.	0.052	82.49	1.936s
Ac-228	1494.66	968.84	25.	37.	0.041	82.55	1.923s
Pa-234m	1545.19	1001.61	20.	8.	0.009	277.26	0.933s
Bi-214	1727.35	1119.75	51.	98.	0.109	50.36	1.568
Tl-210	2018.56	1308.65	12.	14.	0.016	152.69	2.020s
K-40	2252.26	1460.28	9.	305.	0.339	18.16	1.898
Bi-212	2499.08	1620.44	6.	9.	0.010	173.21	0.660s
Bi-214	2720.68	1764.26	0.	100.	0.111	30.00	2.273
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 020 15 Colim@6Det@Pos4

SMP HS 020 col @6 det @ 4 11_07_07



Acquired: 11/7/2007 2:51:03 PM Real Time: 912.90 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 021 15 Min Colim@6Det@Pos

Sample description
smp hs 021 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 021 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 22-Oct-2007 09:14:52
Live time: 900
Real time: 910
Dead time: 1.08 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0D2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 021 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2640

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
115.39	74.81	955.	499.	0.555	9.83	1.217	BI-207	D
119.02	77.16	823.	796.	0.884	6.21	1.218	PB-214	D
135.81	88.01	1034.	214.	0.238	22.27	1.225	PB-214	D
168.23	109.01	960.	165.	0.183	42.70	1.370	U-235	s
400.09	259.25	624.	105.	0.117	54.08	1.478	XE-138	s
422.65	273.87	598.	116.	0.128	50.54	1.492	CS-136	s
600.05	388.85	284.	66.	0.074	55.09	1.231	RH-106M	M
749.93	485.99	184.	66.	0.073	50.18	1.242	LA-140	sM
786.77	510.23	268.	85.	0.094	29.49	1.508	J-133	D
894.61	579.72	121.	55.	0.061	31.65	1.562	KR-89	D
1025.93	665.01	93.	129.	0.144	13.71	1.629	PA-234	D
1184.46	767.69	152.	310.	0.345	9.06	1.715	BI-214	
1211.68	785.34	112.	78.	0.087	26.09	2.245	BI-212	sM
1243.07	805.89	104.	86.	0.096	19.82	1.746	BI-214	D
1294.11	838.79	75.	39.	0.044	37.15	1.270	J-135	M
1439.95	933.36	121.	178.	0.197	13.34	1.516	BI-214	
1485.85	963.13	81.	30.	0.033	46.22	1.886	TB-160	D
1780.88	1154.48	52.	83.	0.093	17.84	2.314	BI-214	M
1908.67	1237.36	75.	308.	0.342	7.75	2.018	J-133	M
1975.60	1280.78	53.	93.	0.103	18.32	2.013	BI-214	M
2123.56	1376.78	69.	174.	0.193	11.91	2.324	BI-214	
2160.72	1400.98	37.	70.	0.078	17.08	2.322	BI-214	D
2170.91	1407.60	40.	113.	0.126	12.29	2.329	BI-214	D
2327.59	1509.16	46.	74.	0.082	19.26	2.037	BI-214	

ORTEC Spectrum name: SMP HS 021 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2667.09	1729.47	20.	104.	0.116	12.89	2.435	BI-214	
2848.12	1846.98	11.	93.	0.103	12.92	2.107	BI-214	
3265.67	2118.04	6.	46.	0.052	17.61	0.921	BI-214	s
3397.58	2203.69	0.	170.	0.189	7.67	1.506	BI-214	s
3772.64	2447.26	0.	61.	0.068	12.80	2.381	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

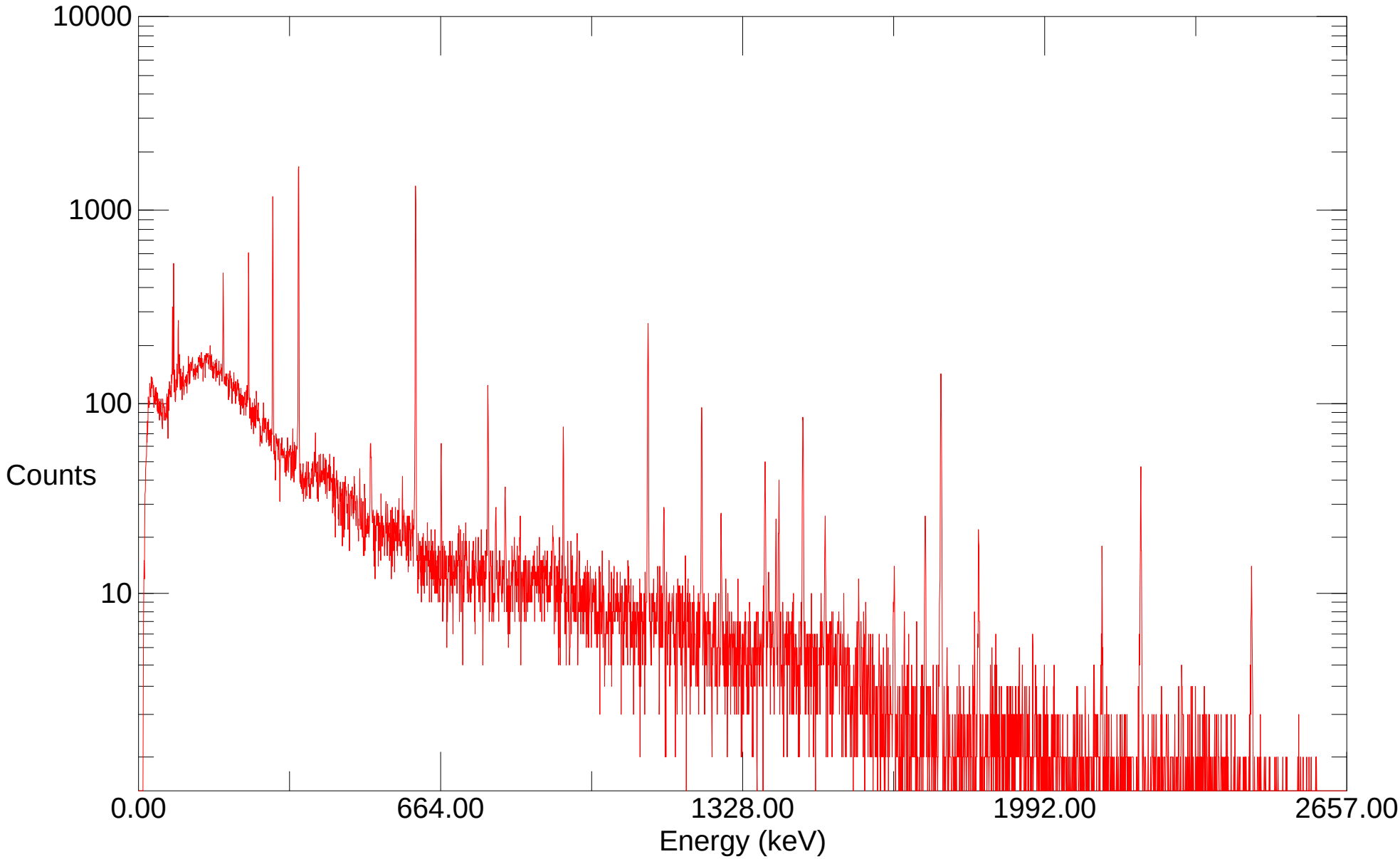
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	18.80	12.20	30.	6.	0.007	130.17	1.064
Pb-210	74.07	48.00	588.	63.	0.070	82.62	0.761s
Th-234	96.56	62.58	666.	153.	0.170	40.38	1.391s
Th-234	143.21	92.80	598.	39.	0.044	89.03	1.228D
Ra-226	287.03	185.99	1156.	760.	0.845	11.10	1.208s
Pb-212	368.26	238.63	719.	62.	0.069	62.40	1.318D
Pb-214	373.43	241.98	611.	1057.	1.175	4.52	1.320D
Pb-214	455.57	295.21	356.	2506.	2.785	2.26	1.356D
Tl-210	459.88	298.00	1219.	51.	0.057	97.73	1.358D
Pb-212	463.10	300.09	293.	31.	0.034	81.36	1.359D
Ac-228	523.11	338.98	320.	95.	0.106	43.34	1.692s
Pb-214	542.50	351.55	606.	4054.	4.504	1.89	1.477
Tl-208	788.26	510.84	308.	50.	0.055	52.03	1.509D
Tl-208	899.80	583.14	158.	29.	0.032	64.69	1.564D
Bi-214	939.24	608.71	258.	3422.	3.803	1.92	1.568
Cs-137	1020.86	661.62	59.	1.	0.001	1031.50	1.626D
Bi-212	1120.99	726.54	51.	11.	0.012	91.48	0.766s
Pa-234m	1182.48	766.41	334.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	61.	12.	0.013	98.89	1.741D
Tl-208	1326.00	859.47	45.	12.	0.013	108.49	1.297
Ac-228	1405.03	910.71	110.	34.	0.037	52.32	2.677s
Ac-228	1495.08	969.11	80.	23.	0.025	59.80	1.891D
Pa-234m	1537.53	996.64	83.	16.	0.017	98.45	0.872s
Bi-214	1727.14	1119.61	102.	795.	0.883	4.33	1.851
Tl-210	2021.86	1310.79	32.	8.	0.008	123.83	1.024s
K-40	2252.11	1460.18	70.	320.	0.356	7.71	2.205
Bi-212	2499.00	1620.39	9.	4.	0.004	137.57	0.233s
Bi-214	2720.15	1763.91	12.	566.	0.629	4.38	2.371
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 021 15 Min Colim@6Det@Pos4

smp hs 021 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 9:14:52 AM Real Time: 909.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 022 15 Min Colim@6Det@Pos

Sample description
smp hs 022 array down Coli@6Det@Pos4 10_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 022 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 20-Oct-2007 10:23:48
Live time: 900
Real time: 910
Dead time: 1.12 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMCC2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 022 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1881

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.32	74.76	825.	380.	0.422	35.56	1.217	BI-207	D
119.04	77.17	740.	557.	0.619	24.29	1.218	PB-214	D
134.58	87.12	682.	294.	0.326	41.58	1.224	BI-207	D
138.96	89.96	808.	203.	0.225	63.07	1.226	PB-214	D
398.97	258.53	759.	152.	0.169	140.75	1.852	XE-138	s
422.45	273.74	595.	181.	0.201	101.51	1.991	CS-136	s
787.94	510.52	337.	47.	0.053	169.89	1.509	J-133	D
899.12	582.71	55.	45.	0.050	83.30	1.564	TL-208	D
1018.51	660.51	63.	41.	0.046	94.63	1.625	CS-137	D
1025.98	665.36	94.	110.	0.122	47.10	1.629	BI-214	D
1084.04	702.58	93.	49.	0.054	102.72	2.122	NB-94	sM
1184.67	767.79	124.	280.	0.311	24.65	1.714	BI-214	D
1211.02	784.91	101.	75.	0.084	75.82	1.169	BI-212	M
1243.42	805.98	82.	87.	0.097	54.33	1.746	BI-214	D
1440.26	933.56	119.	172.	0.191	41.59	1.882	BI-214	
1781.24	1154.70	71.	116.	0.129	50.85	2.086	BI-214	sM
1909.19	1237.70	62.	305.	0.339	21.60	1.925	J-133	M
1975.00	1280.39	48.	76.	0.084	58.55	1.677	BI-214	sM
2124.23	1377.21	50.	195.	0.217	29.59	1.921	BI-214	
2160.63	1400.83	36.	65.	0.072	54.46	2.323	BI-214	D
2171.28	1407.74	33.	112.	0.124	35.73	2.330	BI-214	D
2326.94	1508.74	40.	94.	0.105	47.87	2.196	BI-214	s
2666.93	1729.37	18.	120.	0.133	35.35	2.566	BI-214	
2848.77	1847.39	10.	84.	0.093	41.08	1.579	BI-214	s

ORTEC Spectrum name: SMP HS 022 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
3398.10	2204.03	0.	155.	0.172	24.10	3.143	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

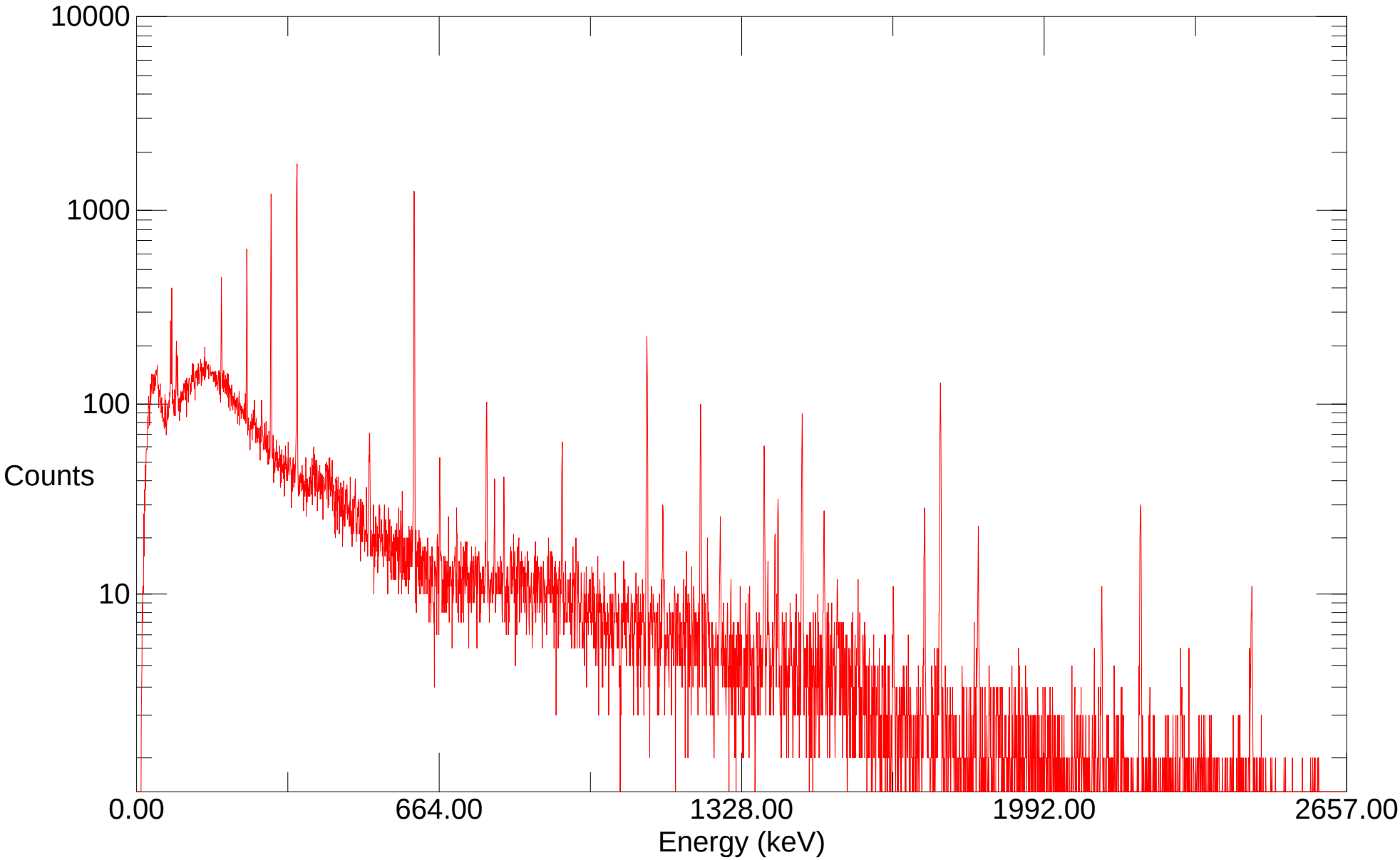
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	15.	3.	0.003	552.27	0.000s
Pb-210	70.31	45.57	702.	62.	0.069	259.22	0.578s
Th-234	97.11	62.93	504.	117.	0.130	125.22	0.959s
Th-234	143.21	92.80	546.	50.	0.055	204.47	1.228D
Ra-226	287.12	186.05	780.	724.	0.804	26.99	1.213s
Pb-212	368.26	238.63	613.	90.	0.100	121.42	1.318D
Pb-214	373.43	241.98	508.	1190.	1.322	11.85	1.321D
Pb-214	455.57	295.21	336.	2634.	2.926	6.55	1.356D
Tl-210	459.88	298.00	1327.	36.	0.040	429.71	1.358D
Pb-212	463.10	300.09	279.	38.	0.042	195.37	1.359D
Ac-228	520.27	337.14	324.	89.	0.099	145.80	3.737s
Pb-214	542.59	351.61	468.	4159.	4.621	5.38	1.474
Tl-208	788.26	510.84	271.	113.	0.125	67.99	1.509D
Tl-208	899.80	583.14	97.	3.	0.004	1215.73	1.564D
Bi-214	939.42	608.83	190.	3508.	3.898	5.46	1.651
Cs-137	1020.86	661.62	123.	0.	0.000	4705.32	1.626D
Bi-212	1122.00	727.19	30.	2.	0.002	1028.35	0.000s
Pa-234m	1182.48	766.41	367.	17.	0.019	485.03	1.713D
Tl-210	1233.83	799.70	84.	13.	0.014	316.04	1.741D
Tl-208	1324.01	858.18	75.	39.	0.043	118.92	1.438s
Ac-228	1400.73	907.93	131.	39.	0.044	166.21	0.584s
Ac-228	1494.72	968.88	59.	22.	0.025	169.50	1.492
Pa-234m	1543.43	1000.47	58.	18.	0.019	219.37	0.645s
Bi-214	1727.41	1119.79	76.	778.	0.864	12.76	2.073
Tl-210	2019.31	1309.14	33.	12.	0.013	256.78	1.081s
K-40	2252.48	1460.42	48.	306.	0.340	21.88	1.979
Bi-212	2495.75	1618.28	14.	15.	0.017	151.00	0.698s
Bi-214	2720.66	1764.25	26.	520.	0.578	14.59	2.524
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 022 15 Min Colim@6Det@Pos4

smp hs 022 array down Coli@6Det@Pos4 10_20_07



Acquired: 10/20/2007 10:23:48 AM Real Time: 910.22 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 023 15 Min Colim@6Det@Pos

Sample description
smp hs 023 array down col @ 6 det pos 4 10_25_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 023 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 25-Oct-2007 10:01:35
Live time: 900
Real time: 913
Dead time: 1.40 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM8C2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 023 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3353

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
41.68	26.83	648.	60.	0.067	61.31	1.189	SN-113	D
46.93	30.23	707.	42.	0.047	90.53	1.191	TE-132	D
95.84	62.35	1211.	104.	0.116	48.34	1.210	PA-234	D
115.42	74.82	1477.	386.	0.429	14.99	1.217	BI-207	D
118.99	77.14	1433.	570.	0.634	10.28	1.218	PB-214	D
134.46	87.13	1316.	240.	0.267	32.71	1.211	BI-207	s
398.39	258.16	1908.	372.	0.413	30.43	2.368	XE-138	s
422.34	273.68	1256.	250.	0.278	32.32	2.218	CS-136	s
513.70	333.39	615.	106.	0.118	34.47	1.381	AU-196	D
597.20	387.00	632.	235.	0.261	24.79	3.644	RH-106M	sM
712.32	461.62	452.	105.	0.117	46.32	1.653	CS-138	M
740.85	480.06	434.	104.	0.115	30.08	1.486	W-187	D
750.93	486.60	374.	88.	0.097	33.04	1.491	LA-140	D
786.72	509.95	596.	116.	0.129	31.25	1.508	J-133	D
892.78	578.59	360.	104.	0.116	45.75	1.536	KR-89	s
1025.56	664.67	226.	280.	0.312	9.65	1.629	PA-234	D
1083.37	702.15	226.	176.	0.195	23.08	2.075	NB-94	sM
1109.28	718.95	214.	96.	0.106	40.42	2.544	SB-126	sM
1184.33	767.60	297.	782.	0.869	5.31	1.709	BI-214	
1211.48	785.21	292.	210.	0.234	16.02	1.381	BI-212	sM
1242.51	805.16	204.	235.	0.261	10.81	1.746	PA-234	D
1292.19	837.54	205.	112.	0.124	22.91	2.268	J-135	sM
1440.04	933.42	231.	408.	0.453	7.99	1.913	BI-214	
1486.27	963.37	170.	68.	0.075	29.86	1.886	EU-152	D

ORTEC Spectrum name: SMP HS 023 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1511.77	979.94	104.	35.	0.039	45.86	1.984	PA-234	
1622.09	1051.49	136.	59.	0.066	35.50	1.106	-	s
1649.62	1069.34	152.	65.	0.072	34.35	1.897	J-134	
1747.27	1132.67	99.	36.	0.040	44.94	2.122	J-135	M
1781.23	1154.70	219.	233.	0.259	14.29	2.196	BI-214	sM
1823.66	1182.22	80.	83.	0.092	21.65	2.673	KR-88	sM
1861.36	1206.68	168.	90.	0.099	29.04	1.159	-	sM
1908.65	1237.35	157.	670.	0.744	5.27	2.202	J-133	M
1974.62	1280.15	116.	172.	0.191	13.26	1.603	BI-214	M
2123.76	1376.91	117.	487.	0.541	6.01	2.212	BI-214	
2160.52	1400.73	96.	178.	0.198	10.78	2.322	BI-214	D
2170.68	1407.32	87.	263.	0.292	7.97	2.329	BI-214	D
2326.72	1508.59	273.	184.	0.205	20.72	2.377	BI-214	
2560.64	1660.39	44.	108.	0.120	15.88	2.697	BI-214	s
2665.93	1728.72	24.	281.	0.312	6.91	1.923	BI-214	
2847.71	1846.71	21.	189.	0.210	8.52	2.306	BI-214	
2922.51	1895.26	25.	46.	0.051	25.12	1.776	-	s
3265.84	2118.15	8.	112.	0.124	10.53	2.991	BI-214	
3397.23	2203.46	4.	400.	0.444	5.12	2.358	BI-214	
3772.61	2447.25	0.	107.	0.119	9.67	2.750	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	18.36	11.91	9.	2.	0.002	235.49	0.633
Pb-210	70.45	45.66	2758.	338.	0.376	36.79	2.776s
Th-234	97.66	63.29	1254.	61.	0.068	83.00	1.210D
Th-234	144.17	93.42	1328.	163.	0.181	50.60	3.801s
Ra-226	287.02	185.98	3124.	1743.	1.937	8.52	1.305s
Pb-212	368.26	238.63	1209.	0.	0.000	0.00	1.566D
Pb-214	373.05	241.73	2074.	2574.	2.861	4.92	1.418
Pb-214	455.57	295.21	1119.	5686.	6.318	1.57	1.356D
Tl-210	459.88	298.00	2874.	42.	0.046	182.69	1.357D
Pb-212	463.10	300.09	824.	6.	0.007	690.97	1.359D
Ac-228	522.09	338.32	670.	92.	0.102	41.07	1.385D
Pb-214	542.38	351.47	1402.	9866.	10.962	1.21	1.596
Tl-208	788.26	510.84	596.	114.	0.126	31.83	1.509D
Tl-208	899.80	583.14	291.	0.	0.000	0.00	0.649D
Bi-214	939.14	608.64	555.	8323.	9.248	1.22	1.694
Cs-137	1020.86	661.62	156.	10.	0.011	176.85	1.626D
Bi-212	1121.73	727.02	184.	26.	0.029	118.30	0.832s
Pa-234m	1182.48	766.41	776.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	111.	7.	0.008	210.77	1.741D

ORTEC Spectrum name: SMP HS 023 15 Min Colim@6Det@Pos

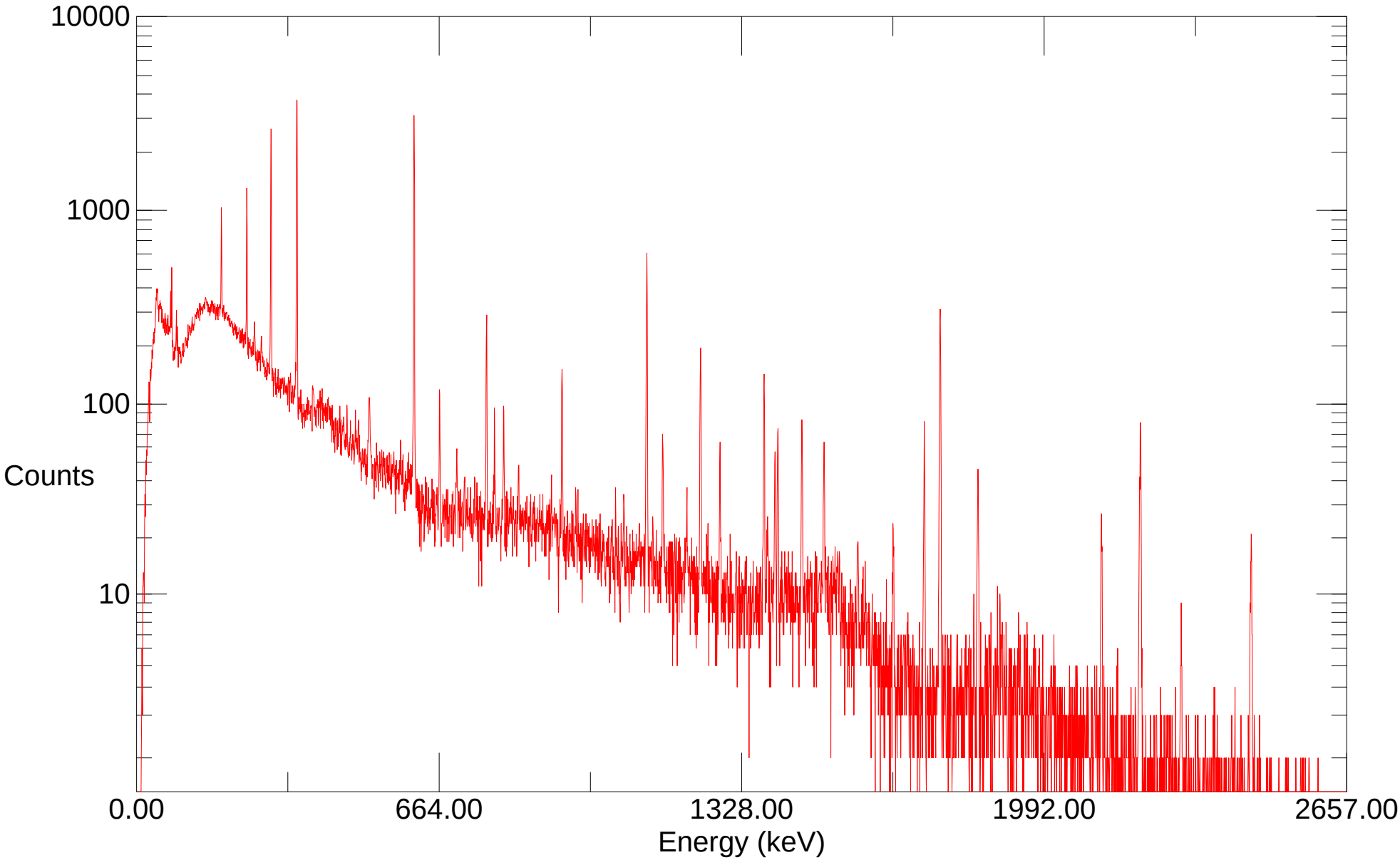
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	1326.00	859.47	103.	0.	0.000	0.00	0.000s
Ac-228	1404.17	910.16	148.	51.	0.056	37.94	1.343
Ac-228	1495.08	969.11	152.	38.	0.042	49.30	1.891D
Pa-234m	1544.00	1000.84	51.	0.	0.000	874.64	0.000s
Bi-214	1726.99	1119.52	211.	1849.	2.055	2.77	1.881
Tl-210	2018.96	1308.92	39.	5.	0.005	181.12	0.363s
K-40	2251.69	1459.91	115.	281.	0.312	9.30	2.172
Bi-212	2498.00	1619.74	11.	0.	0.000	406.20	0.281s
Bi-214	2719.88	1763.74	39.	1338.	1.487	2.89	2.549
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 023 15 Min Colim@6Det@Pos4

smp hs 023 array down col @ 6 det pos 4 10_25_07



Acquired: 10/25/2007 10:01:35 AM Real Time: 912.78 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 024 15 Min Colim@6Det@Pos

Sample description
SMP HS 024 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 024 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 12:24:47
Live time: 900
Real time: 916
Dead time: 1.74 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4D2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1605

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.23	74.68	657.	282.	0.313	42.50	1.217	BI-207	D
119.04	77.15	554.	531.	0.590	22.87	1.218	PB-214	D
128.99	83.55	439.	82.	0.091	113.11	1.222	HG-203	D
134.53	87.13	603.	237.	0.263	48.09	1.224	BI-207	D
191.04	123.79	432.	106.	0.118	113.39	1.692	EU-154	s
344.72	223.37	438.	94.	0.104	145.71	1.236	SB-126	s
361.77	234.55	348.	77.	0.085	108.46	1.316	J-134	D
400.16	259.30	354.	94.	0.105	130.32	1.925	XE-138	s
750.98	486.67	135.	82.	0.091	109.27	2.002	LA-140	sM
787.86	510.53	245.	50.	0.055	140.04	1.509	J-133	D
894.26	579.52	63.	54.	0.060	74.06	1.561	KR-89	D
1026.13	665.02	85.	80.	0.089	59.26	1.629	PA-234	D
1184.91	767.98	98.	215.	0.239	31.48	1.146	BI-214	s
1212.01	785.55	65.	50.	0.055	85.87	1.560	BI-212	
1243.11	805.75	61.	65.	0.072	63.36	1.746	PA-234	D
1440.22	933.54	86.	159.	0.176	39.95	1.672	BI-214	
1781.77	1155.05	42.	82.	0.091	52.01	0.926	BI-214	s
1909.53	1237.93	77.	188.	0.209	34.70	2.013	BI-214	s
1975.78	1280.90	30.	67.	0.074	58.72	2.162	BI-214	s
2124.38	1377.30	35.	125.	0.139	35.86	1.781	BI-214	
2161.13	1400.99	25.	52.	0.058	57.79	2.323	BI-214	D
2171.62	1407.80	33.	82.	0.091	44.50	2.330	BI-214	D
2561.72	1661.09	12.	40.	0.044	69.30	2.292	BI-214	
2666.91	1729.36	17.	73.	0.081	48.31	2.103	BI-214	

ORTEC Spectrum name: SMP HS 024 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2849.67	1847.98	3.	55.	0.061	45.62	1.439	BI-214 s
3398.88	2204.54	0.	103.	0.114	29.56	2.054	BI-214 s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

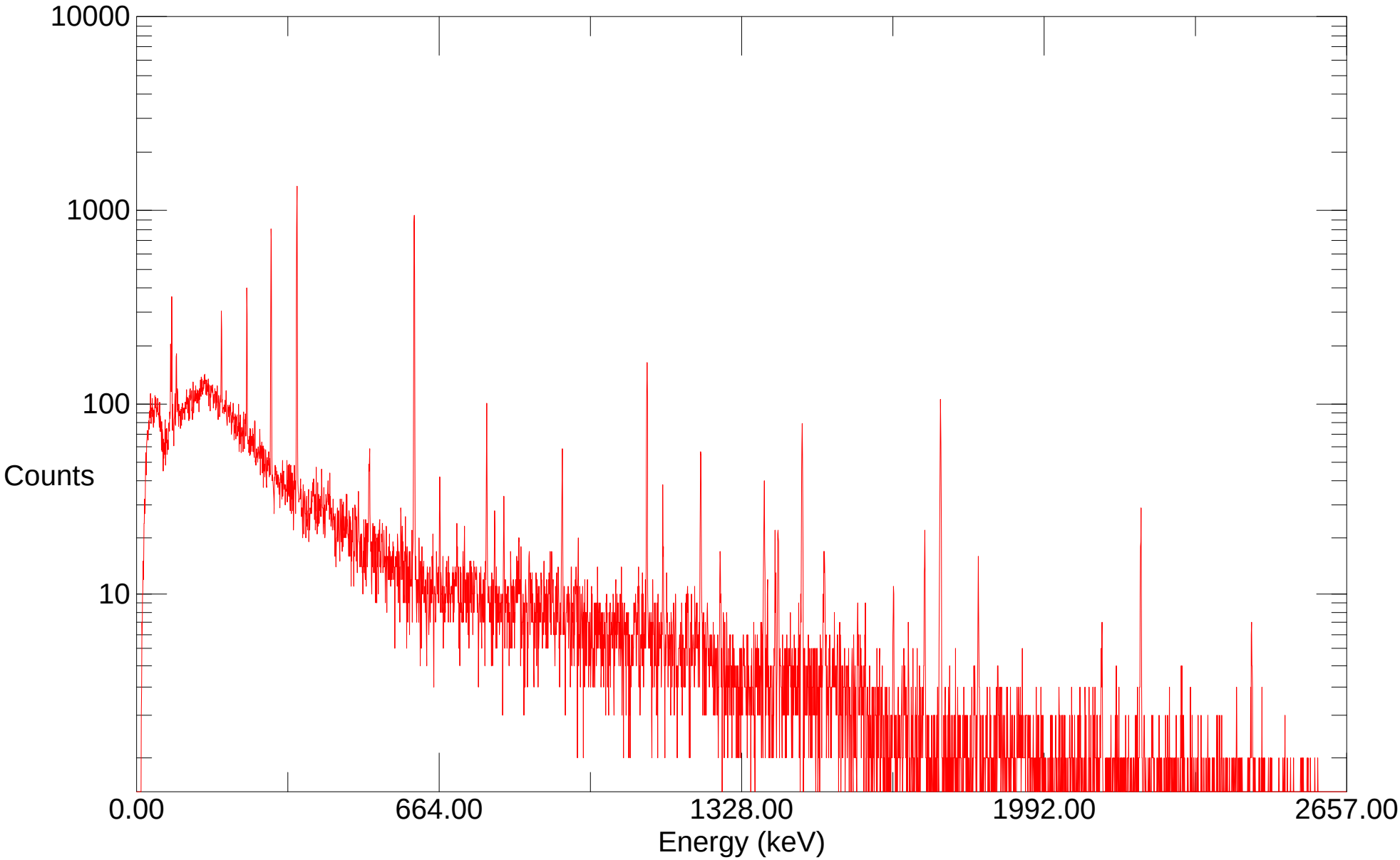
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.09	11.74	15.	3.	0.003	552.27	0.748
Pb-210	72.18	46.78	606.	42.	0.047	371.33	1.244s
Th-234	96.55	62.57	206.	59.	0.066	132.30	1.218
Th-234	144.74	93.79	532.	75.	0.083	198.76	0.921s
Ra-226	286.99	185.97	900.	523.	0.581	44.15	1.382s
Pb-212	368.26	238.63	459.	80.	0.089	117.94	1.318D
Pb-214	373.43	241.98	426.	743.	0.826	16.12	1.321D
Pb-214	455.57	295.21	255.	1887.	2.096	7.78	1.356D
Tl-210	459.88	298.00	1063.	38.	0.042	371.72	1.358D
Pb-212	463.10	300.09	234.	26.	0.029	259.00	1.359D
Ac-228	521.70	338.07	138.	46.	0.051	151.33	1.401
Pb-214	542.70	351.67	442.	2950.	3.278	6.71	1.393
Tl-208	788.26	510.84	230.	65.	0.073	105.19	1.509D
Tl-208	899.80	583.14	100.	33.	0.037	138.70	1.564D
Bi-214	939.58	608.93	159.	2570.	2.856	6.50	1.622
Cs-137	1020.86	661.62	59.	1.	0.001	3037.83	1.626D
Bi-212	1119.57	725.62	54.	34.	0.038	160.53	0.751s
Pa-234m	1182.48	766.41	102.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	70.	7.	0.007	559.09	1.741D
Tl-208	1327.66	860.54	60.	32.	0.036	126.48	2.263s
Ac-228	1406.53	911.69	86.	43.	0.048	121.04	2.050s
Ac-228	1494.19	968.53	41.	25.	0.028	127.07	0.942s
Pa-234m	1540.57	998.61	38.	22.	0.024	154.12	1.306
Bi-214	1727.70	1119.98	86.	531.	0.590	16.17	2.050
Tl-210	2018.64	1308.70	33.	8.	0.009	377.80	0.692s
K-40	2252.48	1460.42	32.	295.	0.328	20.65	2.385
Bi-212	2500.74	1621.51	7.	6.	0.007	221.62	2.992
Bi-214	2721.08	1764.51	8.	406.	0.451	15.42	2.215
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 024 15 Min Colim@6Det@Pos4

SMP HS 024 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 12:24:47 PM Real Time: 915.98 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 025 15 Min Colim@6Det@Pos

Sample description
SMP HS 025 15 min array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 025 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	17-Oct-2007 08:47:03
Live time:	900
Real time:	906
Dead time:	0.61 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM002F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 025 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2283

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
787.62	510.38	121.	31.	0.034	160.65	1.509	J-133	D
1328.06	860.80	19.	22.	0.025	109.04	0.961	TL-208	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.03	11.05	24.	8.	0.009	276.54	0.559s
Pb-210	73.57	47.68	112.	43.	0.048	163.17	1.149s
Th-234	99.14	64.25	85.	29.	0.032	186.92	1.791s
Th-234	142.07	92.06	270.	69.	0.077	171.39	4.059s
Ra-226	287.48	186.28	234.	50.	0.056	219.39	0.682s
Pb-212	368.26	238.63	128.	60.	0.067	88.44	1.318D
Pb-214	373.43	241.98	103.	14.	0.016	308.16	1.320D
Pb-214	455.57	295.21	70.	41.	0.045	99.68	1.356D
Tl-210	459.88	298.00	102.	4.	0.005	1017.24	1.358D
Pb-212	463.10	300.09	60.	1.	0.001	3301.25	1.359D
Ac-228	522.03	338.28	60.	30.	0.033	181.66	3.024s
Pb-214	542.96	351.85	66.	79.	0.088	85.59	1.478s
Tl-208	788.26	510.84	102.	50.	0.055	95.99	1.509D
Tl-208	899.80	583.14	36.	21.	0.023	139.77	1.564D

ORTEC Spectrum name: SMP HS 025 15 Min Colim@6Det@Pos

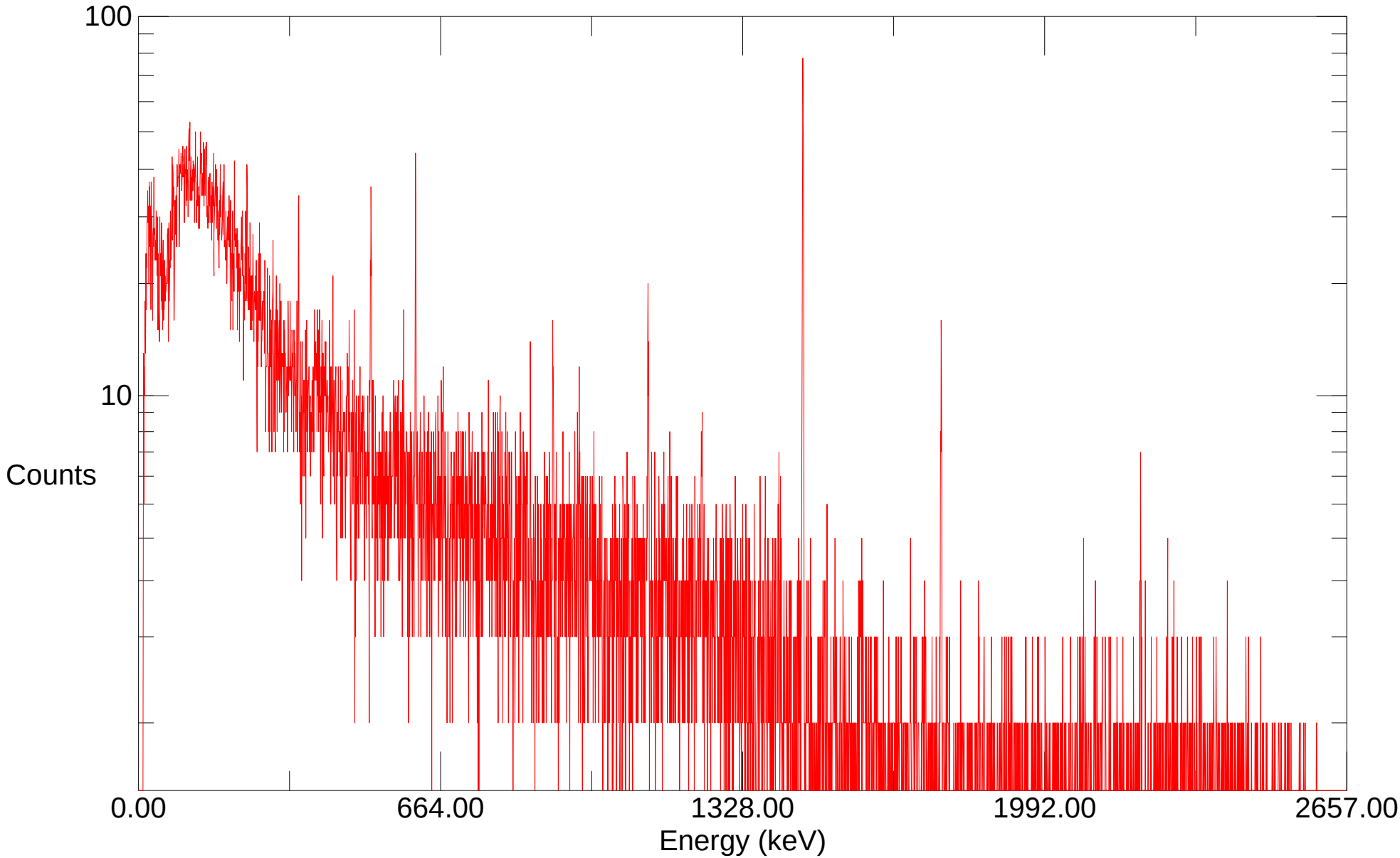
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	938.98	608.54	48.	98.	0.109	46.61	1.456s
Cs-137	1020.00	661.06	12.	0.	0.000	1272.79	0.000s
Bi-212	1121.11	726.62	22.	12.	0.013	196.15	1.338
Pa-234m	1182.00	766.10	15.	0.	0.000	1493.32	0.000s
Tl-210	1234.00	799.81	14.	1.	0.001	1479.86	0.000s
Tl-208	1327.32	860.33	41.	0.	0.000	2716.62	1.794
Ac-228	1405.12	910.77	30.	50.	0.055	74.17	2.172s
Ac-228	1494.12	968.49	27.	14.	0.016	183.13	0.944s
Pa-234m	1543.80	1000.71	18.	8.	0.009	240.46	0.732s
Bi-214	1726.87	1119.44	29.	71.	0.079	56.67	1.439s
Tl-210	2020.90	1310.17	15.	6.	0.007	339.12	0.645s
K-40	2252.22	1460.25	10.	287.	0.319	18.76	2.257
Bi-212	2499.51	1620.72	6.	6.	0.007	244.95	1.344s
Bi-214	2720.75	1764.30	0.	63.	0.070	37.80	1.713s
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 025 15 Min Colim@6Det@Pos1

SMP HS 025 15 min array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 8:47:03 AM Real Time: 905.56 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 026 15 Min Colim@6Det@Pos

Sample description
smp hs 026 array down col @ 6 det pos 4 10_25_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 026 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 25-Oct-2007 10:25:55
Live time: 900
Real time: 909
Dead time: 1.02 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMCD2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2778

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
67.07	44.18	723.	109.	0.121	36.11	1.199	EU-155	D
117.84	76.36	810.	350.	0.389	20.62	1.484	PB-214	s
134.85	87.43	366.	74.	0.082	38.55	1.224	PB-214	D
156.18	101.20	260.	74.	0.082	42.39	1.565	U-237	s
184.26	119.40	711.	134.	0.149	47.46	1.556	NP-239	s
387.89	251.35	288.	97.	0.108	36.43	1.823	XE-135	s
398.36	258.14	558.	94.	0.104	59.83	1.898	XE-138	s
423.29	274.29	315.	127.	0.141	30.94	1.931	SR-91	s
660.81	428.22	176.	106.	0.117	31.02	2.665	SB-125	sM
731.11	473.79	85.	46.	0.051	40.29	1.820	RH-106M	sM
766.86	496.97	94.	48.	0.053	45.77	1.630	RU-103	M
786.67	510.26	218.	75.	0.083	30.31	1.508	J-133	D
1025.64	664.70	92.	106.	0.117	16.14	1.629	PA-234	D
1084.58	702.93	56.	59.	0.066	31.21	2.287	RH-106M	sM
1184.73	767.87	112.	250.	0.278	9.52	1.598	BI-214	
1210.48	784.56	75.	84.	0.093	20.06	1.492	BI-212	s
1242.92	805.45	95.	63.	0.070	25.27	1.746	PA-234	D
1294.41	838.98	54.	49.	0.054	37.96	1.851	J-135	sM
1439.78	933.25	74.	171.	0.190	11.74	2.134	BI-214	s
1781.69	1155.00	60.	84.	0.093	20.41	2.218	BI-214	s
1908.53	1237.28	62.	236.	0.262	8.62	2.263	J-133	
1974.56	1280.11	44.	62.	0.069	22.04	1.885	BI-214	
2003.46	1298.86	16.	15.	0.016	48.24	1.594	J-133	s
2123.24	1376.56	40.	149.	0.166	11.24	2.746	BI-214	

ORTEC Spectrum name: SMP HS 026 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2170.36	1407.14	24.	100.	0.111	13.23	1.053	BI-214	s
2847.59	1846.63	2.	64.	0.071	13.39	1.378	BI-214	s
3396.79	2203.18	7.	127.	0.141	9.91	3.106	BI-214	
3772.12	2446.93	0.	45.	0.050	14.91	2.320	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

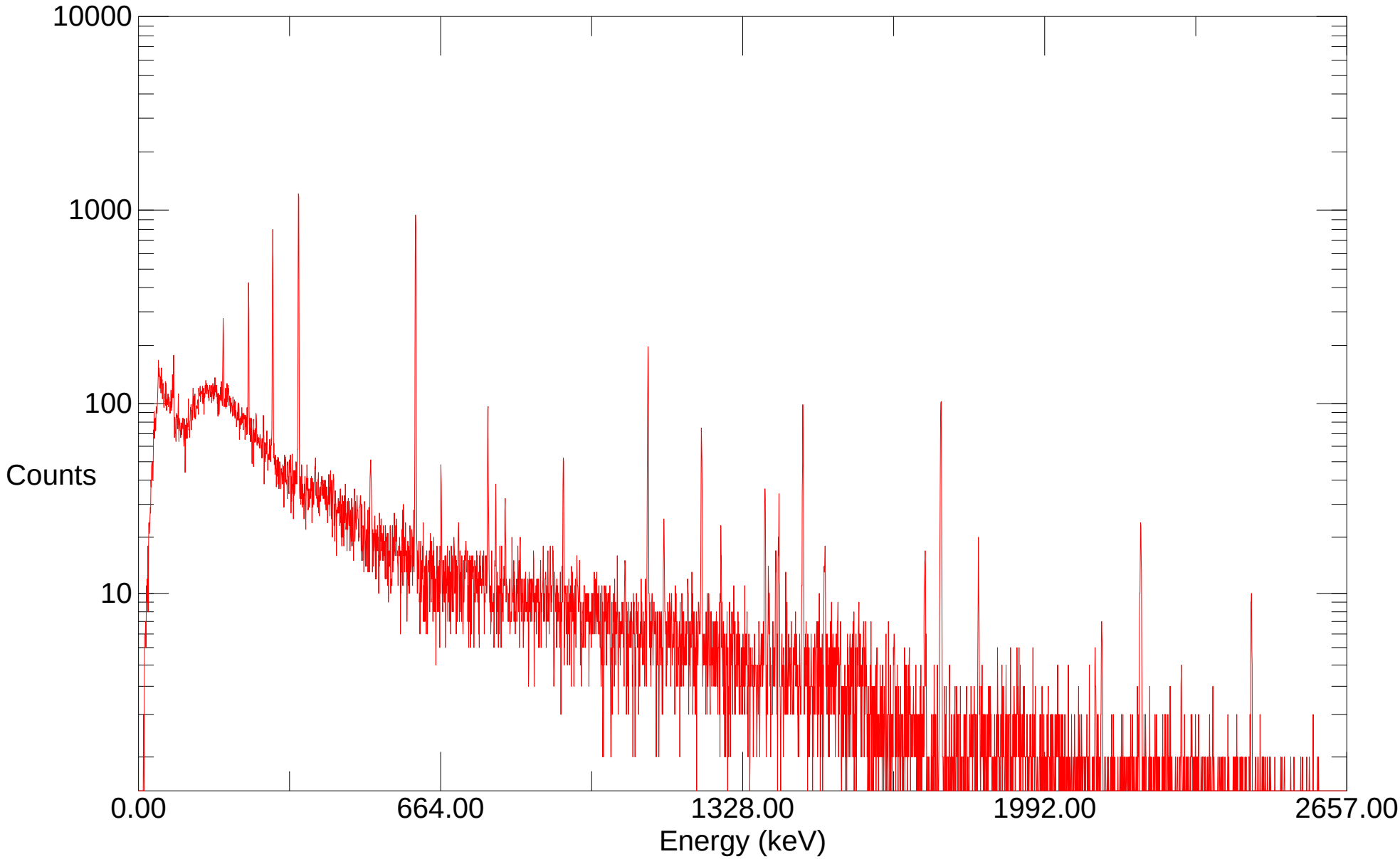
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	
Pb-210	17.33	11.25	2.	1.	0.001	208.17	0.583	s
Pb-210	71.75	46.50	757.	76.	0.084	52.65	1.200	D
Th-234	97.11	62.93	478.	24.	0.026	175.18	1.814	s
Th-234	143.21	92.80	512.	3.	0.003	1118.94	1.228	D
Ra-226	286.93	185.93	682.	454.	0.504	13.09	1.619	s
Pb-212	368.26	238.63	208.	0.	0.000	0.00	0.648	D
Pb-214	372.94	241.66	864.	950.	1.055	9.08	1.581	s
Pb-214	455.57	295.21	442.	1797.	1.997	2.88	1.356	D
Tl-210	459.88	298.00	942.	45.	0.050	96.84	1.357	D
Pb-212	463.10	300.09	376.	31.	0.035	89.16	1.359	D
Ac-228	520.92	337.56	234.	99.	0.110	37.61	1.343	s
Pb-214	542.38	351.47	462.	3198.	3.553	2.12	1.575	
Tl-208	788.26	510.84	253.	53.	0.059	44.76	1.509	D
Tl-208	898.51	582.31	84.	48.	0.053	43.00	1.529	s
Bi-214	939.19	608.68	231.	2668.	2.964	2.20	1.754	
Cs-137	1020.86	661.62	96.	5.	0.006	280.65	1.626	D
Bi-212	1121.84	727.09	35.	38.	0.042	36.80	1.099	s
Pa-234m	1182.28	766.28	292.	0.	0.000	2416.61	1.713	
Tl-210	1233.83	799.70	44.	0.	0.000	936.58	1.741	D
Tl-208	1325.77	859.32	40.	26.	0.029	57.82	0.856	s
Ac-228	1404.25	910.21	63.	46.	0.051	32.08	2.130	s
Ac-228	1495.15	969.16	42.	24.	0.027	60.81	1.343	
Pa-234m	1543.87	1000.75	82.	9.	0.010	161.47	1.718	
Bi-214	1727.13	1119.61	88.	603.	0.670	5.05	1.760	
Tl-210	2023.00	1311.54	18.	0.	0.001	570.82	0.455	s
K-40	2251.92	1460.06	40.	288.	0.320	7.11	1.384	s
Bi-212	2503.05	1623.02	16.	21.	0.024	44.10	1.005	s
Bi-214	2719.90	1763.75	3.	456.	0.507	4.74	2.523	
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 026 15 Min Colim@6Det@Pos4

smp hs 026 array down col @ 6 det pos 4 10_25_07



Acquired: 10/25/2007 10:25:55 AM Real Time: 909.26 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 027 15 Min Colim@6Det@Pos

Sample description
SMP HS 027 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 027 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 14:15:46
Live time: 900
Real time: 949
Dead time: 5.14 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM8D2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 027 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1373

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	3 Sigma %	FWHM keV	Suspected Nuclide	
40.76	26.42	3912.	244.	0.271	155.00	0.992	AM-241	s
69.18	44.91	6792.	440.	0.489	80.77	1.199	EU-155	D
82.88	53.71	4700.	260.	0.289	168.52	1.200	LU-177	s
115.43	74.83	6693.	3581.	3.979	10.91	1.217	BI-207	D
119.06	77.18	5947.	5683.	6.315	7.00	1.218	PB-214	D
129.03	84.20	3526.	382.	0.425	67.67	1.222	TA-182	D
134.62	87.82	5273.	2870.	3.188	12.11	1.224	PB-214	D
174.98	113.38	5607.	239.	0.266	200.33	1.823	TA-182	s
240.09	155.57	8384.	397.	0.441	155.45	0.894	TA-182	s
399.33	258.77	2994.	842.	0.936	40.34	1.443	XE-138	
423.37	274.34	5159.	723.	0.803	76.80	1.522	SR-91	s
433.39	280.84	3129.	237.	0.263	151.46	1.833	SE-75	s
469.31	304.25	2520.	156.	0.173	138.96	1.362	TH-227	D
598.64	387.93	2670.	725.	0.806	53.55	1.488	-	sM
624.27	404.54	2744.	532.	0.591	76.50	1.632	J-134	sM
701.07	454.32	1775.	422.	0.469	74.80	1.475	TE-131	sM
711.54	461.11	1776.	388.	0.432	84.36	1.557	CS-138	sM
724.69	469.60	1165.	183.	0.203	82.32	1.478	-	D
731.88	474.26	1271.	150.	0.167	103.63	1.482	RH-106M	D
740.93	480.12	1308.	407.	0.452	40.55	1.486	W-187	D
751.06	486.69	1163.	402.	0.447	38.99	1.491	LA-140	D
787.89	510.65	1628.	438.	0.487	41.62	1.509	TL-208	D
823.08	533.41	690.	142.	0.158	113.81	1.000	-	M
854.14	553.54	520.	79.	0.088	165.48	1.237	BR-82	M

ORTEC Spectrum name: SMP HS 027 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
894.98	580.02	840.	316.	0.351	63.80	1.382	-	s
966.23	626.21	504.	101.	0.112	144.57	1.519	W-187	
1026.21	665.08	615.	927.	1.029	15.04	1.629	BI-214	D
1084.57	702.93	864.	408.	0.453	59.08	1.697	RH-106M	sM
1110.08	719.47	878.	350.	0.388	71.46	1.545	SB-126	sM
1184.89	767.97	884.	2850.	3.167	7.91	1.701	BI-214	
1211.81	785.42	841.	650.	0.723	26.55	1.821	BI-212	sM
1243.37	806.00	547.	718.	0.798	17.79	1.746	BI-214	D
1264.94	819.88	549.	107.	0.119	156.77	1.228	PA-234	sM
1294.17	838.83	648.	329.	0.365	41.40	2.127	J-135	M
1440.58	933.77	640.	1549.	1.721	11.23	2.024	BI-214	
1486.83	963.41	490.	209.	0.232	49.45	1.886	EU-152	D
1622.80	1051.94	416.	184.	0.204	60.25	2.621	CS-136	s
1649.24	1069.09	540.	130.	0.144	96.54	1.568	-	
1747.93	1133.10	444.	139.	0.155	80.46	2.428	J-135	M
1781.56	1154.92	398.	717.	0.797	18.29	2.135	BI-214	M
1822.52	1181.49	444.	69.	0.076	167.41	0.979	-	sM
1851.28	1199.96	279.	36.	0.040	202.03	2.114	TB-160	D
1862.57	1207.28	360.	194.	0.216	46.74	2.121	-	D
1909.48	1237.89	534.	2427.	2.697	8.35	2.129	BI-214	M
1975.61	1280.79	535.	563.	0.625	28.17	2.298	BI-214	M
2124.79	1377.53	299.	1594.	1.771	8.81	2.297	BI-214	D
2136.91	1385.39	287.	300.	0.334	29.52	2.306	AG-110M	D
2161.34	1401.25	288.	538.	0.598	18.59	2.323	BI-214	D
2171.64	1407.93	317.	868.	0.965	13.39	2.330	BI-214	D
2327.75	1509.26	730.	626.	0.696	44.59	2.238	BI-214	
2373.31	1538.75	392.	135.	0.150	67.58	2.475	RB-89	D
2380.03	1543.11	383.	137.	0.152	65.70	2.480	-	D
2441.91	1583.42	226.	244.	0.272	32.38	2.525	AC-228	D
2458.92	1594.46	251.	117.	0.130	63.97	2.538	LA-140	D
2466.97	1599.68	227.	127.	0.141	57.02	2.544	EU-154	D
2562.05	1661.30	132.	445.	0.494	30.37	2.358	BI-214	s
2667.48	1729.61	79.	952.	1.058	10.50	2.697	BI-214	D
2834.71	1838.07	70.	101.	0.112	46.25	2.829	RH-106M	D
2849.33	1847.56	82.	621.	0.690	13.54	2.841	BI-214	D
3266.78	2118.77	22.	322.	0.357	18.67	3.121	BI-214	
3398.80	2204.48	50.	1200.	1.333	9.59	2.511	BI-214	
3536.04	2293.61	16.	92.	0.102	42.77	2.632	-	
3774.15	2448.24	9.	342.	0.380	17.27	2.870	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 027 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

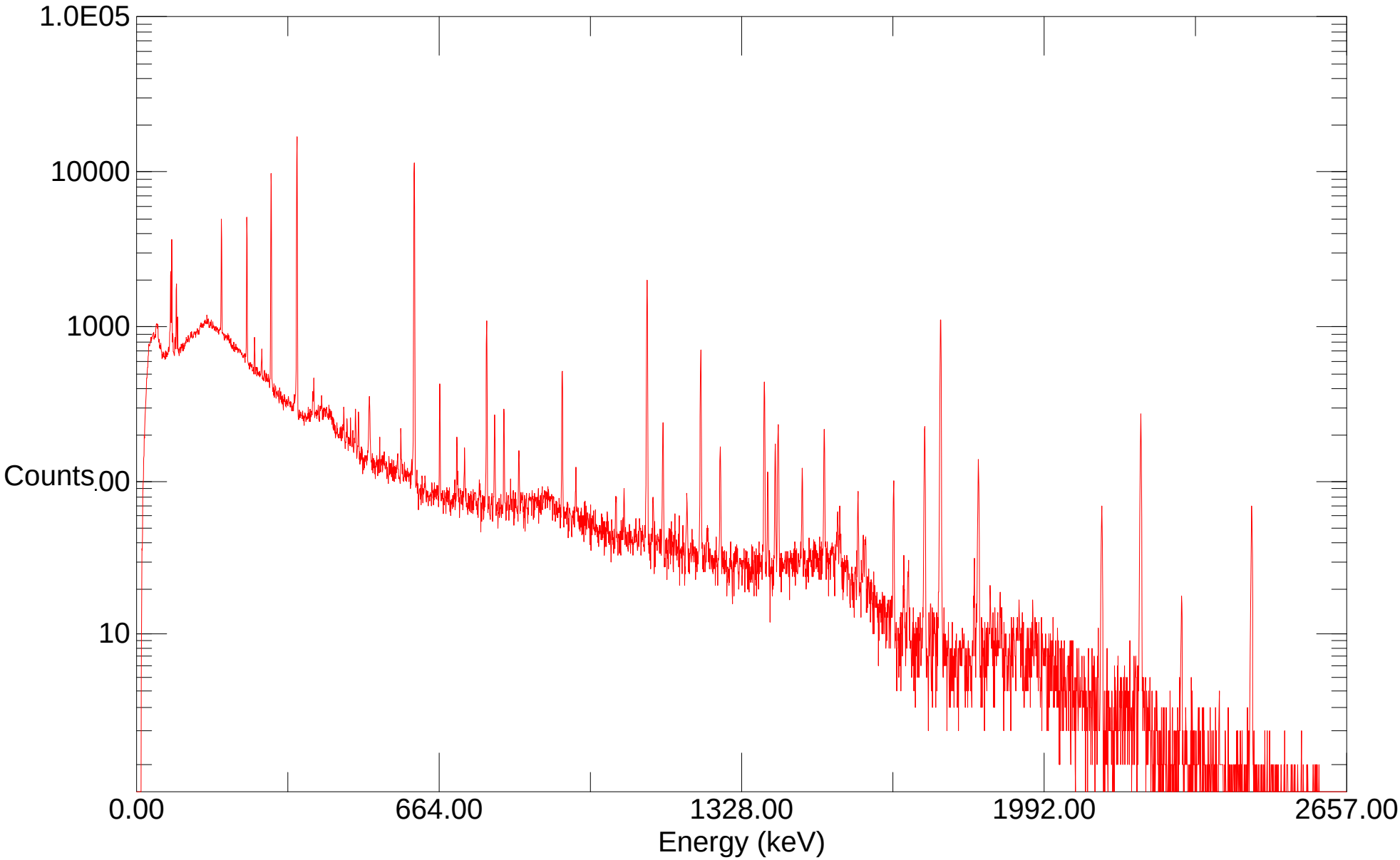
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.00	11.68	90.	2.	0.002	2670.67	0.000s
Pb-210	71.75	46.50	6423.	423.	0.471	81.61	1.200D
Th-234	97.61	63.26	2492.	126.	0.140	207.59	1.111
Th-234	143.21	92.80	3382.	116.	0.129	214.05	1.227D
Ra-226	287.20	186.10	11124.	8623.	9.581	10.23	1.312
Pb-212	368.26	238.63	1851.	0.	0.000	0.00	0.648D
Pb-214	373.17	241.81	7514.	10072.	11.191	7.68	1.331
Pb-214	455.57	295.21	2768.	22347.	24.830	2.24	1.356D
Tl-210	459.88	298.00	12321.	137.	0.152	344.64	1.358D
Pb-212	463.10	300.09	3074.	111.	0.123	214.25	1.359D
Ac-228	522.34	338.48	1776.	88.	0.098	289.11	0.874s
Pb-214	542.74	351.70	3650.	37243.	41.381	1.77	1.389
Tl-208	788.26	510.84	1838.	228.	0.253	82.17	1.509D
Tl-208	899.80	583.14	639.	0.	0.000	0.00	1.289D
Bi-214	939.61	608.95	1507.	30800.	34.222	1.84	1.626
Cs-137	1020.86	661.62	413.	1.	0.002	5754.96	1.626D
Bi-212	1124.73	728.97	562.	84.	0.094	200.15	1.410s
Pa-234m	1182.53	766.44	3262.	0.	0.000	24231.38	1.713
Tl-210	1233.83	799.70	565.	40.	0.044	256.89	1.741D
Tl-208	1327.98	860.75	580.	72.	0.081	236.45	2.159s
Ac-228	1404.89	910.63	524.	76.	0.084	204.96	2.470s
Ac-228	1495.08	969.11	559.	46.	0.051	221.23	1.892D
Pa-234m	1545.45	1001.78	630.	68.	0.075	201.92	0.724s
Bi-214	1727.75	1120.01	735.	6457.	7.175	4.53	2.003
Tl-210	2019.91	1309.53	181.	15.	0.016	427.97	0.654s
K-40	2252.61	1460.50	484.	330.	0.367	42.46	1.898
Bi-212	2494.13	1617.23	219.	76.	0.084	121.79	0.535s
Bi-214	2721.23	1764.61	200.	4634.	5.148	4.82	2.498
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HPGe gs\

SMP HS 027 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 2:15:46 PM Real Time: 948.76 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 028 15 Min Colim@6Det@Pos

Sample description
smp hs 028 array down col @ 6 det pos 4 10_25_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 028 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 25-Oct-2007 09:16:00
Live time: 900
Real time: 908
Dead time: 0.91 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4C2F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3536

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
114.90	74.47	481.	157.	0.174	21.33	1.217	BI-207	D
118.80	77.00	772.	189.	0.210	22.00	1.218	PB-214	D
134.35	87.37	425.	93.	0.103	33.11	1.224	PB-214	D
212.50	137.70	920.	112.	0.125	57.98	1.636	CS-138	s
272.31	176.45	738.	136.	0.151	40.86	2.067	CS-136	s
399.16	258.65	634.	214.	0.237	28.50	1.500	XE-138	s
423.01	274.11	387.	104.	0.116	39.08	1.499	CS-136	s
598.72	387.99	396.	198.	0.220	26.59	1.487	-	sM
741.23	480.44	222.	64.	0.071	35.04	1.486	W-187	D
750.53	486.47	217.	59.	0.066	37.41	1.491	LA-140	D
787.38	510.46	282.	135.	0.150	19.62	1.509	J-133	D
1025.91	664.98	101.	130.	0.144	14.06	1.629	PA-234	D
1184.45	767.62	125.	358.	0.398	6.89	1.714	BI-214	D
1210.98	784.89	152.	94.	0.104	24.95	1.232	BI-212	s
1242.38	805.33	111.	83.	0.092	21.01	1.746	PA-234	D
1274.32	825.96	42.	31.	0.034	45.51	1.667	PA-234	M
1294.56	839.08	139.	52.	0.058	42.36	2.073	J-135	sM
1439.74	933.22	97.	191.	0.212	11.31	1.647	BI-214	
1781.52	1154.89	86.	104.	0.115	19.09	2.339	BI-214	s
1908.70	1237.38	75.	293.	0.326	8.12	2.010	J-133	
1974.13	1279.83	64.	79.	0.088	20.48	1.602	BI-214	
2123.19	1376.53	53.	185.	0.205	10.56	2.542	BI-214	
2160.88	1401.01	36.	57.	0.064	19.80	2.322	BI-214	D
2170.44	1407.21	38.	139.	0.154	10.59	2.329	BI-214	D

ORTEC Spectrum name: SMP HS 028 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2326.84	1508.67	88.	120.	0.134	18.82	2.323	BI-214
2665.77	1728.61	16.	131.	0.146	11.09	1.882	BI-214
2847.41	1846.51	8.	84.	0.093	12.55	2.569	BI-214
3397.40	2203.58	10.	172.	0.191	8.53	3.243	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

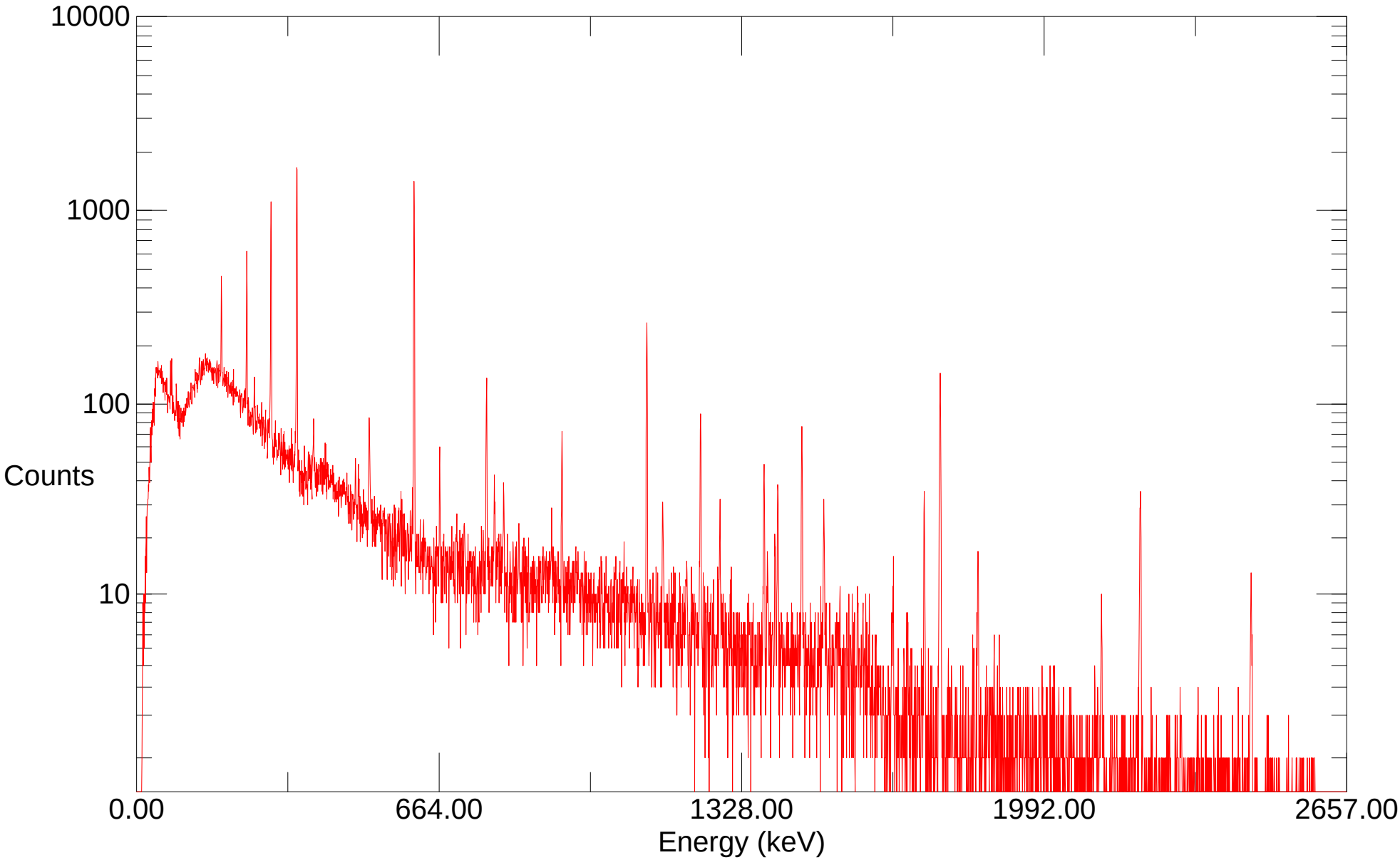
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	19.00	12.33	2.	1.	0.001	208.17	0.000s
Pb-210	72.37	46.90	558.	45.	0.050	92.14	1.069
Th-234	100.58	65.18	831.	31.	0.035	136.57	0.475s
Th-234	143.21	92.80	370.	35.	0.039	79.21	1.227D
Ra-226	287.09	186.03	1408.	760.	0.844	13.10	1.339s
Pb-212	368.26	238.63	384.	0.	0.000	0.00	0.713D
Pb-214	372.90	241.63	783.	1256.	1.396	5.94	1.406
Pb-214	455.57	295.21	682.	2489.	2.766	2.49	1.356D
Tl-210	459.88	298.00	1222.	24.	0.027	202.78	1.357D
Pb-212	463.10	300.09	349.	0.	0.000	2641.97	1.359D
Ac-228	522.00	338.26	152.	0.	0.000	1509.97	0.000s
Pb-214	542.36	351.46	670.	4372.	4.858	1.83	1.610
Tl-208	788.26	510.84	386.	31.	0.035	90.54	1.509D
Tl-208	898.32	582.18	81.	59.	0.066	33.17	2.297s
Bi-214	939.08	608.60	228.	3836.	4.263	1.76	1.670
Cs-137	1020.86	661.62	120.	9.	0.010	172.91	1.626D
Bi-212	1120.80	726.41	66.	26.	0.028	70.67	0.945s
Pa-234m	1182.48	766.41	468.	11.	0.012	292.36	1.713D
Tl-210	1233.83	799.70	110.	17.	0.019	88.98	1.741D
Tl-208	1325.69	859.27	60.	28.	0.031	45.48	0.908s
Ac-228	1404.61	910.44	105.	38.	0.042	45.62	1.000s
Ac-228	1496.27	969.89	76.	26.	0.028	82.84	1.038s
Pa-234m	1543.00	1000.19	22.	0.	0.000	574.46	0.144s
Bi-214	1726.95	1119.49	88.	844.	0.938	4.05	2.017
Tl-210	2019.75	1309.42	34.	21.	0.023	52.81	0.928s
K-40	2251.98	1460.10	60.	284.	0.315	8.15	2.151
Bi-212	2499.89	1620.96	8.	1.	0.001	378.59	0.460s
Bi-214	2719.78	1763.67	9.	647.	0.719	4.04	2.799
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: ___ _____
Supervisor

SMP HS 028 15 Min Colim@6Det@Pos4

smp hs 028 array down col @ 6 det pos 4 10_25_07



Acquired: 10/25/2007 9:16:00 AM Real Time: 908.24 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 029 redo 15 Min Colim@6De

Sample description
SMP HS 029 redo array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 029 redo 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 22-Oct-2007 14:03:32
Live time: 900
Real time: 916
Dead time: 1.76 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMB09F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1140

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
114.72	74.38	614.	157.	0.174	23.71	1.217	BI-207	D
119.96	77.78	632.	164.	0.182	23.07	1.219	PB-214	D
399.10	258.61	492.	149.	0.166	34.28	1.327	XE-138	s
1026.30	665.15	112.	95.	0.106	20.80	1.759	BI-214	
1184.96	768.01	178.	264.	0.294	11.25	1.700	BI-214	
1212.38	785.79	100.	77.	0.086	25.63	1.692	PB-214	s
1243.44	805.48	98.	67.	0.075	24.02	1.746	PA-234	D
1440.80	933.91	112.	153.	0.170	14.99	2.128	BI-214	
1487.49	964.01	69.	60.	0.067	23.28	1.887	EU-152	D
1781.81	1155.08	62.	60.	0.067	24.19	2.215	BI-214	
1909.40	1237.84	74.	264.	0.294	8.85	2.312	BI-214	
1975.51	1280.73	48.	85.	0.094	19.35	1.976	BI-214	s
2124.79	1377.57	54.	152.	0.169	12.44	2.235	BI-214	
2161.73	1401.52	22.	66.	0.074	15.92	2.323	BI-214	D
2171.35	1407.76	38.	85.	0.094	15.01	2.330	BI-214	D
2327.20	1508.90	41.	84.	0.093	17.46	2.979	BI-214	s
2667.26	1729.58	9.	86.	0.095	12.61	1.549	BI-214	s
2849.01	1847.55	3.	90.	0.100	11.15	2.820	BI-214	
3267.15	2119.00	2.	33.	0.037	18.67	1.039	BI-214	s
3398.62	2204.37	4.	148.	0.165	8.67	2.379	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

ORTEC Spectrum name: SMP HS 029 redo 15 Min Colim@6De

********** I D E N T I F I E D P E A K S U M M A R Y **********

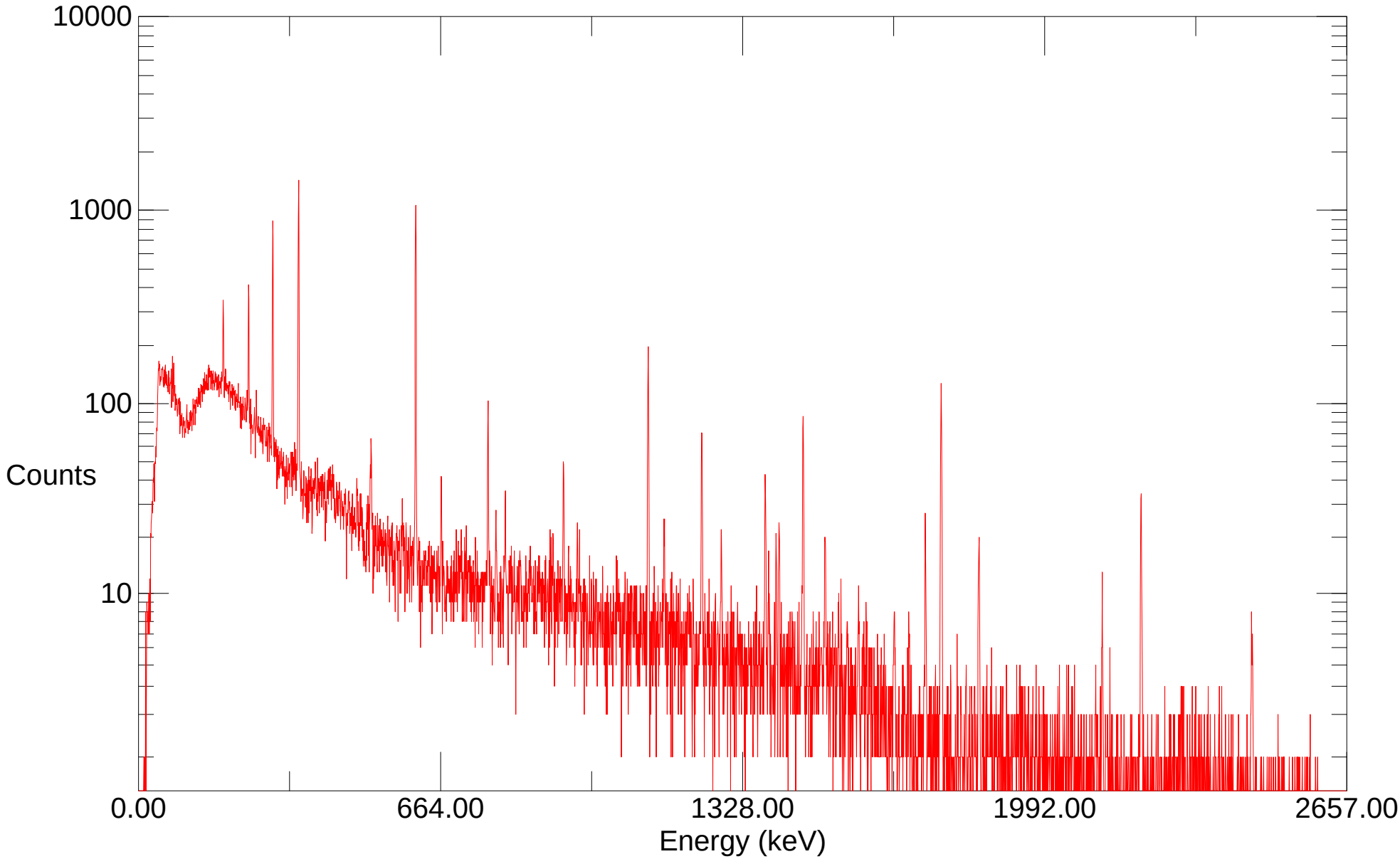
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	18.83	12.22	1.	1.	0.001	169.97	0.879
Pb-210	70.07	45.42	685.	68.	0.076	73.02	2.000s
Th-234	96.93	62.82	717.	45.	0.050	119.94	1.252s
Th-234	142.04	92.04	651.	20.	0.023	192.91	0.508s
Ra-226	287.15	186.07	1066.	598.	0.665	13.43	1.691s
Pb-212	368.26	238.63	516.	0.	0.000	0.00	0.901D
Pb-214	373.26	241.87	830.	885.	0.983	8.65	1.710s
Pb-214	455.57	295.21	512.	2048.	2.275	2.71	1.356D
Tl-210	459.88	298.00	1256.	23.	0.025	220.34	1.358D
Pb-212	463.10	300.09	445.	14.	0.016	209.47	1.359D
Ac-228	520.00	336.96	169.	15.	0.016	117.48	0.195s
Pb-214	542.60	351.61	546.	3745.	4.161	1.98	1.612s
Tl-208	788.26	510.84	227.	125.	0.139	19.27	1.509D
Tl-208	899.98	583.25	77.	41.	0.046	48.01	2.871s
Bi-214	939.58	608.93	175.	3113.	3.459	1.95	1.776
Cs-137	1020.85	661.62	85.	0.	0.000	1303.84	1.626
Bi-212	1121.76	727.04	90.	41.	0.046	58.79	3.140s
Pa-234m	1182.48	766.41	227.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	47.	7.	0.007	150.87	1.741D
Tl-208	1328.61	861.16	76.	38.	0.042	57.08	1.078s
Ac-228	1405.68	911.14	88.	47.	0.052	36.63	1.924
Ac-228	1495.08	969.11	71.	36.	0.040	37.57	1.892D
Pa-234m	1542.11	999.61	52.	14.	0.015	89.12	0.535s
Bi-214	1727.72	1119.99	69.	667.	0.741	4.47	2.148
Tl-210	2023.38	1311.78	13.	7.	0.008	82.07	1.482
K-40	2252.83	1460.65	45.	330.	0.367	6.84	2.318
Bi-212	2504.55	1623.99	19.	14.	0.016	61.04	0.691s
Bi-214	2720.95	1764.43	8.	502.	0.558	4.59	2.401
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 029 redo 15 Min Colim@6Det@Pos1

SMP HS 029 redo array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 2:03:32 PM Real Time: 916.08 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 030 15 Min Colim@6Det@Pos

Sample description
SMP HS 030 array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 030 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 17-Oct-2007 10:26:04
Live time: 900
Real time: 907
Dead time: 0.76 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4AEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 030 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2216

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
86.69	56.18	174.	77.	0.086	108.32	2.371	LU-177	sM
115.35	74.75	454.	237.	0.263	42.83	1.217	BI-207	D
118.87	77.03	370.	382.	0.425	26.28	1.218	PB-214	D
134.67	87.75	426.	116.	0.129	80.13	1.224	PB-214	D
787.54	510.41	142.	65.	0.072	86.02	1.509	J-133	D
899.28	582.82	62.	22.	0.025	162.51	1.564	TL-208	D
1025.71	664.78	69.	45.	0.050	90.37	1.629	PA-234	D
1083.52	702.25	38.	16.	0.017	192.50	0.913	NB-94	sM
1108.25	718.28	41.	22.	0.024	150.48	1.499	RH-106M	M
1184.68	767.84	72.	116.	0.129	47.12	1.936	BI-214	
1242.76	805.49	45.	49.	0.054	77.81	1.756	PA-234	
1439.63	933.15	63.	71.	0.079	70.83	1.287	BI-214	
1909.21	1237.72	24.	105.	0.117	38.01	1.976	J-133	
2123.76	1376.90	14.	68.	0.076	47.24	2.745	BI-214	s
2667.57	1729.78	0.	44.	0.049	45.23	1.379	BI-214	s
3398.21	2204.10	0.	62.	0.069	38.10	1.299	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 030 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

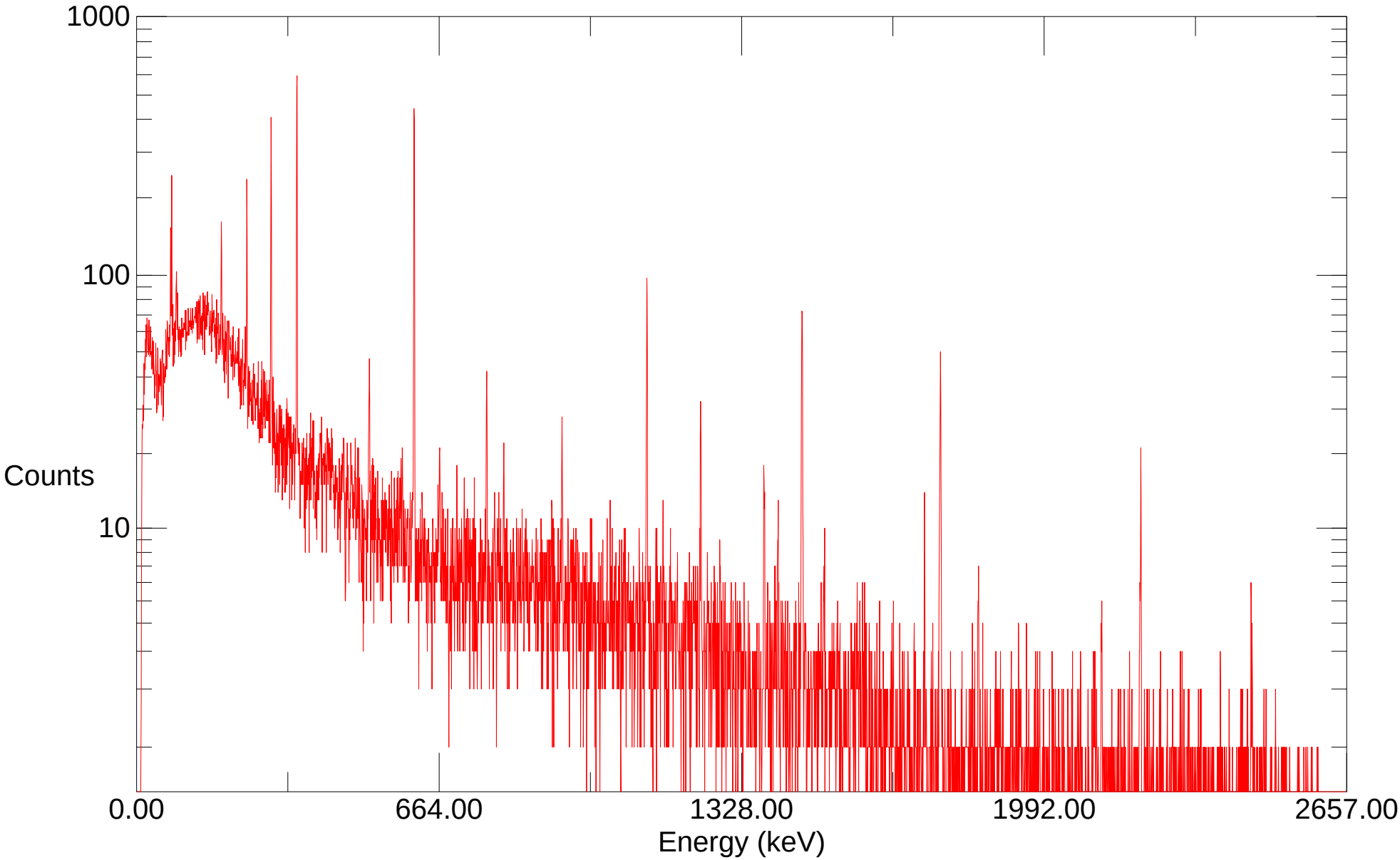
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.59	12.06	49.	10.	0.011	305.04	0.796
Pb-210	71.49	46.34	210.	56.	0.062	169.49	1.485s
Th-234	99.44	64.44	324.	50.	0.056	245.19	1.656s
Th-234	143.21	92.80	394.	6.	0.007	1361.09	1.227D
Ra-226	286.90	185.91	300.	258.	0.287	44.40	1.458
Pb-212	368.26	238.63	221.	52.	0.058	127.21	1.318D
Pb-214	373.43	241.98	200.	419.	0.466	20.49	1.321D
Pb-214	455.57	295.21	151.	855.	0.950	11.93	1.356D
Tl-210	459.88	298.00	493.	9.	0.010	1039.25	1.358D
Pb-212	463.10	300.09	188.	20.	0.023	291.62	1.359D
Ac-228	521.48	337.92	100.	63.	0.070	112.99	1.278s
Pb-214	542.59	351.60	271.	1356.	1.507	10.41	1.455
Tl-208	788.26	510.84	170.	37.	0.041	158.61	1.509D
Tl-208	899.80	583.14	75.	9.	0.010	426.50	1.564D
Bi-214	939.34	608.77	119.	1149.	1.276	10.20	1.587
Cs-137	1020.86	661.62	67.	13.	0.014	286.32	1.626D
Bi-212	1124.84	729.03	41.	9.	0.010	323.39	0.749s
Pa-234m	1182.48	766.41	88.	0.	0.000	0.00	0.000D
Tl-210	1233.90	799.75	26.	0.	0.000	2163.33	1.741
Tl-208	1328.83	861.30	26.	4.	0.004	561.25	0.874s
Ac-228	1404.83	910.59	32.	24.	0.027	124.16	1.358
Ac-228	1494.29	968.60	42.	25.	0.028	147.46	2.230
Pa-234m	1543.00	1000.19	9.	0.	0.000	1102.27	0.000s
Bi-214	1727.29	1119.71	48.	297.	0.330	22.34	1.666
Tl-210	2023.25	1311.70	11.	16.	0.018	131.83	0.627s
K-40	2252.26	1460.28	28.	283.	0.314	20.46	2.480
Bi-212	2504.62	1624.04	0.	18.	0.020	70.71	0.757s
Bi-214	2720.56	1764.18	4.	204.	0.227	21.77	2.047
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HPGe gs\

SMP HS 030 array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 10:26:04 AM Real Time: 906.90 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 031 15 Min Colim@6Det@Pos

Sample description
SMP HS 031 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 031 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	18-Oct-2007 11:13:26
Live time:	900
Real time:	911
Dead time:	1.25 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM0DEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 031 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2012

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.35	74.77	424.	258.	0.287	38.60	1.217	BI-207	D
118.97	77.11	441.	418.	0.465	25.86	1.218	PB-214	D
134.71	87.27	383.	163.	0.182	55.94	1.224	PB-214	D
788.02	510.68	156.	133.	0.148	78.95	2.400	TL-208	s
1026.17	665.03	59.	41.	0.046	91.55	1.629	BI-214	D
1184.66	767.65	82.	142.	0.157	37.11	1.714	BI-214	D
1440.34	933.61	54.	81.	0.090	57.74	1.566	BI-214	s
1781.55	1154.91	61.	57.	0.064	84.30	1.606	BI-214	
1909.21	1237.72	40.	150.	0.167	32.86	1.880	J-133	
1974.13	1279.83	42.	47.	0.052	87.29	1.319	BI-214	s
2124.68	1377.50	30.	94.	0.104	45.02	1.999	BI-214	
2171.47	1407.86	28.	46.	0.051	73.25	2.194	BI-214	
2326.63	1508.54	24.	68.	0.075	59.25	1.267	BI-214	s
3397.35	2203.54	0.	92.	0.102	31.28	2.313	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

ORTEC Spectrum name: SMP HS 031 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

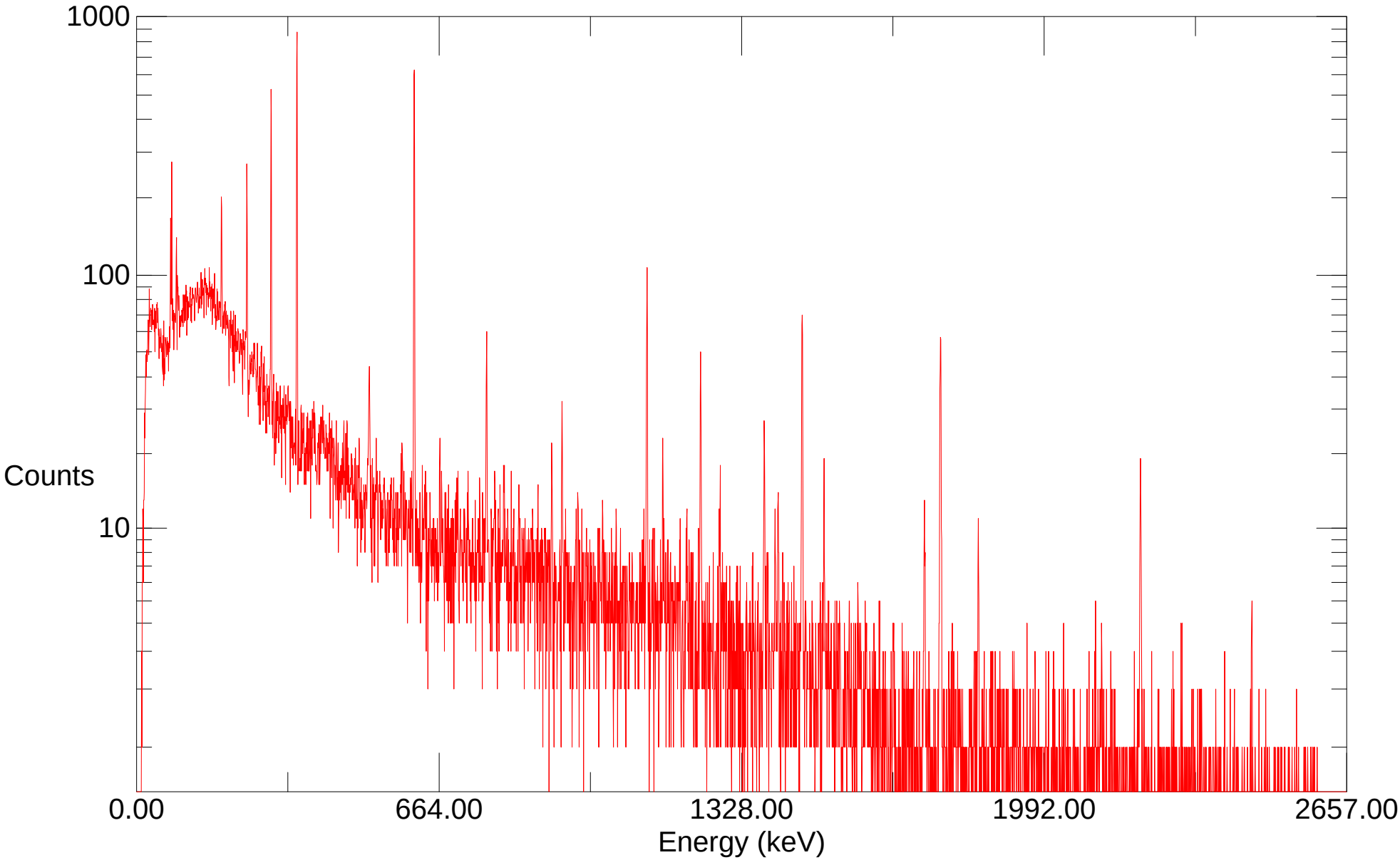
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.08	11.08	3.	1.	0.001	540.83	0.547s
Pb-210	73.40	47.57	336.	35.	0.039	318.30	1.143s
Th-234	97.42	63.13	392.	52.	0.057	273.52	2.369s
Th-234	143.21	92.80	406.	53.	0.059	165.11	1.228D
Ra-226	287.51	186.30	427.	377.	0.419	38.15	1.606s
Pb-212	368.26	238.63	279.	50.	0.056	147.02	1.318D
Pb-214	373.43	241.98	286.	526.	0.585	18.89	1.321D
Pb-214	455.57	295.21	164.	1166.	1.295	9.95	1.356D
Tl-210	459.88	298.00	642.	21.	0.023	516.96	1.358D
Pb-212	463.10	300.09	186.	51.	0.057	120.44	1.359D
Ac-228	521.42	337.88	70.	27.	0.030	171.05	1.172
Pb-214	542.67	351.65	230.	1945.	2.161	7.80	1.414
Tl-208	788.08	510.72	235.	0.	0.000	6503.85	1.509
Tl-208	899.42	582.90	56.	49.	0.054	106.22	2.405s
Bi-214	939.49	608.87	120.	1707.	1.897	7.99	1.665
Cs-137	1020.86	661.62	36.	2.	0.002	1289.89	1.626D
Bi-212	1121.23	726.70	44.	39.	0.043	123.80	1.052s
Pa-234m	1182.48	766.41	209.	11.	0.012	565.58	1.713D
Tl-210	1229.59	796.95	48.	12.	0.013	278.39	0.634s
Tl-208	1329.50	861.74	51.	8.	0.009	436.52	0.654s
Ac-228	1405.69	911.14	52.	56.	0.062	78.00	1.897s
Ac-228	1493.95	968.38	32.	32.	0.035	95.12	2.197
Pa-234m	1545.59	1001.87	29.	4.	0.004	640.73	0.523s
Bi-214	1727.45	1119.82	45.	345.	0.383	19.82	1.881
Tl-210	2021.00	1310.24	16.	5.	0.006	390.38	1.135s
K-40	2252.52	1460.45	29.	268.	0.297	21.71	2.345
Bi-212	2495.97	1618.42	7.	22.	0.024	99.74	0.694s
Bi-214	2720.86	1764.37	6.	275.	0.305	18.95	3.042
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 031 15 Min Colim@6Det@Pos4

SMP HS 031 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 11:13:26 AM Real Time: 911.36 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 032 15 Min Colim@6Det@Pos

Sample description
smp hs 032 col @6 det @ pos 4 10_31_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 032 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	31-Oct-2007 09:33:12
Live time:	900
Real time:	905
Dead time:	0.51 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCCEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 032 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2905

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.05	77.14	328.	140.	0.156	76.59	1.384	PB-214	
133.84	86.73	168.	37.	0.041	173.33	0.402	TB-160	s
183.03	118.60	378.	88.	0.098	144.19	1.542	NP-239	s
299.00	193.75	310.	67.	0.074	151.98	1.407	RH-106M	
317.03	205.43	360.	102.	0.114	121.55	1.541	U-235	s
488.67	316.66	158.	64.	0.072	129.34	1.399	NP-239	s
787.66	510.59	154.	84.	0.093	71.18	1.509	TL-208	D
1025.66	664.61	85.	51.	0.056	88.26	1.629	PA-234	D
1109.17	718.87	39.	30.	0.033	136.38	1.134	SB-126	M
1184.63	767.80	86.	186.	0.207	33.99	1.954	BI-214	s
1242.71	805.76	58.	48.	0.054	79.73	1.746	PA-234	D
1294.16	838.82	56.	25.	0.028	149.72	1.690	J-135	sM
1439.85	933.29	60.	118.	0.131	43.89	1.955	BI-214	s
1780.75	1154.39	42.	51.	0.057	74.49	1.642	BI-214	M
1908.92	1237.53	40.	137.	0.152	36.88	2.062	J-133	sM
2123.48	1376.72	28.	128.	0.143	35.00	2.205	BI-214	
2170.80	1407.42	25.	50.	0.056	64.81	2.272	BI-214	
2847.11	1846.32	2.	51.	0.056	45.27	1.920	BI-214	s
3397.54	2203.66	0.	71.	0.079	35.60	3.061	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 032 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

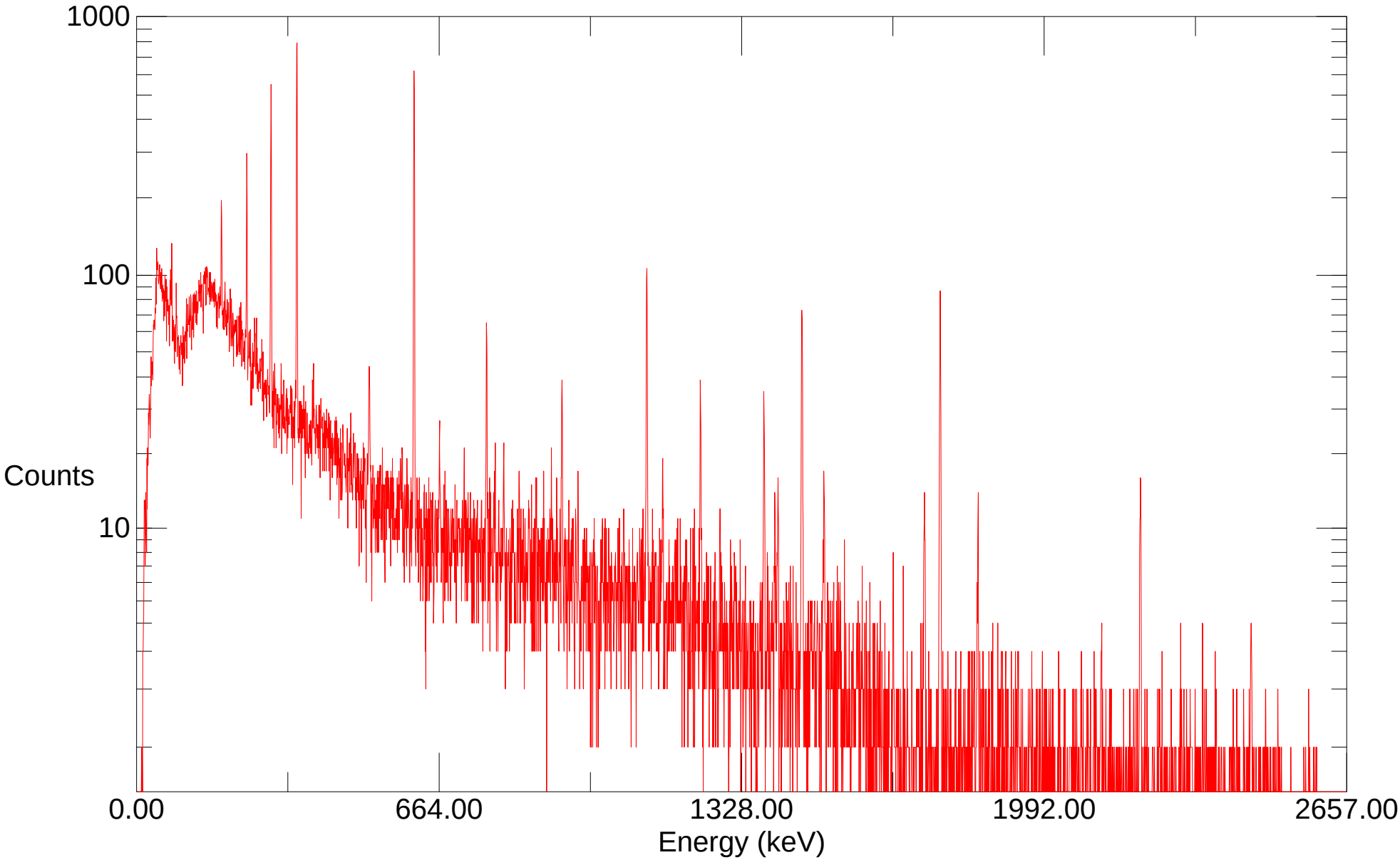
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	0.	0.	0.001	335.41	0.000s
Pb-210	69.40	44.98	765.	160.	0.178	123.91	1.194s
Th-234	98.06	63.55	434.	133.	0.148	103.02	3.284s
Th-234	140.74	91.20	318.	46.	0.051	253.55	2.539s
Ra-226	287.31	186.17	438.	312.	0.347	43.68	1.671s
Pb-212	368.26	238.63	308.	47.	0.052	166.03	1.318D
Pb-214	373.43	241.98	336.	582.	0.646	18.27	1.320D
Pb-214	455.57	295.21	306.	1225.	1.361	10.49	1.356D
Tl-210	459.88	298.00	660.	29.	0.033	374.11	1.357D
Pb-212	463.10	300.09	174.	45.	0.050	132.01	1.359D
Ac-228	521.00	337.61	196.	44.	0.049	218.18	1.663s
Pb-214	542.40	351.48	327.	2212.	2.458	7.73	1.701s
Tl-208	788.26	510.84	220.	18.	0.021	347.17	1.509D
Tl-208	899.29	582.81	86.	44.	0.049	152.95	2.066s
Bi-214	939.18	608.67	130.	1789.	1.988	7.87	1.784
Cs-137	1020.86	661.62	72.	7.	0.008	532.02	1.626D
Bi-212	1121.04	726.57	51.	14.	0.015	245.31	1.374
Pa-234m	1182.48	766.41	190.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	46.	6.	0.007	466.11	1.741D
Tl-208	1327.90	860.70	51.	29.	0.032	129.41	3.008s
Ac-228	1404.86	910.61	60.	29.	0.032	138.40	0.863s
Ac-228	1494.39	968.66	54.	30.	0.033	138.56	1.348
Pa-234m	1541.03	998.91	29.	13.	0.014	213.30	2.186
Bi-214	1726.88	1119.45	82.	374.	0.415	21.06	2.164
Tl-210	2021.00	1310.24	16.	1.	0.001	1412.99	0.000s
K-40	2251.96	1460.08	31.	317.	0.352	19.78	2.592
Bi-212	2493.36	1616.73	7.	11.	0.012	157.71	0.846s
Bi-214	2719.86	1763.72	6.	320.	0.356	17.39	2.072
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 032 15 Min Colim@6Det@Pos4

smp hs 032 col @6 det @ pos 4 10_31_07



Acquired: 10/31/2007 9:33:12 AM Real Time: 904.62 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 033 15 Min Colim@6Det@Pos

Sample description
smp hs 033 col @6 det @ pos 4 10_31_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 033 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	31-Oct-2007 10:11:58
Live time:	900
Real time:	911
Dead time:	1.24 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM8CEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 033 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2918

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.44	44.86	1597.	200.	0.223	87.25	1.199	EU-155	D
115.50	74.88	1392.	338.	0.375	49.63	1.217	BI-207	D
118.93	77.10	1214.	427.	0.474	37.57	1.218	PB-214	D
134.17	86.94	1082.	216.	0.239	99.24	1.440	BI-207	s
400.04	259.23	1233.	205.	0.228	122.32	2.055	XE-138	s
422.93	274.06	1310.	197.	0.219	136.69	1.677	CS-136	s
598.55	387.87	588.	170.	0.189	98.41	3.062	RH-106M	sM
711.26	460.93	294.	110.	0.122	103.24	1.225	CS-138	sM
740.76	479.86	298.	72.	0.081	106.98	1.486	W-187	D
750.51	486.18	361.	101.	0.113	84.84	1.491	LA-140	D
786.93	510.14	484.	127.	0.141	78.32	1.508	J-133	D
886.80	574.72	162.	56.	0.062	142.14	1.736	PA-234	M
1025.81	664.85	179.	242.	0.269	30.30	1.629	PA-234	D
1060.23	687.15	121.	108.	0.120	83.08	2.303	AG-110M	sM
1109.69	719.03	179.	86.	0.095	73.92	1.673	SB-126	D
1121.22	726.51	128.	56.	0.062	94.69	1.679	J-132	D
1184.58	767.73	261.	645.	0.716	15.90	1.714	BI-214	D
1211.39	785.15	198.	150.	0.166	52.21	1.537	BI-212	sM
1242.95	805.78	163.	169.	0.188	39.44	1.746	PA-234	D
1293.37	838.31	165.	89.	0.099	110.72	1.252	J-135	M
1439.70	933.20	219.	402.	0.447	24.69	1.914	BI-214	s
1492.89	967.78	94.	33.	0.037	134.88	1.890	SB-124	D
1621.45	1051.06	83.	46.	0.051	100.14	1.746	CS-136	
1780.89	1154.48	142.	178.	0.197	43.95	2.235	BI-214	M

ORTEC Spectrum name: SMP HS 033 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1908.56	1237.30	155.	547.	0.608	18.10	2.067	J-133	M
1974.75	1280.23	147.	131.	0.146	61.41	1.871	BI-214	M
2123.85	1376.87	94.	352.	0.391	19.78	2.297	BI-214	D
2135.54	1384.45	57.	122.	0.135	37.90	2.305	AG-110M	D
2159.96	1400.41	103.	119.	0.132	45.53	2.322	BI-214	D
2170.96	1407.54	94.	183.	0.204	31.49	2.330	BI-214	D
2326.14	1508.21	144.	176.	0.196	51.02	1.829	BI-214	
2560.89	1660.55	26.	110.	0.123	39.18	1.649	BI-214	s
2666.28	1728.95	35.	222.	0.247	25.22	2.586	BI-214	
2847.87	1846.81	24.	132.	0.147	34.32	1.729	BI-214	s
3397.27	2203.49	4.	338.	0.376	16.72	2.380	BI-214	
3772.83	2447.39	0.	104.	0.116	29.42	3.181	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.00	11.68	7.	1.	0.001	828.40	0.000s
Pb-210	71.75	46.50	1669.	146.	0.163	120.90	1.200D
Th-234	95.70	62.02	1470.	102.	0.113	241.05	2.702s
Th-234	144.64	93.73	1015.	29.	0.032	488.31	0.873
Ra-226	287.10	186.03	2568.	2732.	3.035	15.31	1.339s
Pb-212	368.26	238.63	972.	29.	0.032	456.02	1.318D
Pb-214	373.43	241.98	1251.	2158.	2.398	9.49	1.320D
Pb-214	455.57	295.21	959.	4871.	5.412	5.07	1.356D
Tl-210	459.88	298.00	2422.	36.	0.040	588.72	1.357D
Pb-212	463.10	300.09	722.	55.	0.062	209.41	1.359D
Ac-228	519.55	336.67	918.	152.	0.169	153.93	2.612s
Pb-214	542.41	351.49	1172.	8262.	9.180	3.94	1.580
Tl-208	788.26	510.84	516.	103.	0.115	97.68	1.509D
Tl-208	899.42	582.89	126.	24.	0.027	250.62	1.167
Bi-214	939.17	608.66	348.	7294.	8.104	3.76	1.733
Cs-137	1020.86	661.62	139.	3.	0.003	1665.89	1.626D
Bi-212	1121.96	727.17	108.	0.	0.000	0.00	1.669D
Pa-234m	1182.48	766.41	814.	41.	0.045	301.74	1.713D
Tl-210	1233.83	799.70	111.	28.	0.031	168.32	1.741D
Tl-208	1325.30	859.01	176.	88.	0.097	128.46	1.904s
Ac-228	1404.89	910.63	108.	38.	0.042	171.15	1.361
Ac-228	1495.08	969.11	118.	7.	0.008	625.21	1.891D
Pa-234m	1546.96	1002.76	112.	36.	0.041	146.51	2.093s
Bi-214	1726.98	1119.51	175.	1580.	1.756	8.89	2.109
Tl-210	2017.00	1307.64	90.	11.	0.012	457.17	0.000s
K-40	2252.04	1460.13	152.	325.	0.361	28.58	2.248s
Bi-212	2498.00	1619.74	8.	0.	0.000	1039.23	0.216s

ORTEC Spectrum name: SMP HS 033 15 Min Colim@6Det@Pos

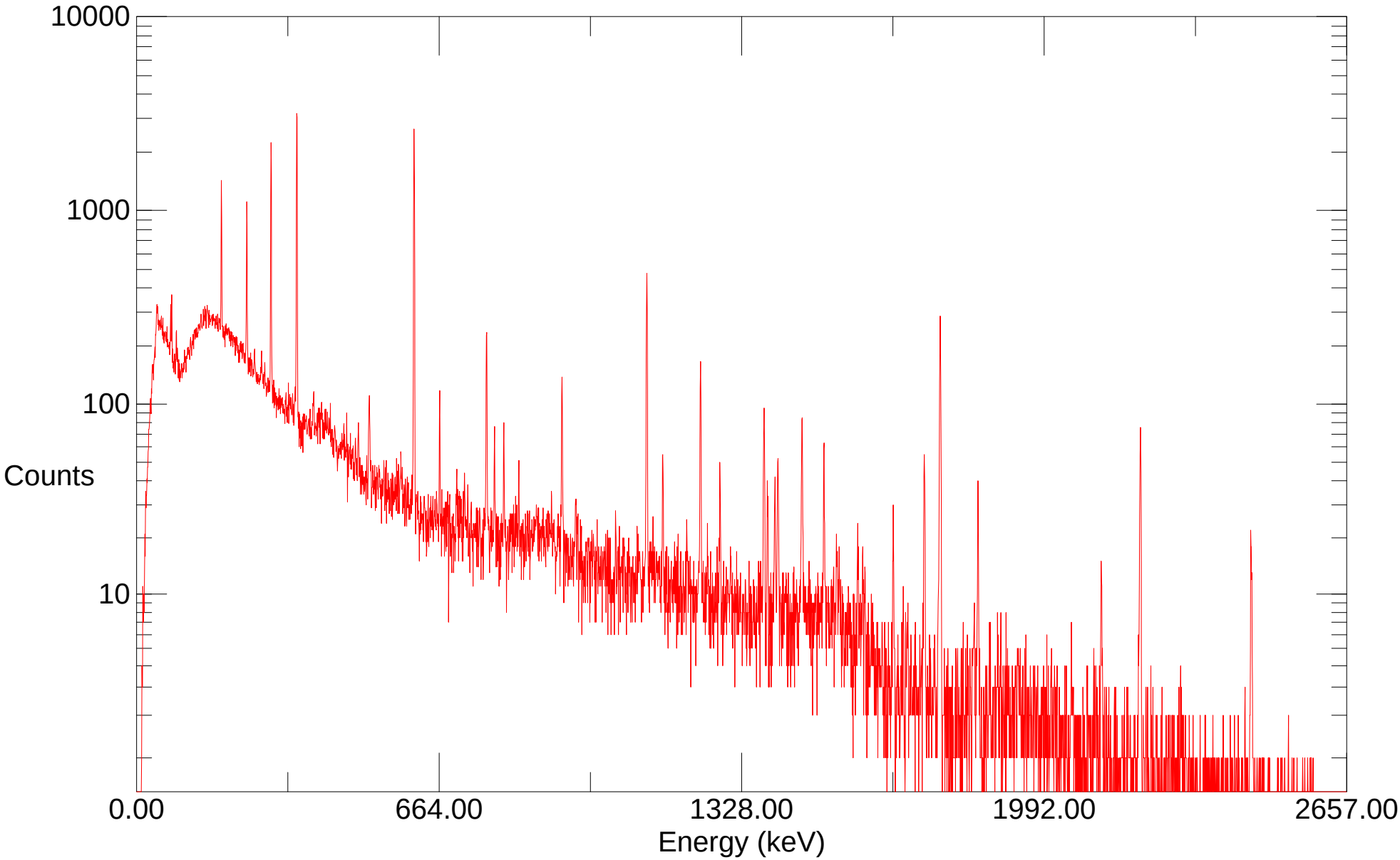
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	2719.93	1763.77	25.	1256.	1.395	8.81	2.581
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 033 15 Min Colim@6Det@Pos4

smp hs 033 col @6 det @ pos 4 10_31_07



Acquired: 10/31/2007 10:11:58 AM Real Time: 911.30 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 034 15 Min Colim@6Det@Pos

Sample description
SMP HS 034 down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 034 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 17-Oct-2007 14:36:20
Live time: 900
Real time: 942
Dead time: 4.44 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM41EE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 034 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1346

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
53.62	34.58	2019.	134.	0.149	144.96	1.194	BA-139	D
59.82	38.60	2337.	129.	0.144	160.90	1.196	CE-139	D
115.41	74.81	2955.	1794.	1.994	14.67	1.217	BI-207	D
119.07	77.19	2629.	3362.	3.736	8.28	1.218	PB-214	D
134.56	87.17	1895.	1439.	1.599	15.08	1.224	BI-207	D
138.82	89.93	2977.	576.	0.640	42.09	1.226	PB-214	D
398.51	258.23	1796.	580.	0.645	52.84	1.324	XE-138	s
423.43	274.38	1351.	302.	0.336	79.36	1.876	SR-91	s
596.21	386.35	717.	184.	0.205	65.41	1.418	-	D
600.05	388.84	1028.	239.	0.266	60.01	1.420	RH-106M	D
701.61	454.67	644.	131.	0.146	132.57	1.691	TE-131	sM
724.36	469.42	508.	100.	0.112	145.76	2.191	-	sM
741.98	480.76	510.	137.	0.152	74.69	1.487	W-187	D
750.72	486.42	543.	163.	0.182	64.85	1.491	LA-140	D
787.49	510.51	738.	251.	0.279	49.70	1.509	J-133	D
894.05	579.41	396.	201.	0.223	72.80	1.651	KR-89	s
921.61	597.28	256.	98.	0.108	108.67	1.778	J-134	s
1026.14	664.92	277.	479.	0.532	20.15	1.629	PA-234	D
1064.24	689.75	189.	59.	0.066	153.35	0.927	-	s
1084.96	703.18	414.	153.	0.170	108.31	1.367	RH-106M	s
1110.20	719.54	320.	159.	0.177	86.03	1.464	SB-126	s
1184.93	767.99	399.	1307.	1.453	11.63	1.608	BI-214	
1211.96	785.52	370.	282.	0.313	38.86	1.691	BI-212	M
1243.40	805.89	261.	325.	0.362	26.82	1.746	BI-214	D

ORTEC Spectrum name: SMP HS 034 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1265.67	819.81	265.	49.	0.055	145.85	1.759	PA-234	D
1274.15	825.31	238.	65.	0.072	108.06	1.764	PA-234	D
1293.89	838.65	392.	173.	0.192	65.29	2.133	J-135	sM
1440.41	933.65	387.	739.	0.821	18.30	1.890	BI-214	
1486.52	963.52	227.	100.	0.111	70.62	1.886	EU-152	D
1622.20	1051.55	242.	66.	0.073	127.92	1.969	CS-136	
1651.02	1070.25	243.	77.	0.086	112.82	1.556	J-134	s
1781.42	1154.82	260.	294.	0.327	35.41	1.708	BI-214	M
1861.75	1206.93	174.	91.	0.101	79.84	2.643	-	sM
1880.07	1218.81	190.	62.	0.069	130.47	1.344	AS-76	sM
1909.38	1237.83	202.	1012.	1.124	12.30	2.319	BI-214	M
1975.41	1280.66	169.	282.	0.313	30.41	2.152	BI-214	sM
2056.94	1333.55	72.	18.	0.020	224.25	1.128	CO-60	s
2124.76	1377.50	139.	681.	0.756	13.64	2.297	BI-214	D
2136.47	1385.10	139.	100.	0.111	58.45	2.306	AG-110M	D
2161.43	1401.23	171.	184.	0.205	37.31	2.323	BI-214	D
2171.55	1407.80	165.	390.	0.433	20.66	2.330	BI-214	D
2327.20	1508.90	257.	321.	0.356	30.20	2.372	BI-214	s
2371.89	1537.90	162.	61.	0.068	115.02	1.736	RB-89	
2440.30	1582.29	128.	164.	0.182	43.50	2.366	-	s
2560.82	1660.50	75.	171.	0.190	38.07	2.452	BI-214	s
2667.55	1729.77	54.	344.	0.382	20.64	2.678	BI-214	
2849.20	1847.68	48.	286.	0.318	22.93	2.698	BI-214	
3005.28	1948.99	11.	13.	0.014	136.52	1.223	-	s
3267.15	2119.00	15.	149.	0.166	29.65	3.003	BI-214	
3398.74	2204.45	7.	571.	0.635	12.86	2.719	BI-214	
3536.57	2293.95	13.	44.	0.049	66.68	1.514	-	s
3774.09	2448.20	4.	183.	0.203	23.46	3.322	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	61.	12.	0.014	274.24	0.000s
Pb-210	70.76	45.86	3236.	318.	0.353	127.17	2.328s
Th-234	95.22	61.71	1950.	200.	0.223	141.74	0.853s
Th-234	143.21	92.80	2257.	6.	0.007	3124.78	1.228D
Ra-226	287.17	186.08	3483.	2789.	3.099	15.93	1.227
Pb-212	368.26	238.63	1604.	149.	0.166	116.55	1.318D
Pb-214	373.43	241.98	1697.	4791.	5.324	5.66	1.321D
Pb-214	455.57	295.21	1231.	10036.	11.151	3.34	1.356D
Tl-210	459.88	298.00	5412.	108.	0.120	290.77	1.358D
Pb-212	463.10	300.09	1304.	75.	0.083	207.00	1.359D
Ac-228	522.85	338.81	1419.	127.	0.141	228.42	3.137s

ORTEC Spectrum name: SMP HS 034 15 Min Colim@6Det@Pos

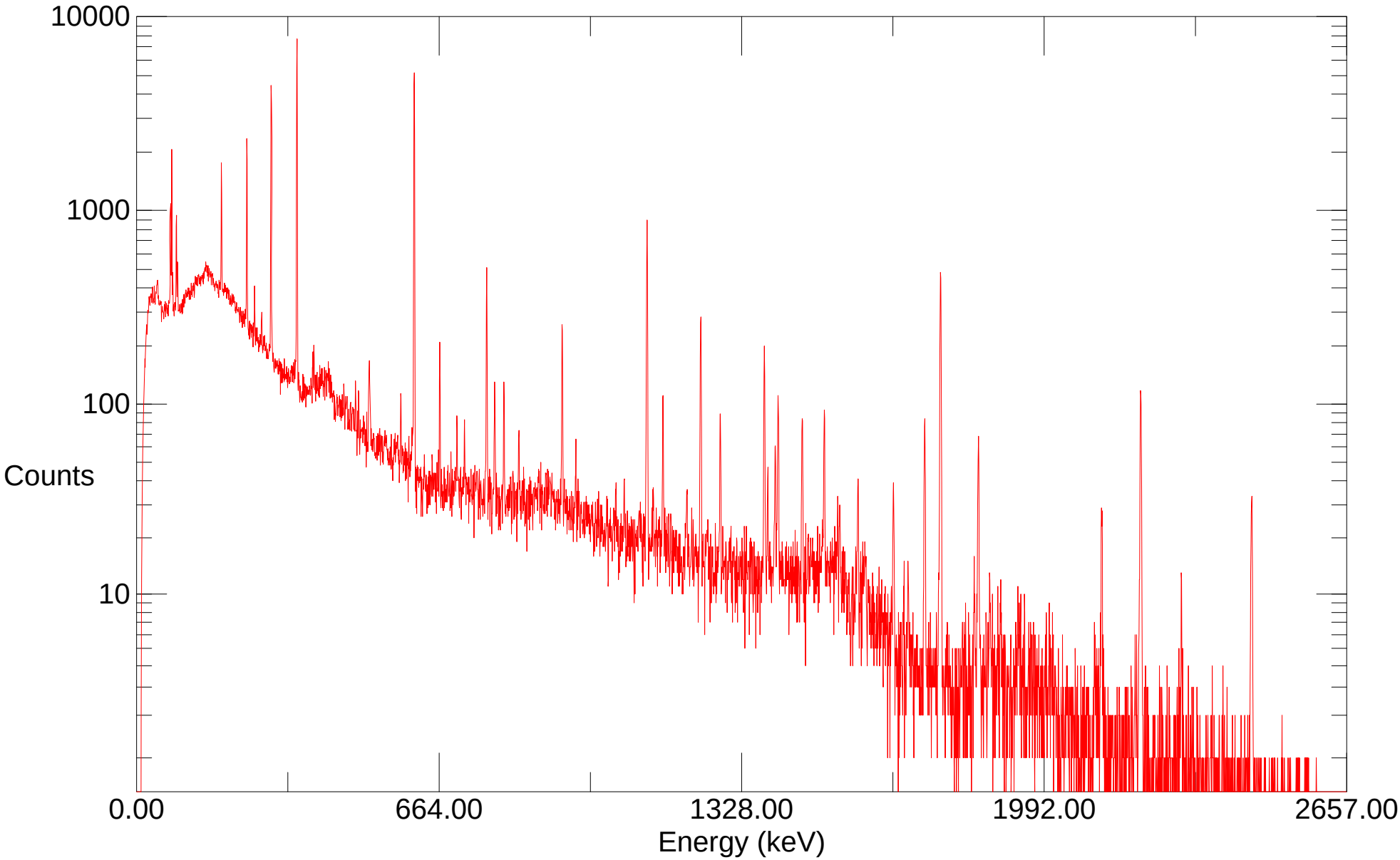
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	542.73	351.70	1562.	16723.	18.581	2.61	1.369
Tl-208	788.26	510.84	892.	97.	0.108	134.22	1.509D
Tl-208	899.80	583.14	279.	0.	0.000	0.00	2.616D
Bi-214	939.61	608.95	705.	13609.	15.121	2.78	1.605
Cs-137	1020.86	661.62	309.	37.	0.041	206.99	1.626D
Bi-212	1123.84	728.38	171.	10.	0.011	530.62	0.814s
Pa-234m	1182.52	766.43	1468.	0.	0.000	16255.46	1.713
Tl-210	1233.83	799.70	185.	35.	0.038	174.67	1.741D
Tl-208	1324.87	858.74	195.	105.	0.117	102.02	1.388s
Ac-228	1406.54	911.69	256.	44.	0.049	257.18	0.996s
Ac-228	1495.08	969.11	246.	58.	0.064	121.55	1.891D
Pa-234m	1541.51	999.22	208.	44.	0.049	168.18	0.840s
Bi-214	1727.73	1120.00	231.	2896.	3.218	6.27	2.008
Tl-210	2021.54	1310.59	119.	33.	0.036	175.87	2.271s
K-40	2252.77	1460.61	164.	327.	0.363	28.40	2.497
Bi-212	2498.42	1620.01	38.	6.	0.007	452.77	1.149s
Bi-214	2721.17	1764.57	54.	2018.	2.242	7.04	2.603
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 034 15 Min Colim@6Det@Pos1

SMP HS 034 down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 2:36:20 PM Real Time: 941.80 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 035 15 Min Colim@6Det@Pos

Sample description
SMP HS 035 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 035 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 09:49:19
Live time: 900
Real time: 911
Dead time: 1.21 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0CEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 035 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2092

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.42	74.83	1305.	628.	0.698	27.16	1.217	BI-207	D
118.99	77.14	1139.	964.	1.071	17.72	1.218	PB-214	D
134.43	87.69	1073.	457.	0.508	33.50	1.224	PB-214	D
399.07	258.59	488.	136.	0.152	94.35	1.575	XE-138	
423.07	274.15	792.	203.	0.226	99.78	2.419	CS-136	s
700.12	453.71	261.	118.	0.131	100.21	2.620	TE-131	sM
712.34	461.63	234.	76.	0.085	131.93	1.981	CS-138	sM
740.69	480.01	200.	88.	0.098	106.46	1.911	W-187	sM
787.41	510.41	387.	95.	0.105	93.56	1.509	J-133	D
1026.04	664.99	122.	217.	0.241	29.68	1.629	PA-234	D
1084.16	702.66	156.	112.	0.124	95.91	1.844	NB-94	sM
1184.59	767.77	194.	479.	0.532	20.40	1.595	BI-214	
1211.63	785.31	158.	120.	0.134	59.37	1.968	BI-212	s
1242.99	805.86	126.	142.	0.158	41.97	1.746	BI-214	D
1273.22	825.24	66.	46.	0.052	119.96	1.257	PA-234	M
1294.01	838.73	154.	68.	0.076	101.57	2.020	J-135	sM
1440.15	933.49	192.	296.	0.328	31.61	2.139	BI-214	
1621.42	1051.05	86.	34.	0.038	137.01	1.018	-	s
1781.90	1155.13	138.	138.	0.154	53.92	2.048	BI-214	s
1862.47	1207.40	72.	42.	0.047	110.51	1.379	-	
1909.11	1237.65	93.	396.	0.440	20.16	1.841	J-133	
1974.97	1280.37	69.	118.	0.131	46.82	1.915	BI-214	
1998.16	1295.42	52.	23.	0.026	174.51	1.382	J-132	s
2124.24	1377.21	91.	285.	0.317	26.13	2.865	BI-214	s

ORTEC Spectrum name: SMP HS 035 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2160.78	1400.84	69.	91.	0.101	50.06	2.322	BI-214	D
2170.96	1407.45	52.	154.	0.172	31.29	2.330	BI-214	D
2326.53	1508.47	65.	143.	0.159	39.18	2.319	BI-214	
2440.92	1582.69	55.	50.	0.056	93.43	1.787	-	
2562.11	1661.34	26.	76.	0.085	50.01	2.130	BI-214	
2666.38	1729.01	28.	162.	0.179	31.10	1.571	BI-214	s
2848.79	1847.41	8.	112.	0.124	32.30	2.668	BI-214	
3266.73	2118.73	4.	74.	0.082	39.68	2.552	BI-214	s
3398.36	2204.20	4.	248.	0.276	19.62	3.162	BI-214	
3773.41	2447.76	0.	76.	0.084	34.41	3.740	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

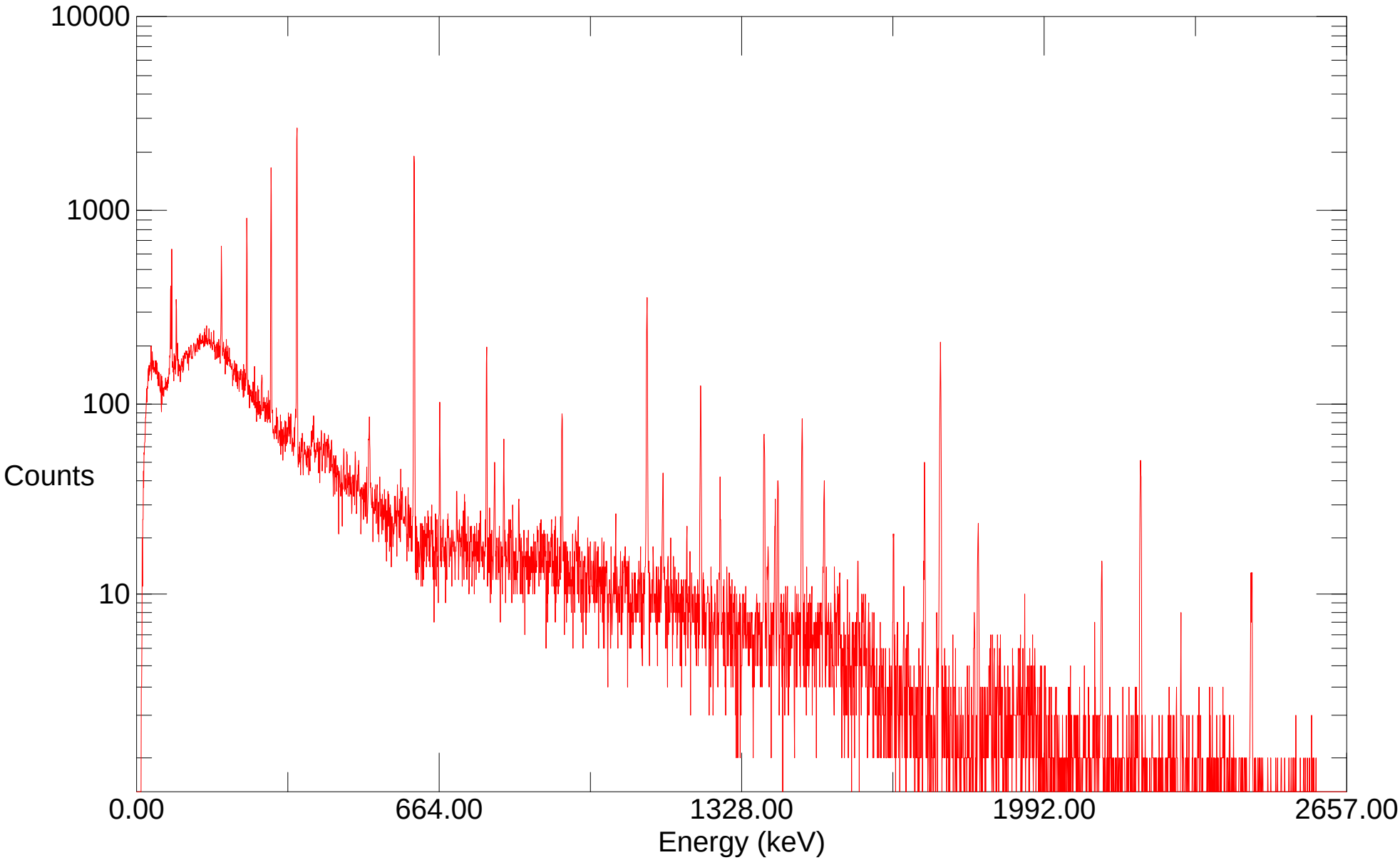
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	27.	5.	0.006	414.20	0.000s
Pb-210	72.00	46.66	390.	19.	0.021	497.81	0.648
Th-234	97.77	63.36	476.	22.	0.024	519.26	0.783
Th-234	143.21	92.80	1015.	73.	0.081	189.58	1.227D
Ra-226	287.03	185.99	1534.	1106.	1.229	26.49	1.223s
Pb-212	368.26	238.63	885.	43.	0.048	295.29	1.318D
Pb-214	373.43	241.98	812.	1715.	1.905	10.11	1.321D
Pb-214	455.57	295.21	539.	3633.	4.037	5.67	1.356D
Tl-210	459.88	298.00	1884.	61.	0.068	303.09	1.358D
Pb-212	463.10	300.09	592.	16.	0.017	668.89	1.359D
Ac-228	522.83	338.80	416.	72.	0.081	182.57	1.423s
Pb-214	542.58	351.60	812.	6176.	6.862	4.51	1.450
Tl-208	788.26	510.84	416.	66.	0.073	136.20	1.509D
Tl-208	899.20	582.75	172.	32.	0.035	269.92	1.889s
Bi-214	939.38	608.80	285.	5224.	5.804	4.53	1.631
Cs-137	1020.86	661.62	107.	0.	0.001	4383.67	1.626D
Bi-212	1121.44	726.83	88.	39.	0.043	168.35	0.935s
Pa-234m	1182.48	766.41	426.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	69.	29.	0.032	134.21	1.741D
Tl-208	1325.31	859.02	77.	14.	0.016	277.75	0.745s
Ac-228	1403.86	909.96	75.	37.	0.041	148.85	1.474
Ac-228	1494.86	968.97	65.	22.	0.024	168.12	1.151s
Pa-234m	1547.56	1003.15	103.	24.	0.026	219.27	1.150s
Bi-214	1727.45	1119.82	165.	1244.	1.383	10.59	2.070
Tl-210	2023.70	1311.99	44.	34.	0.038	113.68	0.746s
K-40	2252.33	1460.32	60.	304.	0.338	21.71	2.438
Bi-212	2497.11	1619.16	25.	8.	0.009	324.04	0.611s
Bi-214	2720.62	1764.21	40.	875.	0.972	11.10	2.598
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 035 15 Min Colim@6Det@Pos4

SMP HS 035 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 9:49:19 AM Real Time: 911.02 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 036 15 Min Colim@6Det@Pos

Sample description
SMP HS 036 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 036 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 14:58:18
Live time: 900
Real time: 916
Dead time: 1.73 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMCDEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1079

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
44.62	28.93	284.	101.	0.112	115.84	2.178	TE-132	s
118.89	77.04	264.	70.	0.078	143.81	1.273	PB-214	
134.33	87.04	270.	83.	0.092	115.89	1.338	BI-207	
611.93	396.55	72.	43.	0.048	126.93	1.380	XE-138	M
787.91	510.66	145.	92.	0.102	64.05	1.509	TL-208	D
801.02	519.11	38.	30.	0.034	125.10	0.960	PA-234	M
1026.49	665.25	70.	45.	0.050	91.58	1.629	BI-214	D
1121.67	726.98	36.	17.	0.019	166.48	0.806	J-132	s
1184.92	767.97	66.	102.	0.114	44.81	1.714	BI-214	D
1243.95	806.43	28.	49.	0.054	63.30	1.747	BI-214	D
1293.14	838.16	72.	30.	0.033	162.69	1.252	J-135	M
1440.31	933.60	59.	72.	0.080	64.06	1.935	BI-214	
1780.31	1154.11	50.	48.	0.053	93.33	1.691	BI-214	M
1909.10	1237.65	43.	131.	0.146	38.75	2.180	J-133	M
2125.22	1377.85	12.	88.	0.097	39.28	2.385	BI-214	
2314.88	1500.91	5.	7.	0.008	170.86	0.633	KR-89	s
2667.18	1729.53	2.	57.	0.063	42.13	1.771	BI-214	s
3398.93	2204.57	0.	73.	0.081	35.11	1.935	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 036 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

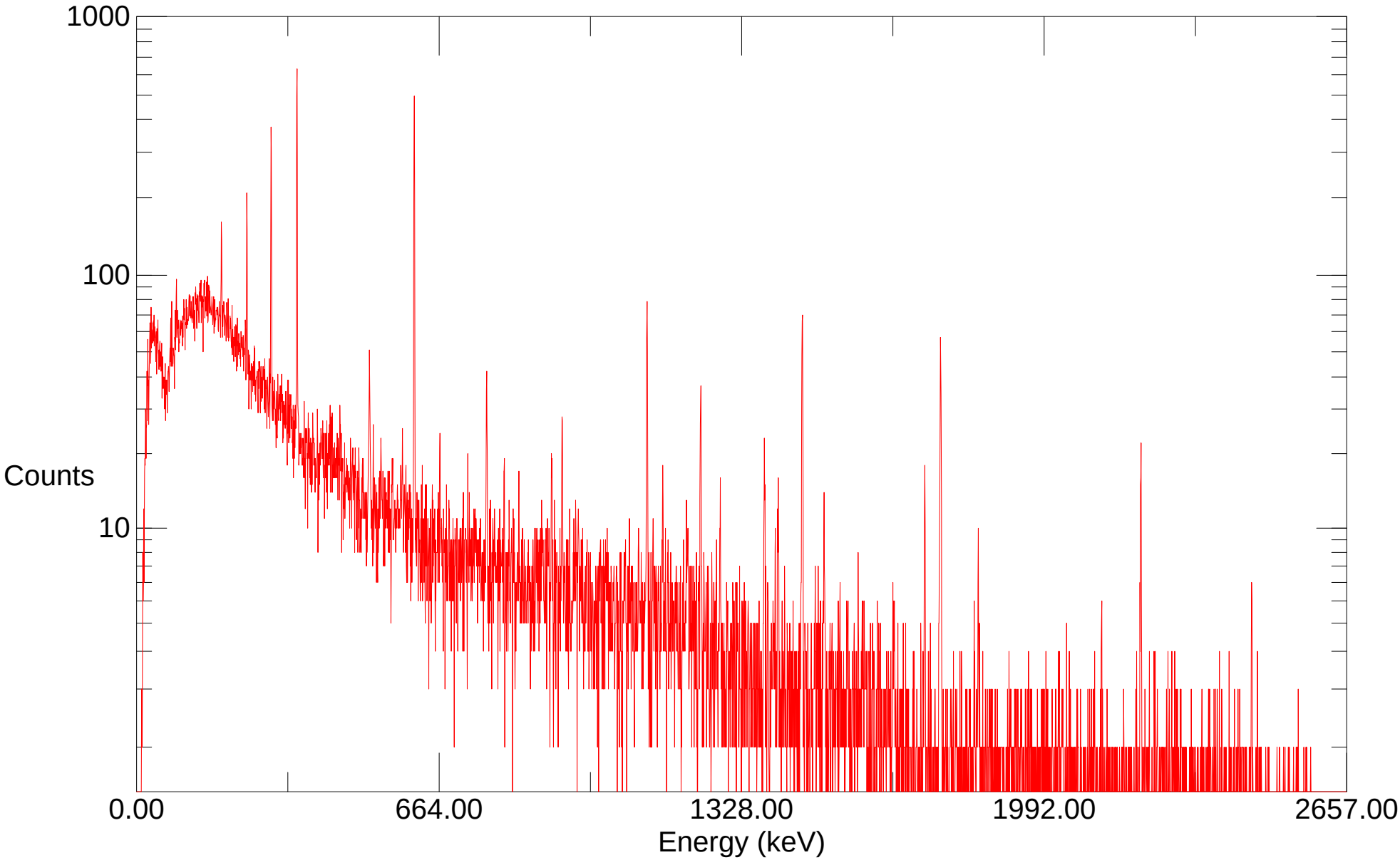
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	2.	1.	0.001	624.50	0.583s
Pb-210	71.03	46.04	336.	86.	0.096	146.59	1.099s
Th-234	96.59	62.59	114.	29.	0.032	199.26	1.161
Th-234	144.00	93.31	156.	4.	0.004	1488.71	0.648
Ra-226	287.08	186.02	399.	252.	0.280	53.87	1.420s
Pb-212	368.26	238.63	336.	0.	0.000	0.00	1.846D
Pb-214	373.30	241.89	320.	366.	0.407	36.34	1.306
Pb-214	455.57	295.21	189.	824.	0.915	12.63	1.356D
Tl-210	459.88	298.00	570.	10.	0.011	991.66	1.358D
Pb-212	463.10	300.09	234.	18.	0.020	366.22	1.359D
Ac-228	518.23	335.82	312.	54.	0.060	179.33	0.610s
Pb-214	542.77	351.72	316.	1488.	1.653	10.06	1.519
Tl-208	788.26	510.84	221.	16.	0.017	410.75	1.509D
Tl-208	900.05	583.30	66.	40.	0.045	136.54	1.223s
Bi-214	939.66	608.98	130.	1230.	1.367	10.01	1.533
Cs-137	1020.86	661.62	33.	14.	0.015	196.74	1.626D
Bi-212	1122.04	727.22	53.	0.	0.000	3088.69	1.680
Pa-234m	1182.48	766.41	135.	8.	0.009	591.25	1.713D
Tl-210	1233.83	799.70	38.	17.	0.019	169.50	1.741D
Tl-208	1326.15	859.56	56.	21.	0.023	204.80	0.813s
Ac-228	1404.78	910.55	42.	73.	0.081	59.98	2.294s
Ac-228	1495.43	969.34	42.	23.	0.026	147.57	2.391s
Pa-234m	1544.19	1000.96	21.	6.	0.007	358.82	1.734
Bi-214	1727.62	1119.93	66.	275.	0.306	25.33	2.180
Tl-210	2018.78	1308.80	18.	14.	0.015	177.81	1.071s
K-40	2253.03	1460.78	21.	268.	0.297	20.84	2.319
Bi-212	2499.00	1620.39	1.	0.	0.000	367.42	0.000s
Bi-214	2721.02	1764.47	6.	232.	0.257	20.80	2.326
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 036 15 Min Colim@6Det@Pos4

SMP HS 036 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 2:58:18 PM Real Time: 915.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 037 15 Min Colim@6Det@Pos

Sample description
SMP HS 037 15 min array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 037 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	17-Oct-2007 09:58:50
Live time:	900
Real time:	906
Dead time:	0.69 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM81EE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 037 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2517

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.39	74.79	384.	228.	0.253	41.55	1.217	BI-207	D
119.03	77.15	369.	352.	0.391	28.14	1.218	PB-214	D
134.42	87.11	406.	137.	0.152	97.04	1.368	BI-207	
787.49	510.35	181.	81.	0.090	77.99	1.509	J-133	D
899.78	583.13	52.	28.	0.031	177.17	1.719	TL-208	M
1184.76	767.89	85.	155.	0.172	41.17	1.735	BI-214	
1242.79	805.31	46.	25.	0.028	127.41	1.746	PA-234	D
1440.74	933.87	62.	64.	0.071	73.04	1.543	BI-214	
1908.81	1237.46	30.	118.	0.131	37.71	1.840	J-133	s
2123.76	1376.91	32.	84.	0.094	49.99	2.230	BI-214	
2170.96	1407.53	18.	48.	0.053	68.47	1.204	BI-214	s
2667.25	1729.57	5.	43.	0.048	52.36	1.798	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 037 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

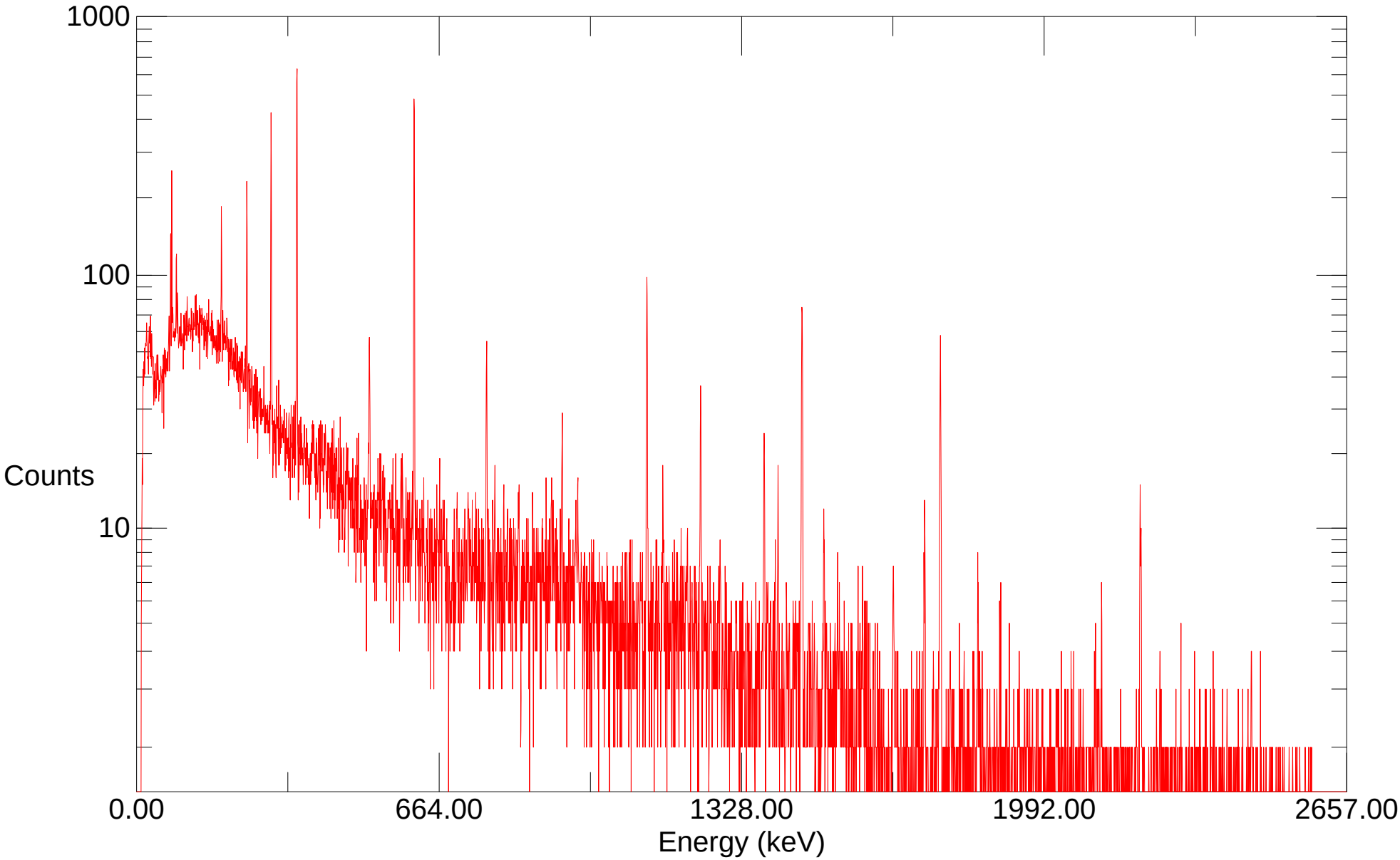
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.75	12.16	35.	7.	0.008	361.54	0.492s
Pb-210	70.81	45.89	297.	74.	0.082	167.52	1.497s
Th-234	93.62	60.67	337.	27.	0.030	320.93	0.973
Th-234	145.66	94.39	420.	29.	0.032	477.32	1.422s
Ra-226	286.83	185.86	423.	306.	0.340	50.30	1.161s
Pb-212	368.26	238.63	213.	0.	0.000	0.00	1.596D
Pb-214	373.16	241.80	200.	442.	0.492	24.82	1.300
Pb-214	455.57	295.21	140.	882.	0.980	11.59	1.356D
Tl-210	459.88	298.00	447.	22.	0.025	405.13	1.358D
Pb-212	463.10	300.09	183.	1.	0.002	4202.10	1.359D
Ac-228	522.92	338.86	116.	53.	0.059	142.41	1.140s
Pb-214	542.58	351.60	256.	1441.	1.601	9.78	1.439
Tl-208	788.26	510.84	209.	53.	0.059	121.90	1.509D
Tl-208	899.80	583.14	52.	0.	0.000	177.17	1.719D
Bi-214	939.26	608.72	121.	1240.	1.377	9.75	1.587
Cs-137	1017.92	659.72	58.	18.	0.021	208.14	0.797s
Bi-212	1122.38	727.44	44.	32.	0.036	148.82	2.666s
Pa-234m	1182.48	766.41	113.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	35.	8.	0.009	327.19	1.741D
Tl-208	1325.74	859.30	36.	19.	0.021	160.25	0.948s
Ac-228	1404.34	910.27	52.	30.	0.034	125.10	2.184
Ac-228	1494.04	968.44	50.	24.	0.027	149.09	1.376
Pa-234m	1538.38	997.19	47.	22.	0.025	179.16	0.573s
Bi-214	1727.35	1119.75	54.	307.	0.341	22.52	1.797
Tl-210	2020.33	1309.81	10.	2.	0.002	703.56	1.275s
K-40	2252.24	1460.27	19.	285.	0.317	19.60	2.323
Bi-212	2501.17	1621.80	5.	11.	0.013	137.26	0.793s
Bi-214	2720.58	1764.19	5.	212.	0.236	21.33	1.916
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 037 15 Min Colim@6Det@Pos1

SMP HS 037 15 min array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 9:58:50 AM Real Time: 906.26 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 038 15 Min Colim@6Det@Pos

Sample description
smp hs 038 array down col @ 6 det pos 4 10_25_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 038 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 25-Oct-2007 08:55:09
Live time: 900
Real time: 909
Dead time: 0.96 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4CEE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 038 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2779

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
67.10	43.28	1006.	226.	0.251	20.97	1.199	EU-155	D
115.49	74.85	930.	234.	0.260	19.58	1.217	BI-207	D
118.94	77.09	803.	299.	0.333	14.57	1.218	PB-214	D
136.65	88.55	868.	68.	0.075	62.84	1.225	PB-214	D
244.05	158.14	1236.	154.	0.171	46.36	1.985	TA-182	s
399.47	258.85	724.	176.	0.196	35.01	1.481	XE-138	s
432.99	280.58	567.	120.	0.133	43.07	1.219	SE-75	
514.17	333.17	327.	75.	0.083	36.11	1.382	AU-196	D
625.66	405.44	344.	93.	0.103	45.78	1.272	J-134	sM
750.65	486.46	178.	106.	0.117	28.57	1.325	LA-140	sM
787.25	510.29	408.	96.	0.107	31.40	1.508	J-133	D
1025.80	664.78	135.	159.	0.177	13.02	1.629	PA-234	D
1184.32	767.60	170.	393.	0.437	7.65	2.031	BI-214	s
1211.04	784.93	186.	115.	0.127	23.15	1.442	BI-212	sM
1242.47	805.22	114.	119.	0.133	15.63	1.746	PA-234	D
1293.15	838.17	110.	56.	0.063	32.16	2.513	J-135	sM
1439.85	933.30	160.	230.	0.256	11.59	1.612	BI-214	
1485.57	962.56	106.	45.	0.050	35.71	1.886	TB-160	D
1622.25	1051.58	56.	23.	0.026	50.52	0.871	-	s
1780.77	1154.40	125.	111.	0.123	21.10	1.047	BI-214	sM
1908.44	1237.22	87.	360.	0.400	6.99	2.034	J-133	M
1974.76	1280.24	75.	96.	0.107	19.72	2.329	BI-214	sM
2123.70	1376.87	64.	203.	0.225	8.97	2.297	BI-214	D
2135.98	1384.84	51.	57.	0.063	22.15	2.305	AG-110M	D

ORTEC Spectrum name: SMP HS 038 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2160.48	1400.67	41.	102.	0.113	13.27	2.322	BI-214	D
2170.35	1407.07	46.	144.	0.160	10.68	2.329	BI-214	D
2326.66	1508.55	81.	152.	0.169	15.10	2.648	BI-214	s
2560.69	1660.42	18.	68.	0.075	18.29	2.487	BI-214	s
2665.80	1728.63	22.	153.	0.170	10.25	3.368	BI-214	s
2847.64	1846.66	15.	117.	0.130	11.37	1.746	BI-214	s
3265.49	2117.92	5.	55.	0.061	15.22	1.775	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

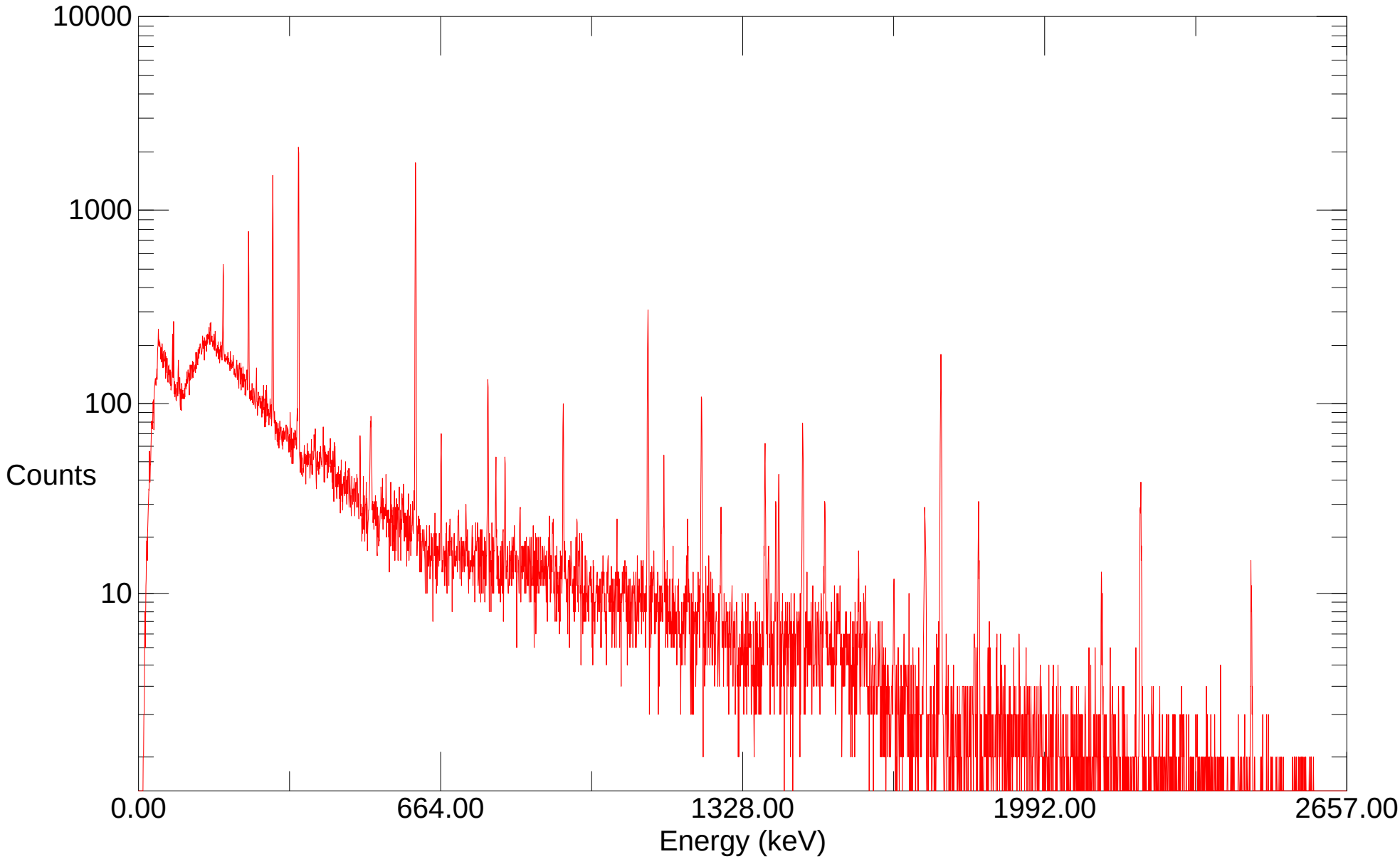
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	17.75	11.52	5.	1.	0.001	318.85	0.972
Pb-210	71.75	46.50	1324.	118.	0.131	44.61	1.201D
Th-234	97.14	62.95	685.	36.	0.040	137.03	0.681
Th-234	143.21	92.80	605.	37.	0.041	96.67	1.228D
Ra-226	286.94	185.93	1675.	848.	0.942	12.31	1.328s
Pb-212	368.26	238.63	794.	0.	0.000	0.00	2.502D
Pb-214	373.01	241.71	1105.	1556.	1.729	5.81	1.409s
Pb-214	455.57	295.21	618.	3291.	3.656	2.04	1.356D
Tl-210	459.88	298.00	1617.	42.	0.047	135.78	1.357D
Pb-212	463.10	300.09	621.	14.	0.015	254.77	1.359D
Ac-228	522.09	338.32	388.	29.	0.033	96.35	1.385D
Pb-214	542.37	351.46	710.	5410.	6.011	1.61	1.549
Tl-208	788.26	510.84	417.	96.	0.107	31.69	1.509D
Tl-208	898.76	582.47	108.	32.	0.035	64.10	1.631
Bi-214	939.08	608.61	275.	4676.	5.195	1.59	1.625
Cs-137	1020.86	661.62	143.	12.	0.013	146.17	1.626D
Bi-212	1121.29	726.73	62.	2.	0.003	460.37	0.594s
Pa-234m	1182.48	766.41	170.	0.	0.000	0.00	2.031D
Tl-210	1233.83	799.70	106.	8.	0.009	174.50	1.741D
Tl-208	1327.12	860.19	63.	33.	0.037	53.91	1.945
Ac-228	1404.58	910.42	143.	65.	0.072	35.01	2.671s
Ac-228	1495.08	969.11	98.	37.	0.042	40.82	1.892D
Pa-234m	1541.75	999.38	55.	25.	0.028	48.81	1.854
Bi-214	1726.83	1119.42	100.	1030.	1.144	3.61	2.051
Tl-210	2019.44	1309.23	32.	12.	0.014	76.42	0.978s
K-40	2251.51	1459.79	60.	318.	0.353	7.23	2.513s
Bi-212	2497.13	1619.17	26.	16.	0.018	61.98	1.472s
Bi-214	2719.97	1763.79	15.	727.	0.808	3.88	2.454
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 038 15 Min Colim@6Det@Pos4

smp hs 038 array down col @ 6 det pos 4 10_25_07



Acquired: 10/25/2007 8:55:09 AM Real Time: 908.70 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 039 15 Min Colim@6Det@Pos

Sample description
smp hs 039 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 039 15 Min Colim@6Det@Pos4.An1

Acquisition information

Start time:	22-Oct-2007 11:23:28
Live time:	900
Real time:	924
Dead time:	2.62 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM0BCF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 039 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1832

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
67.78	44.47	905.	171.	0.190	26.02	1.199	EU-155	D
119.29	77.30	536.	190.	0.211	26.90	1.021	PB-214	
133.49	86.51	558.	150.	0.167	37.82	0.881	BI-207	s
252.28	163.47	540.	135.	0.150	35.49	1.868	U-235	s
740.94	480.17	102.	66.	0.073	34.89	1.286	W-187	M
787.37	510.64	205.	104.	0.116	21.70	1.509	TL-208	D
1026.17	665.15	98.	90.	0.100	18.87	1.629	BI-214	D
1184.70	767.84	140.	267.	0.297	10.14	1.936	BI-214	
1243.33	805.86	95.	100.	0.111	20.11	1.445	BI-214	s
1293.84	838.61	45.	38.	0.042	38.85	1.110	J-135	M
1440.64	933.81	93.	138.	0.153	15.09	2.000	BI-214	s
1486.49	963.36	74.	23.	0.026	56.44	1.886	EU-152	D
1746.82	1132.38	57.	61.	0.068	27.21	1.067	J-135	s
1781.39	1154.81	54.	83.	0.093	19.43	2.231	BI-214	s
1909.63	1237.99	43.	222.	0.247	8.75	2.512	BI-214	s
2123.99	1377.06	49.	152.	0.169	11.68	2.946	BI-214	s
2171.15	1407.65	34.	87.	0.097	15.80	1.656	BI-214	
2666.86	1729.32	16.	91.	0.101	13.75	2.889	BI-214	
2848.08	1846.95	6.	62.	0.069	15.22	1.619	BI-214	s
3398.43	2204.24	4.	153.	0.170	8.55	1.876	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 039 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

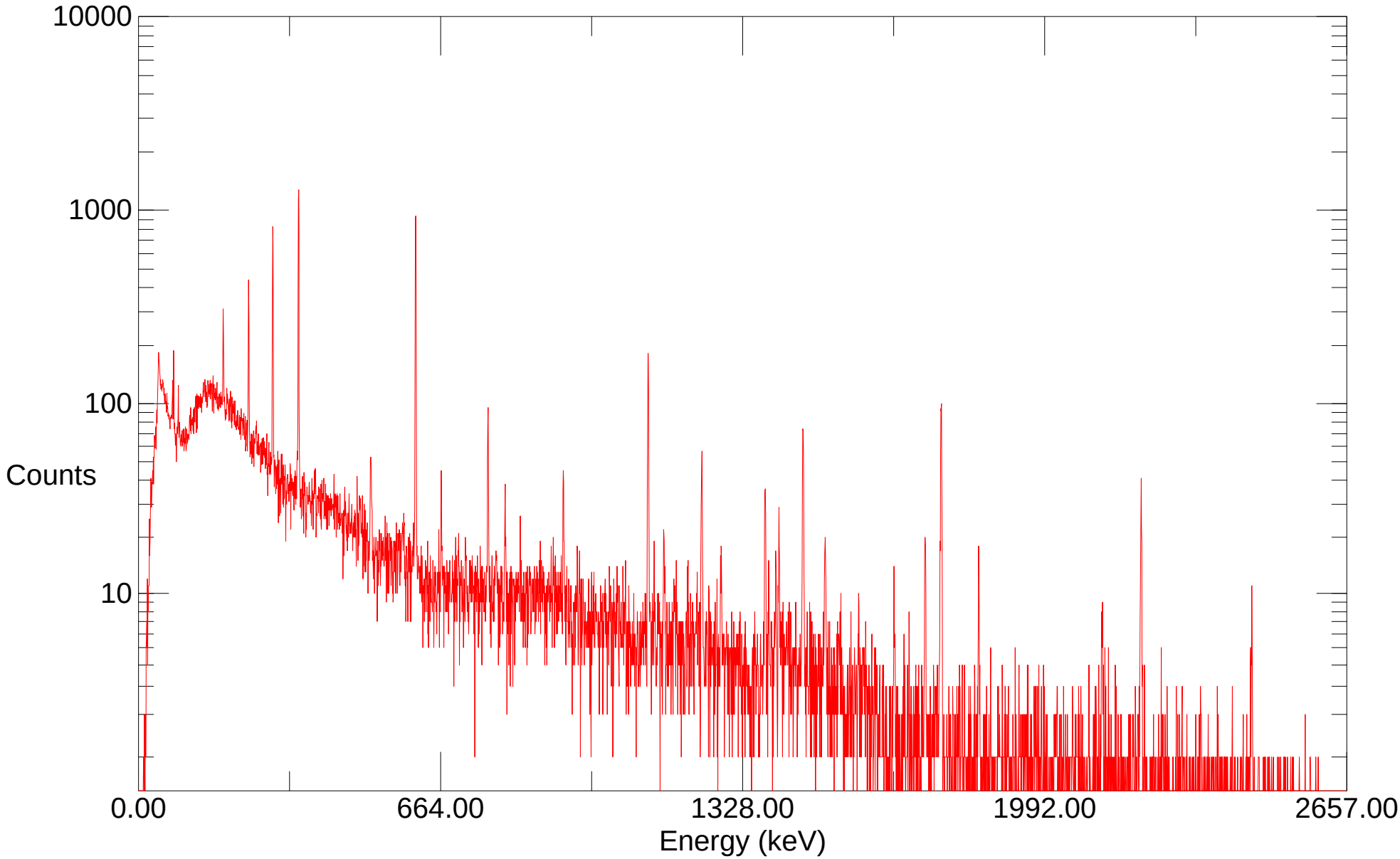
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	15.00	9.73	2.	0.	0.000	184.09	1.000
Pb-210	71.75	46.50	965.	116.	0.129	38.92	1.200D
Th-234	97.09	62.92	940.	64.	0.072	121.86	0.746s
Th-234	145.68	94.40	420.	31.	0.034	141.38	0.810s
Ra-226	287.20	186.10	995.	512.	0.569	15.72	1.432s
Pb-212	368.26	238.63	453.	52.	0.058	59.81	1.318D
Pb-214	373.43	241.98	466.	892.	0.991	4.79	1.320D
Pb-214	455.57	295.21	395.	1898.	2.109	2.73	1.356D
Tl-210	459.88	298.00	1102.	28.	0.031	170.06	1.358D
Pb-212	463.10	300.09	273.	44.	0.048	55.80	1.359D
Ac-228	518.89	336.24	220.	63.	0.070	54.13	1.031s
Pb-214	542.56	351.58	496.	3251.	3.612	2.14	1.580
Tl-208	788.26	510.84	290.	19.	0.021	128.08	1.509D
Tl-208	900.11	583.34	112.	37.	0.041	66.04	1.991s
Bi-214	939.45	608.84	184.	2793.	3.103	2.08	1.797
Cs-137	1020.86	661.62	51.	1.	0.001	822.21	1.626D
Bi-212	1123.24	728.00	68.	28.	0.031	72.61	1.027s
Pa-234m	1182.48	766.41	224.	0.	0.000	0.00	0.000D
Tl-210	1233.28	799.35	56.	0.	0.000	1056.20	1.741
Tl-208	1326.63	859.88	73.	31.	0.034	49.05	3.478s
Ac-228	1406.23	911.49	70.	30.	0.034	47.14	1.131s
Ac-228	1495.08	969.11	55.	27.	0.030	42.72	1.892D
Pa-234m	1542.21	999.68	50.	16.	0.018	71.77	0.672s
Bi-214	1727.62	1119.93	80.	643.	0.714	4.76	2.022
Tl-210	2015.99	1306.99	28.	9.	0.010	105.89	0.785s
K-40	2252.72	1460.58	54.	307.	0.341	7.38	2.564
Bi-212	2497.03	1619.11	8.	28.	0.031	26.66	1.701s
Bi-214	2720.80	1764.33	16.	447.	0.497	5.03	2.558
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 039 15 Min Colim@6Det@Pos4

smp hs 039 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 11:23:28 AM Real Time: 924.26 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 040 15 Min Colim@6Det@Pos

Sample description
smp hs 040 array down col @ 6 det pos 4 10_25_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 040 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 25-Oct-2007 09:41:49
Live time: 900
Real time: 906
Dead time: 0.61 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM46BF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2603

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
117.48	76.13	444.	199.	0.221	24.72	1.285	PB-214	s
134.76	87.99	351.	78.	0.086	36.00	1.224	PB-214	D
343.83	222.79	175.	80.	0.089	32.89	1.705	TA-182	sM
595.98	386.21	87.	51.	0.057	39.17	1.818	-	sM
787.22	510.21	176.	56.	0.063	35.80	1.508	J-133	D
835.61	541.53	25.	83.	0.092	18.39	2.317	J-134	sM
1025.93	664.82	59.	49.	0.054	26.66	1.629	PA-234	D
1184.31	767.59	64.	119.	0.132	13.26	1.714	BI-214	D
1210.96	784.87	62.	46.	0.051	33.11	1.771	BI-212	s
1243.18	806.22	49.	40.	0.045	29.31	1.746	BI-214	D
1440.45	933.68	49.	96.	0.107	16.77	2.941	BI-214	s
1909.03	1237.60	40.	144.	0.160	11.84	1.954	J-133	
2123.67	1376.85	29.	76.	0.084	16.65	2.064	BI-214	
2666.18	1728.88	0.	71.	0.079	11.87	2.063	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 040 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

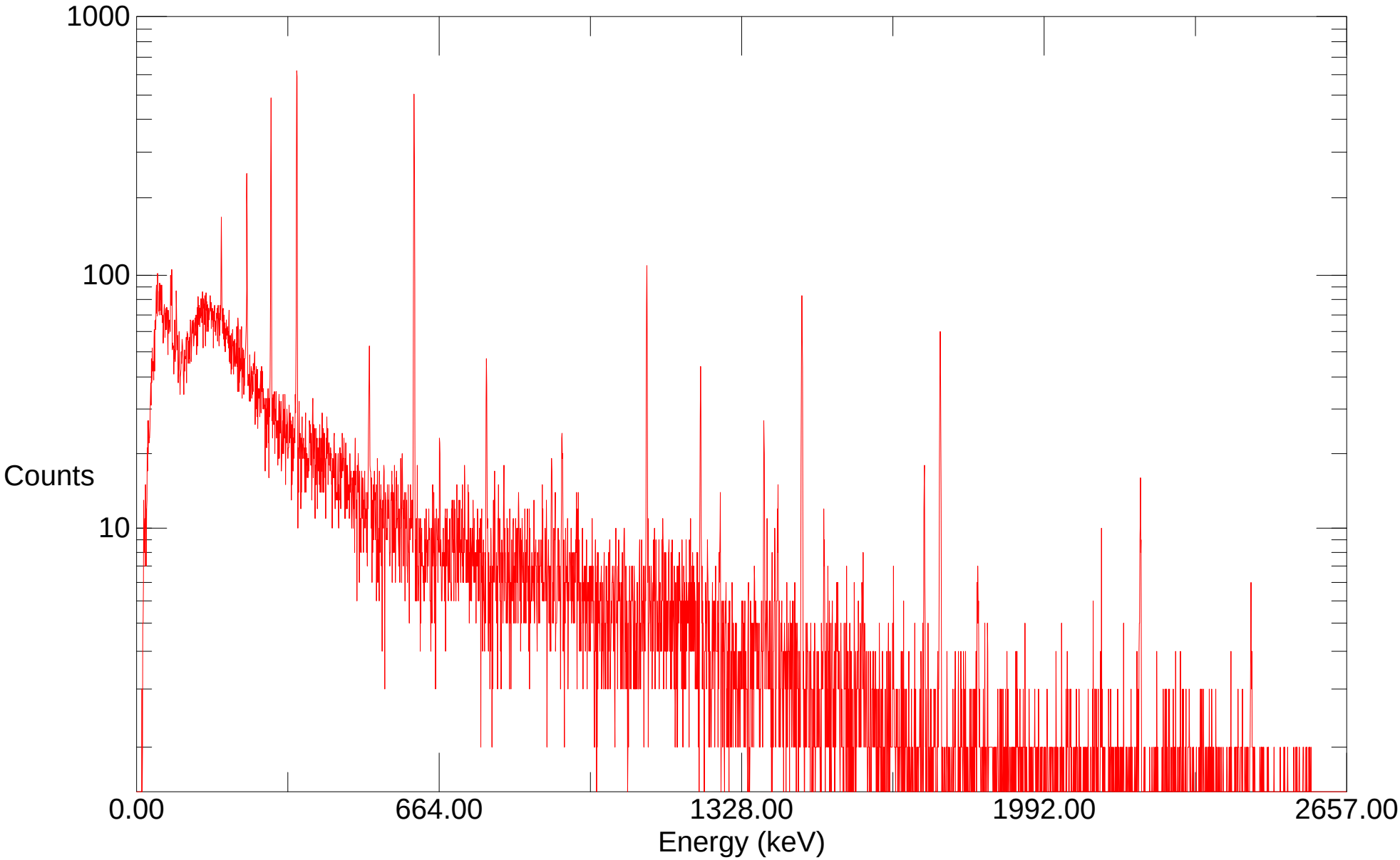
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	17.33	11.25	1.	1.	0.001	169.97	0.510s
Pb-210	71.80	46.53	423.	65.	0.072	64.49	1.417
Th-234	97.00	62.86	177.	12.	0.013	177.66	0.648
Th-234	143.21	92.80	298.	15.	0.017	165.61	1.227D
Ra-226	286.67	185.76	585.	291.	0.323	21.19	1.415s
Pb-212	368.26	238.63	270.	0.	0.000	0.00	3.145D
Pb-214	372.92	241.65	462.	498.	0.553	11.88	1.390s
Pb-214	455.57	295.21	191.	1015.	1.128	3.68	1.356D
Tl-210	459.88	298.00	512.	19.	0.021	170.08	1.357D
Pb-212	463.10	300.09	212.	26.	0.029	81.07	1.359D
Ac-228	521.14	337.70	122.	36.	0.039	68.23	2.502s
Pb-214	542.32	351.43	248.	1645.	1.828	2.97	1.613
Tl-208	788.26	510.84	184.	53.	0.059	38.58	1.509D
Tl-208	899.57	582.99	46.	46.	0.051	34.77	1.996s
Bi-214	939.18	608.67	102.	1438.	1.598	2.90	1.811
Cs-137	1020.86	661.62	47.	7.	0.007	154.68	1.626D
Bi-212	1122.84	727.74	40.	31.	0.034	49.03	0.875s
Pa-234m	1182.48	766.41	157.	16.	0.018	111.77	1.713D
Tl-210	1233.83	799.70	28.	1.	0.001	755.28	1.741D
Tl-208	1329.00	861.41	46.	8.	0.009	131.40	0.000s
Ac-228	1404.68	910.49	64.	47.	0.052	32.89	2.199
Ac-228	1494.97	969.04	50.	22.	0.024	56.65	0.683s
Pa-234m	1542.78	1000.05	45.	31.	0.034	44.29	0.788s
Bi-214	1726.96	1119.50	44.	322.	0.357	6.74	1.823
Tl-210	2020.00	1309.59	15.	1.	0.001	580.47	0.000s
K-40	2251.98	1460.09	12.	326.	0.362	5.90	2.510
Bi-212	2499.12	1620.46	9.	5.	0.005	114.83	1.258s
Bi-214	2719.90	1763.75	4.	248.	0.276	6.58	2.719
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 040 15 Min Colim@6Det@Pos4

smp hs 040 array down col @ 6 det pos 4 10_25_07



Acquired: 10/25/2007 9:41:49 AM Real Time: 905.52 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 041 15 Min Colim@6Det@Pos

Sample description
smp hs 041 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 041 15 Min Colim@6Det@Pos4.An1

Acquisition information

Start time:	22-Oct-2007 10:05:52
Live time:	900
Real time:	910
Dead time:	1.13 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM0DAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 041 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2409

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
117.76	76.31	472.	536.	0.595	10.45	0.983	PB-214	s
134.02	86.85	490.	214.	0.237	25.27	1.274	BI-207	s
360.93	234.03	218.	47.	0.053	46.46	1.315	XE-133M	D
399.61	258.95	252.	85.	0.094	45.12	1.703	XE-138	s
787.33	510.28	151.	73.	0.082	26.33	1.509	J-133	D
1026.12	664.91	54.	49.	0.054	25.78	1.629	PA-234	D
1184.67	767.79	53.	160.	0.178	10.18	1.714	BI-214	D
1439.93	933.35	64.	96.	0.107	18.94	2.081	BI-214	s
1781.51	1154.88	42.	36.	0.040	34.78	0.964	BI-214	s
1908.93	1237.53	47.	142.	0.158	12.13	1.235	J-133	s
2124.59	1377.44	33.	67.	0.075	19.72	1.404	BI-214	s
2171.54	1407.90	30.	38.	0.042	30.70	0.983	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	19.00	12.33	12.	2.	0.003	201.66	0.000s
Pb-210	72.13	46.75	192.	26.	0.029	99.86	1.392
Th-234	97.37	63.10	252.	81.	0.090	45.21	2.614s
Th-234	145.92	94.55	345.	48.	0.053	78.73	1.429s

ORTEC Spectrum name: SMP HS 041 15 Min Colim@6Det@Pos

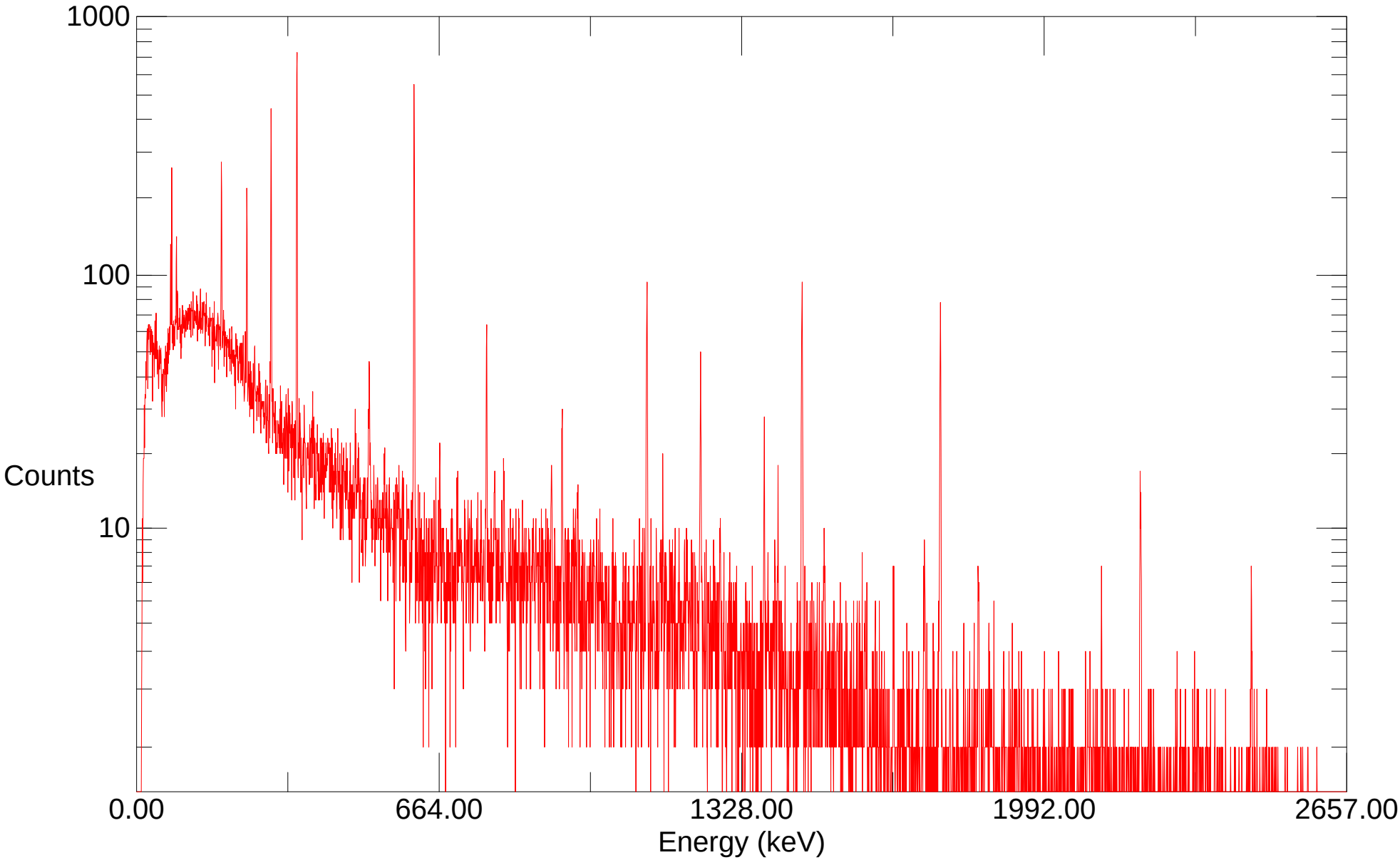
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ra-226	287.20	186.10	360.	504.	0.559	9.16	1.365s
Pb-212	368.26	238.63	242.	49.	0.055	46.81	1.318D
Pb-214	373.43	241.98	243.	406.	0.452	7.35	1.321D
Pb-214	455.57	295.21	166.	915.	1.017	3.86	1.356D
Tl-210	459.88	298.00	536.	14.	0.015	239.61	1.358D
Pb-212	463.10	300.09	208.	22.	0.025	94.15	1.359D
Ac-228	518.77	336.17	189.	28.	0.031	79.90	0.670s
Pb-214	542.60	351.61	222.	1596.	1.774	2.95	1.387
Tl-208	788.26	510.84	210.	22.	0.024	96.40	1.509D
Tl-208	900.53	583.61	113.	33.	0.037	59.25	1.325
Bi-214	939.33	608.77	112.	1394.	1.549	3.02	1.519
Cs-137	1020.86	661.62	37.	9.	0.010	98.94	1.626D
Bi-212	1121.37	726.78	74.	32.	0.036	50.40	1.248
Pa-234m	1182.48	766.41	190.	8.	0.009	245.58	1.713D
Tl-210	1234.69	800.26	40.	26.	0.028	61.79	1.164s
Tl-208	1328.52	861.10	50.	26.	0.029	48.73	2.317s
Ac-228	1404.29	910.23	47.	55.	0.061	24.23	2.885s
Ac-228	1493.70	968.22	50.	36.	0.040	37.88	2.181
Pa-234m	1543.20	1000.32	22.	2.	0.003	264.58	0.570s
Bi-214	1727.21	1119.66	40.	324.	0.360	6.59	2.081
Tl-210	2021.34	1310.46	30.	19.	0.021	58.63	0.821s
K-40	2252.30	1460.30	28.	335.	0.372	6.15	2.282
Bi-212	2496.62	1618.84	8.	24.	0.026	31.87	1.731s
Bi-214	2720.55	1764.17	11.	260.	0.289	6.70	1.866
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 041 15 Min Colim@6Det@Pos4

smp hs 041 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 10:05:52 AM Real Time: 910.28 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 042 15 Min Colim@6Det@Pos

Sample description
smp hs 042 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 042 15 Min Colim@6Det@Pos4.An1

Acquisition information

Start time:	22-Oct-2007 10:27:43
Live time:	900
Real time:	913
Dead time:	1.39 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCCAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1912

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
115.55	74.88	571.	136.	0.152	26.21	1.217	BI-207	D
118.98	77.11	523.	217.	0.241	16.35	1.218	PB-214	D
136.05	88.16	578.	108.	0.120	32.84	1.225	PB-214	D
788.15	510.77	261.	65.	0.072	37.19	1.509	TL-208	D
959.86	622.08	48.	57.	0.063	30.23	1.341	J-134	s
1025.91	664.90	90.	76.	0.084	23.39	1.029	PA-234	
1083.60	702.30	70.	50.	0.055	30.35	1.395	NB-94	M
1123.90	728.43	56.	36.	0.041	36.27	1.058	J-132	
1184.72	767.86	98.	160.	0.177	12.86	1.708	BI-214	
1212.32	785.75	82.	67.	0.074	26.41	1.341	PB-214	M
1243.01	805.65	78.	54.	0.060	30.19	1.432	PA-234	
1294.20	838.85	83.	35.	0.039	46.23	1.180	J-135	M
1439.98	933.38	113.	147.	0.163	16.44	1.726	BI-214	
1781.20	1154.68	88.	58.	0.064	33.17	2.263	BI-214	M
1853.74	1201.74	18.	22.	0.024	35.85	1.391	TB-160	M
1909.16	1237.68	39.	199.	0.221	9.02	2.211	J-133	M
2123.63	1376.82	32.	128.	0.143	12.11	1.860	BI-214	
2171.64	1407.97	54.	66.	0.074	24.95	1.812	BI-214	
2327.05	1508.81	40.	74.	0.083	20.24	2.246	BI-214	
2666.37	1729.01	9.	76.	0.085	13.35	1.766	BI-214	s
3397.75	2203.80	5.	92.	0.102	11.50	2.458	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 042 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

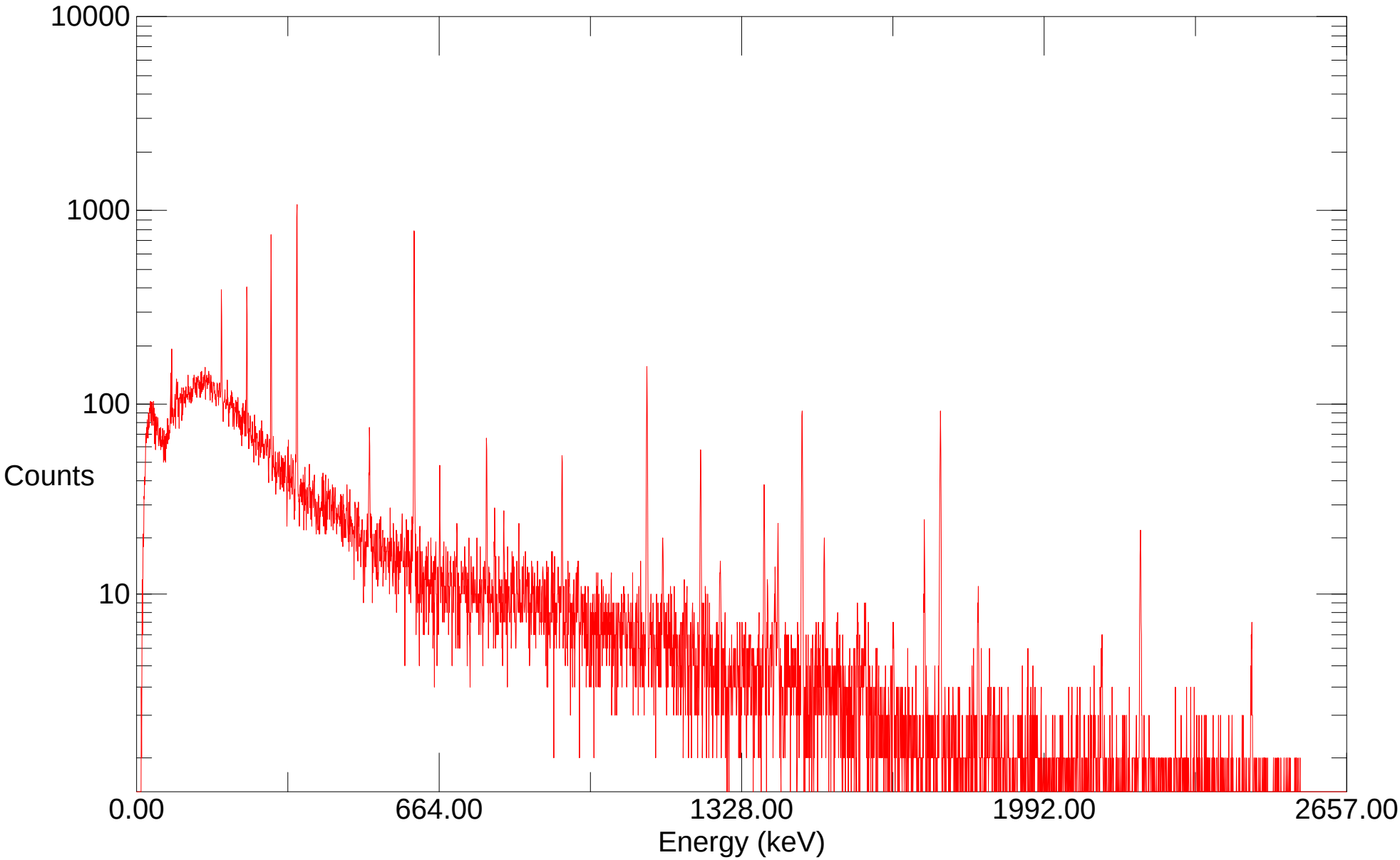
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	19.00	12.33	18.	4.	0.004	170.43	0.000s
Pb-210	71.68	46.46	390.	56.	0.062	71.78	1.889s
Th-234	99.00	64.16	299.	7.	0.008	344.85	0.000s
Th-234	143.21	92.80	410.	47.	0.052	63.07	1.228D
Ra-226	287.25	186.13	1045.	598.	0.664	13.86	1.254
Pb-212	368.26	238.63	423.	81.	0.091	37.37	1.318D
Pb-214	373.43	241.98	446.	747.	0.830	5.42	1.321D
Pb-214	455.57	295.21	352.	1457.	1.619	3.19	1.356D
Tl-210	459.88	298.00	836.	0.	0.000	4089.01	1.358D
Pb-212	463.10	300.09	318.	44.	0.049	59.40	1.359D
Ac-228	522.58	338.64	264.	55.	0.061	67.42	0.838s
Pb-214	542.60	351.61	488.	2424.	2.694	2.60	1.423
Tl-208	788.26	510.84	241.	85.	0.094	28.19	1.509D
Tl-208	898.99	582.61	102.	28.	0.031	80.02	1.221
Bi-214	939.46	608.85	200.	2155.	2.394	2.44	1.664
Cs-137	1020.97	661.69	74.	0.	0.000	1216.55	1.626
Bi-212	1121.96	727.17	33.	0.	0.000	0.00	0.236D
Pa-234m	1182.33	766.31	210.	0.	0.000	2049.39	1.713
Tl-210	1233.83	799.70	47.	0.	0.000	0.00	0.692D
Tl-208	1325.33	859.03	52.	2.	0.002	715.70	0.490s
Ac-228	1406.21	911.48	80.	56.	0.062	32.73	1.423s
Ac-228	1494.05	968.44	62.	35.	0.039	40.00	2.113s
Pa-234m	1544.46	1001.13	40.	20.	0.023	53.82	1.149s
Bi-214	1727.31	1119.72	69.	502.	0.557	5.48	1.957
Tl-210	2023.41	1311.80	35.	13.	0.014	87.59	1.803s
K-40	2252.35	1460.34	28.	340.	0.377	6.23	2.090
Bi-212	2493.23	1616.64	14.	4.	0.004	174.38	1.217s
Bi-214	2720.52	1764.15	6.	365.	0.406	5.40	2.463
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 042 15 Min Colim@6Det@Pos4

smp hs 042 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 10:27:43 AM Real Time: 912.72 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 043 15 Min Colim@6Det@Pos

Sample description
smp hs 043 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 043 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 09:25:26
Live time: 900
Real time: 913
Dead time: 1.43 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM8CAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 043 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1882

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.74	43.93	981.	147.	0.163	93.96	1.199	EU-155	D
115.35	74.77	1970.	1083.	1.203	19.63	1.217	BI-207	D
118.99	77.12	1697.	1913.	2.126	11.42	1.218	PB-214	D
134.58	87.07	1544.	761.	0.846	24.45	1.224	BI-207	D
138.83	89.82	1872.	401.	0.445	48.21	1.226	PB-214	D
399.54	258.90	1088.	330.	0.367	69.06	1.616	XE-138	s
423.57	274.47	1197.	166.	0.184	148.47	1.279	SR-91	s
489.77	317.37	550.	100.	0.112	151.42	1.187	NP-239	s
600.05	388.85	522.	100.	0.112	147.67	1.361	RH-106M	M
701.20	454.40	432.	147.	0.163	102.51	1.484	TE-131	sM
712.27	461.58	392.	116.	0.129	122.68	1.715	CS-138	sM
723.64	468.95	352.	75.	0.083	171.35	1.741	-	sM
739.68	479.35	395.	148.	0.164	101.72	2.059	W-187	sM
751.00	486.69	308.	104.	0.116	111.35	1.235	LA-140	sM
788.11	510.80	427.	212.	0.236	46.09	1.509	TL-208	D
883.60	572.64	200.	75.	0.083	131.15	1.982	PA-234	sM
1026.04	664.93	161.	237.	0.263	29.94	1.629	PA-234	D
1083.70	702.36	248.	121.	0.134	72.92	1.287	NB-94	sM
1108.60	718.51	165.	130.	0.144	80.02	1.938	RH-106M	sM
1184.49	767.71	250.	775.	0.861	15.51	1.733	BI-214	s
1211.84	785.45	171.	179.	0.199	41.27	1.950	BI-212	
1242.83	805.51	168.	170.	0.189	39.57	1.746	PA-234	D
1266.51	820.89	90.	57.	0.063	107.48	1.821	PA-234	M
1294.07	838.77	186.	117.	0.130	66.62	1.755	J-135	sM

ORTEC Spectrum name: SMP HS 043 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1439.92	933.34	288.	422.	0.469	27.33	1.678	BI-214	
1486.30	963.15	145.	69.	0.077	81.97	1.886	TB-160	D
1622.41	1051.69	114.	40.	0.044	146.59	0.930	-	s
1781.24	1154.71	175.	181.	0.201	46.69	1.500	BI-214	
1909.07	1237.63	116.	609.	0.677	15.24	2.234	J-133	
1975.23	1280.55	105.	171.	0.190	41.96	2.000	BI-214	s
2124.20	1377.14	81.	392.	0.436	18.01	2.297	BI-214	D
2136.83	1385.34	82.	90.	0.100	53.31	2.306	AG-110M	D
2160.50	1400.82	73.	143.	0.159	35.64	2.323	BI-214	D
2170.94	1407.60	80.	245.	0.272	24.71	2.330	BI-214	D
2327.15	1508.87	117.	204.	0.226	37.09	2.351	BI-214	s
2458.16	1593.88	45.	37.	0.041	99.14	1.039	-	s
2561.68	1661.06	56.	122.	0.136	47.56	1.875	BI-214	s
2667.07	1729.46	33.	250.	0.278	24.12	2.786	BI-214	
2848.30	1847.09	20.	161.	0.179	28.32	3.052	BI-214	
3266.43	2118.53	7.	81.	0.090	39.86	2.232	BI-214	
3397.77	2203.81	12.	324.	0.361	18.02	2.871	BI-214	
3773.52	2447.83	2.	97.	0.108	31.55	2.819	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	41.	8.	0.009	334.73	0.000s
Pb-210	71.75	46.50	1394.	139.	0.155	116.57	1.200D
Th-234	98.57	63.88	1041.	83.	0.092	235.55	2.568s
Th-234	143.21	92.80	1269.	24.	0.027	620.28	1.228D
Ra-226	287.19	186.10	2354.	1382.	1.536	25.97	1.067
Pb-212	368.26	238.63	908.	0.	0.000	0.00	1.338D
Pb-214	373.00	241.70	2158.	2641.	2.934	15.59	1.245
Pb-214	455.57	295.21	793.	5856.	6.506	4.42	1.356D
Tl-210	459.88	298.00	2801.	31.	0.035	724.25	1.358D
Pb-212	463.10	300.09	835.	32.	0.036	386.38	1.359D
Ac-228	523.27	339.08	514.	122.	0.136	120.91	1.421s
Pb-214	542.56	351.58	940.	9398.	10.443	3.51	1.462
Tl-208	788.26	510.84	627.	12.	0.013	918.96	1.509D
Tl-208	903.48	585.53	232.	54.	0.060	193.57	0.774s
Bi-214	939.30	608.75	453.	7524.	8.360	3.79	1.628
Cs-137	1020.86	661.62	119.	1.	0.001	4640.96	1.626D
Bi-212	1127.47	730.74	186.	20.	0.022	330.34	1.195
Pa-234m	1182.48	766.41	240.	0.	0.000	0.00	1.724D
Tl-210	1233.83	799.70	120.	18.	0.020	273.08	1.741D
Tl-208	1328.00	860.76	80.	23.	0.026	227.05	0.986s
Ac-228	1404.88	910.61	141.	54.	0.060	109.46	1.998

ORTEC Spectrum name: SMP HS 043 15 Min Colim@6Det@Pos

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1495.08	969.11	165.	22.	0.024	259.70	1.892D
Pa-234m	1540.88	998.81	143.	25.	0.027	245.33	0.665s
Bi-214	1727.27	1119.70	178.	1686.	1.874	8.66	2.014
Tl-210	2017.18	1307.76	68.	10.	0.012	382.53	0.642s
K-40	2252.63	1460.52	128.	310.	0.344	27.39	1.955
Bi-212	2496.87	1619.00	37.	35.	0.039	105.11	1.213s
Bi-214	2720.51	1764.15	38.	1236.	1.374	9.11	2.297
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

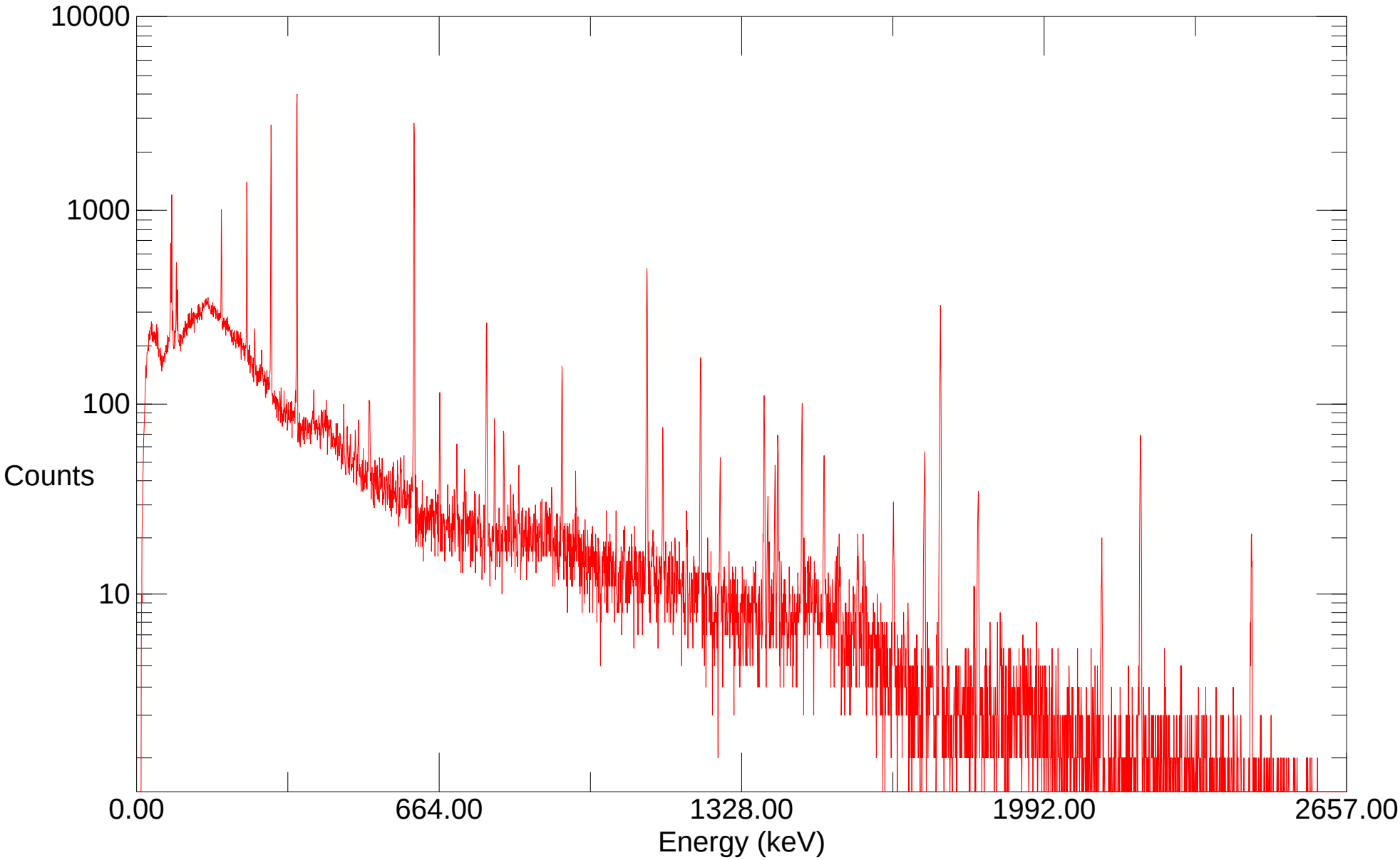
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 043 15 Min Colim@6Det@Pos4

smp hs 043 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 9:25:26 AM Real Time: 913.04 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 044 15 Min Colim@6Det@Pos

Sample description
smp hs 044 array down Coli@6Det@Pos4 10_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 044 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 20-Oct-2007 09:36:25
Live time: 900
Real time: 913
Dead time: 1.40 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4DAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2476

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.26	74.71	1180.	695.	0.772	23.86	1.217	BI-207	D
118.99	77.13	1109.	1390.	1.544	12.97	1.218	PB-214	D
134.48	87.05	1130.	651.	0.724	24.85	1.224	BI-207	D
138.76	89.83	1394.	270.	0.301	61.33	1.226	PB-214	D
147.21	95.30	883.	91.	0.101	142.48	1.229	NP-237	D
399.01	258.56	1111.	267.	0.297	97.23	1.486	XE-138	s
423.15	274.20	950.	165.	0.183	139.24	1.871	SR-91	s
741.45	480.50	214.	72.	0.079	134.81	1.424	W-187	sM
787.59	510.53	380.	119.	0.133	74.54	1.509	J-133	D
894.27	579.45	177.	71.	0.078	87.64	1.561	KR-89	D
1025.90	664.90	145.	182.	0.203	35.75	1.629	PA-234	D
1083.51	702.24	108.	75.	0.083	99.20	1.995	NB-94	sM
1109.49	719.08	111.	61.	0.068	90.48	1.901	SB-126	M
1184.54	767.68	160.	507.	0.563	17.04	1.714	BI-214	D
1211.70	785.35	143.	128.	0.142	54.12	2.103	BI-212	sM
1242.63	805.37	111.	133.	0.147	42.64	1.746	PA-234	D
1293.78	838.57	110.	88.	0.098	66.57	2.392	J-135	sM
1439.80	933.26	258.	259.	0.288	40.89	1.443	BI-214	
1620.93	1050.73	114.	64.	0.071	99.38	1.666	CS-136	
1780.83	1154.44	91.	153.	0.170	41.18	2.044	BI-214	sM
1909.18	1237.70	95.	442.	0.491	18.89	2.187	J-133	M
1950.03	1264.20	44.	24.	0.026	146.81	1.788	-	sM
1974.85	1280.30	78.	122.	0.136	46.40	2.548	BI-214	M
2124.35	1377.22	73.	276.	0.306	22.36	2.297	BI-214	D

ORTEC Spectrum name: SMP HS 044 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2135.97	1384.75	52.	75.	0.084	53.30	2.305	AG-110M	D
2160.36	1400.62	77.	95.	0.106	49.82	2.322	BI-214	D
2171.13	1407.61	61.	192.	0.213	27.72	2.330	BI-214	D
2326.65	1508.54	95.	179.	0.199	40.18	1.901	BI-214	
2561.66	1661.05	25.	93.	0.103	43.34	2.949	BI-214	
2667.01	1729.42	13.	181.	0.201	25.31	2.473	BI-214	
2848.38	1847.14	24.	142.	0.158	33.47	2.028	BI-214	
3265.82	2118.14	15.	59.	0.065	58.92	1.250	BI-214	s
3397.84	2203.86	10.	224.	0.249	22.03	3.172	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

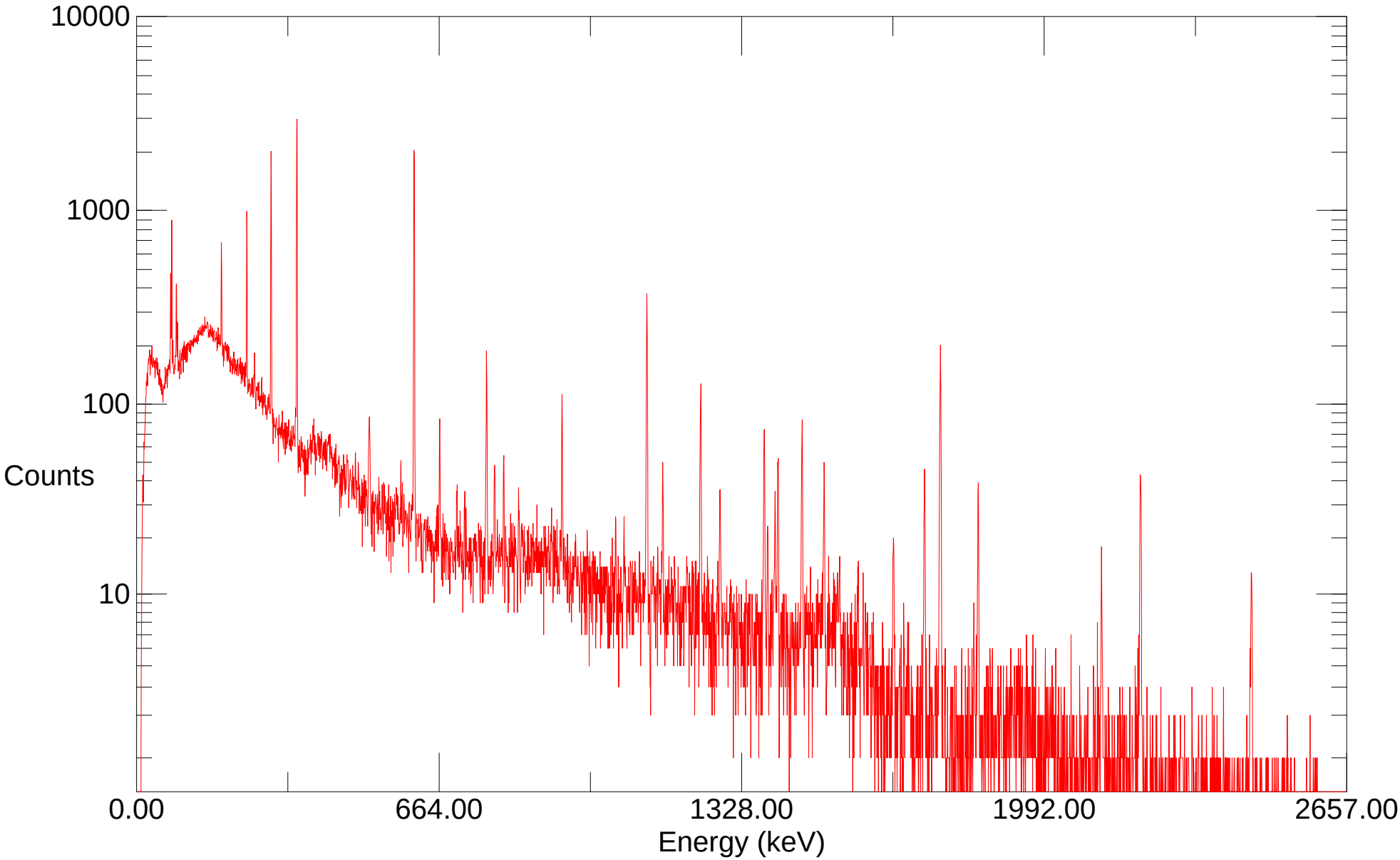
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.68	12.12	42.	8.	0.009	328.10	0.600s
Pb-210	72.64	47.08	804.	50.	0.056	342.89	1.215
Th-234	96.61	62.61	864.	62.	0.069	301.78	1.221
Th-234	143.21	92.80	1083.	36.	0.040	395.64	1.228D
Ra-226	287.19	186.09	1706.	1112.	1.236	27.62	1.304s
Pb-212	368.26	238.63	980.	53.	0.059	254.52	1.318D
Pb-214	373.43	241.98	844.	1831.	2.034	9.72	1.321D
Pb-214	455.57	295.21	600.	4278.	4.753	5.19	1.356D
Tl-210	459.88	298.00	2101.	25.	0.027	790.04	1.358D
Pb-212	463.10	300.09	489.	4.	0.004	2544.52	1.359D
Ac-228	525.93	340.81	620.	32.	0.036	384.87	0.826
Pb-214	542.54	351.57	788.	6760.	7.511	4.24	1.434
Tl-208	788.26	510.84	420.	79.	0.088	114.65	1.509D
Tl-208	899.80	583.14	145.	30.	0.033	179.16	1.564D
Bi-214	939.31	608.75	334.	5444.	6.049	4.46	1.607
Cs-137	1020.86	661.62	190.	0.	0.000	5846.81	1.626D
Bi-212	1121.08	726.60	91.	16.	0.018	386.77	3.057s
Pa-234m	1182.48	766.41	638.	4.	0.004	2788.72	1.713D
Tl-210	1233.83	799.70	105.	17.	0.019	262.85	1.741D
Tl-208	1324.83	858.71	138.	24.	0.026	251.15	0.860s
Ac-228	1404.11	910.12	130.	68.	0.075	92.41	1.610s
Ac-228	1495.00	969.06	86.	22.	0.025	295.97	2.594s
Pa-234m	1544.56	1001.20	92.	14.	0.015	345.88	0.636s
Bi-214	1727.21	1119.66	132.	1192.	1.324	10.24	1.897
Tl-210	2022.00	1310.89	42.	9.	0.010	355.90	0.000s
K-40	2252.10	1460.17	72.	300.	0.333	24.25	1.976
Bi-212	2502.04	1622.36	15.	11.	0.012	194.77	1.273s
Bi-214	2720.54	1764.17	27.	860.	0.956	10.89	2.512
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 044 15 Min Colim@6Det@Pos4

smp hs 044 array down Coli@6Det@Pos4 10_20_07



Acquired: 10/20/2007 9:36:25 AM Real Time: 912.76 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 045 15 Min Colim@6Det@Pos

Sample description
SMP HS 045 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 045 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 19-Oct-2007 09:12:19
Live time: 900
Real time: 909
Dead time: 0.99 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0CAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 045 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1839

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.28	74.72	1101.	456.	0.507	33.90	1.217	BI-207	D
118.97	77.11	945.	794.	0.882	19.57	1.218	PB-214	D
134.50	87.16	798.	393.	0.437	45.71	1.515	BI-207	s
199.86	129.51	1064.	134.	0.149	157.07	1.458	AC-228	s
331.85	215.03	1004.	127.	0.141	169.47	1.730	TB-160	sM
399.13	258.63	609.	170.	0.189	95.20	1.549	XE-138	s
422.78	273.96	765.	139.	0.154	142.29	1.401	CS-136	s
700.51	453.96	220.	70.	0.078	138.72	1.904	TE-131	sM
741.19	480.33	225.	83.	0.092	131.34	0.996	W-187	sM
788.16	510.77	245.	286.	0.318	43.96	2.391	TL-208	s
948.33	615.09	137.	35.	0.039	151.75	1.589	RH-106M	D
1026.09	665.04	128.	176.	0.195	35.53	1.629	BI-214	D
1053.96	683.08	108.	96.	0.107	91.22	1.100	-	sM
1084.22	702.70	98.	56.	0.062	119.43	1.937	NB-94	M
1110.77	719.92	142.	83.	0.092	81.55	2.161	SB-126	s
1184.77	767.82	140.	459.	0.510	17.75	1.714	BI-214	D
1211.32	785.11	139.	108.	0.120	62.46	1.560	BI-212	sM
1242.91	805.94	105.	124.	0.137	44.38	1.746	BI-214	D
1440.42	933.66	166.	282.	0.314	30.70	1.784	BI-214	
1781.16	1154.66	70.	118.	0.131	45.05	1.628	BI-214	sM
1909.27	1237.75	114.	418.	0.464	21.22	2.243	J-133	M
1973.66	1279.53	80.	114.	0.127	52.24	2.109	BI-214	sM
2124.35	1377.29	85.	220.	0.244	31.02	2.212	BI-214	
2160.40	1400.58	49.	106.	0.118	40.52	2.322	BI-214	D

ORTEC Spectrum name: SMP HS 045 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2171.45	1407.75	54.	139.	0.154	33.91	2.330	BI-214	D
2327.05	1508.80	71.	125.	0.139	47.74	2.591	BI-214	
2666.74	1729.25	14.	158.	0.175	27.68	2.313	BI-214	s
2848.62	1847.30	8.	125.	0.139	29.30	2.507	BI-214	
3398.16	2204.07	4.	227.	0.252	20.92	3.034	BI-214	
3774.39	2448.40	0.	77.	0.086	34.19	2.583	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

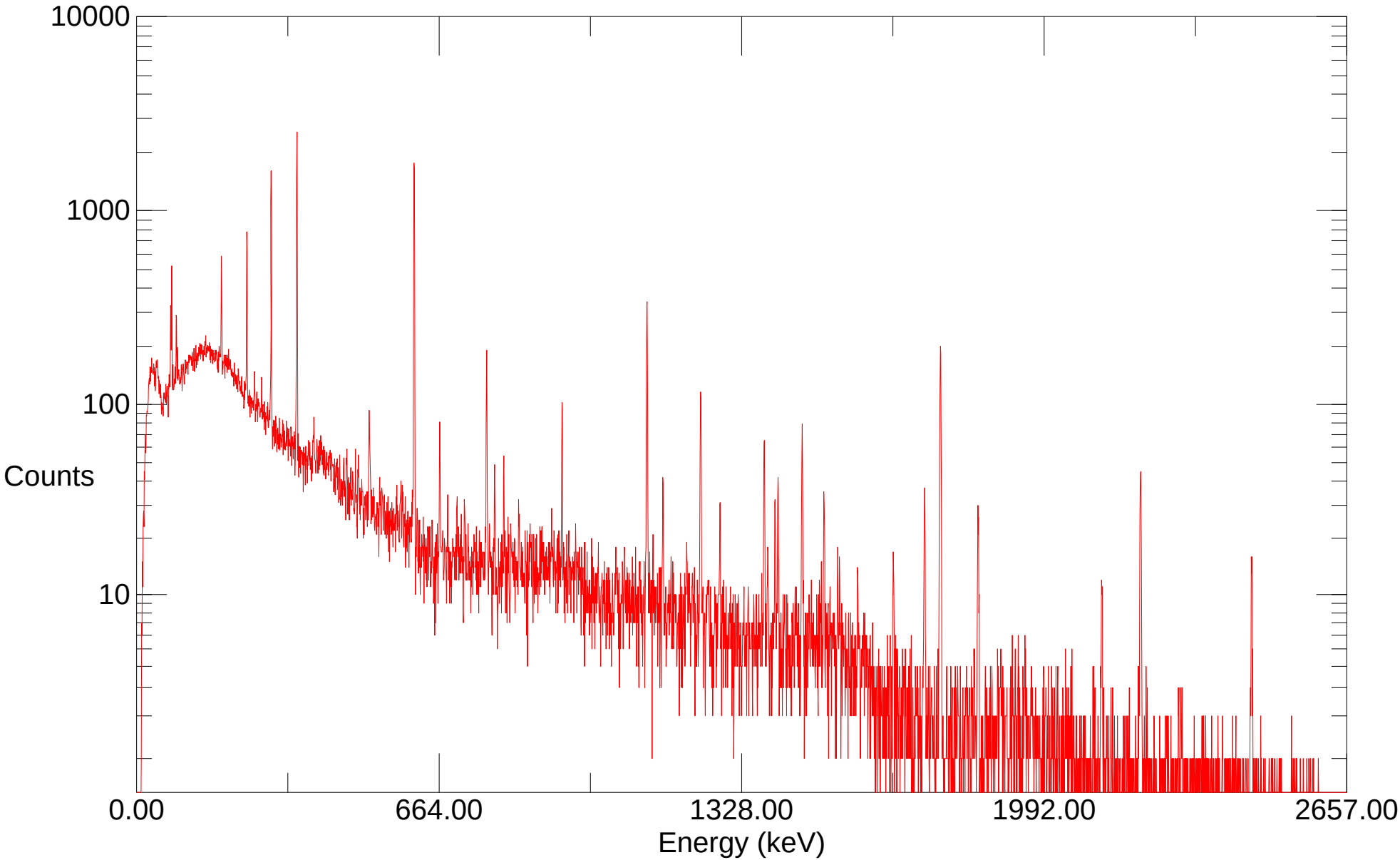
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	12.	2.	0.003	626.21	0.000s
Pb-210	73.41	47.57	795.	32.	0.036	531.32	1.178s
Th-234	98.91	64.10	505.	45.	0.050	283.82	0.860
Th-234	143.14	92.75	914.	72.	0.079	271.34	2.483s
Ra-226	287.24	186.13	957.	886.	0.984	23.25	1.252
Pb-212	368.26	238.63	789.	0.	0.000	0.00	0.000D
Pb-214	373.20	241.83	990.	1573.	1.748	15.98	1.453
Pb-214	455.57	295.21	536.	3629.	4.033	5.67	1.356D
Tl-210	459.88	298.00	1964.	8.	0.009	2378.36	1.358D
Pb-212	463.10	300.09	545.	41.	0.046	244.97	1.359D
Ac-228	522.81	338.79	255.	59.	0.066	156.85	1.680s
Pb-214	542.60	351.61	685.	6196.	6.885	4.43	1.496
Tl-208	787.82	510.55	468.	0.	0.000	9178.23	1.509
Tl-208	900.42	583.55	152.	59.	0.066	145.52	0.968
Bi-214	940.17	609.31	191.	5002.	5.557	4.40	1.584D
Cs-137	1020.86	661.62	87.	0.	0.000	3952.25	1.626D
Bi-212	1121.96	727.17	72.	0.	0.000	0.00	1.042D
Pa-234m	1182.48	766.41	551.	16.	0.018	618.48	1.713D
Tl-210	1233.83	799.70	111.	18.	0.020	256.57	1.741D
Tl-208	1322.00	856.87	105.	16.	0.018	312.91	0.000s
Ac-228	1404.89	910.62	143.	47.	0.052	135.73	1.056s
Ac-228	1496.80	970.23	159.	27.	0.030	258.85	0.721s
Pa-234m	1539.72	998.06	115.	35.	0.039	170.36	0.549s
Bi-214	1727.46	1119.83	132.	1152.	1.281	10.46	2.081
Tl-210	2019.06	1308.98	11.	4.	0.004	339.58	0.348s
K-40	2252.95	1460.73	45.	267.	0.297	23.15	2.077
Bi-212	2499.00	1620.39	6.	3.	0.003	360.56	0.000s
Bi-214	2720.69	1764.26	20.	894.	0.993	10.58	2.667
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 045 15 Min Colim@6Det@Pos4

SMP HS 045 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 9:12:19 AM Real Time: 908.98 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 046 15 Min Colim@6Det@Pos

Sample description
smp hs 046 col @6 det @ pos 4 10_31_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 046 15 Min Colim@6Det@Pos4.An1

Acquisition information

Start time:	31-Oct-2007 12:20:39
Live time:	900
Real time:	908
Dead time:	0.83 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCDAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 046 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3014

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
293.86	190.55	340.	55.	0.062	146.89	1.288	FE-59	D
1025.99	665.08	52.	38.	0.043	92.92	1.629	BI-214	D
1184.45	767.69	66.	87.	0.097	57.08	1.451	BI-214	
1439.70	933.20	58.	82.	0.091	60.12	2.798	BI-214	s
1909.21	1237.72	45.	114.	0.126	44.75	2.250	J-133	s
2124.44	1377.35	18.	56.	0.062	56.19	2.444	BI-214	
2160.33	1400.63	8.	20.	0.022	90.00	1.279	BI-214	s
3397.10	2203.38	0.	61.	0.068	38.41	1.491	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.93	12.28	6.	1.	0.001	885.60	0.555s
Pb-210	72.56	47.03	375.	39.	0.043	301.77	2.545s
Th-234	97.73	63.33	250.	22.	0.024	408.41	1.399
Th-234	143.56	93.03	288.	45.	0.050	256.90	2.376s
Ra-226	287.37	186.21	402.	190.	0.211	49.71	1.285D
Pb-212	368.26	238.63	270.	73.	0.081	101.46	1.318D
Pb-214	373.43	241.98	256.	344.	0.382	25.53	1.320D
Pb-214	455.57	295.21	205.	723.	0.804	13.96	1.356D

ORTEC Spectrum name: SMP HS 046 15 Min Colim@6Det@Pos

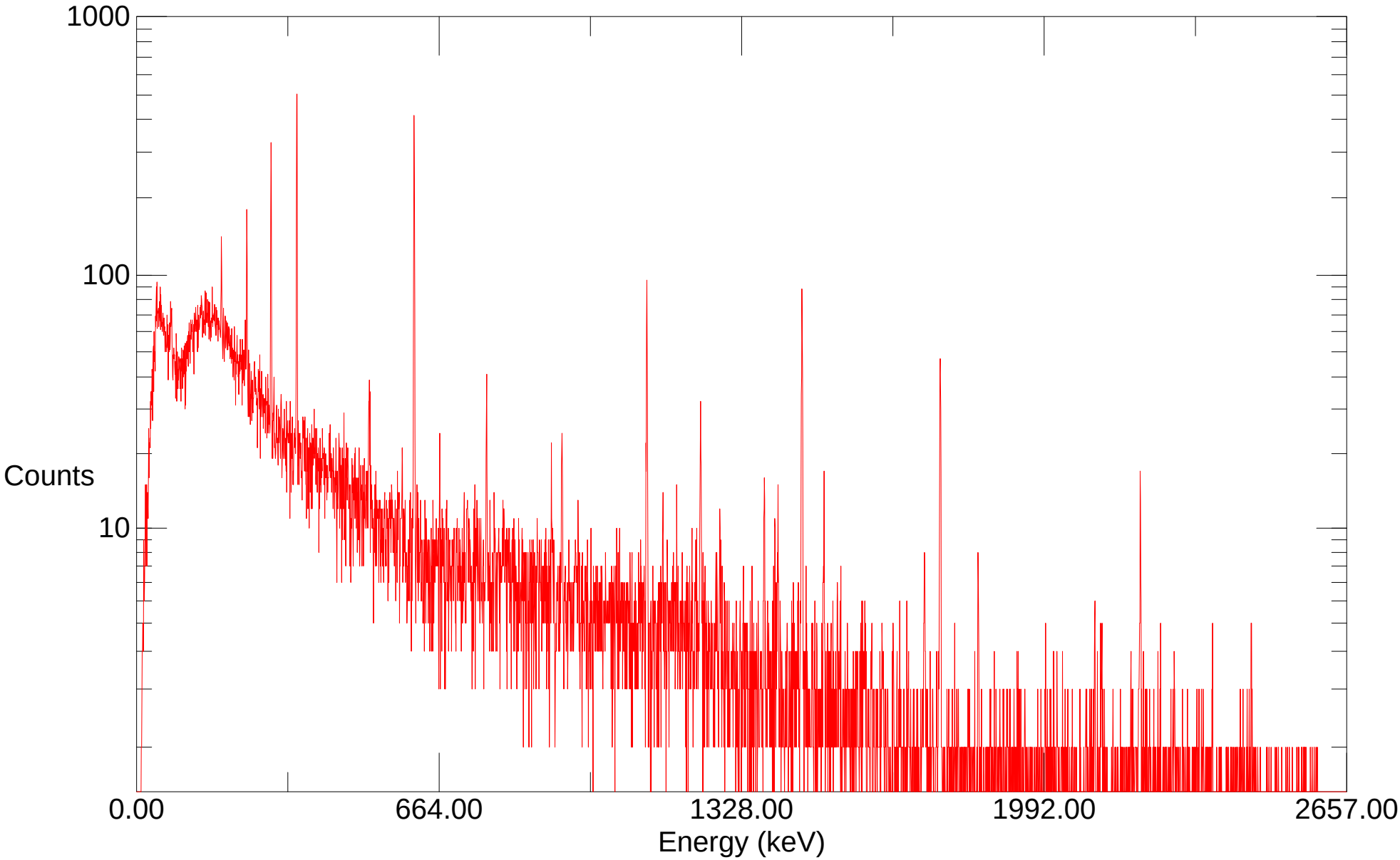
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	459.88	298.00	450.	11.	0.012	829.19	1.358D
Pb-212	463.10	300.09	194.	25.	0.028	244.00	1.359D
Ac-228	521.50	337.94	54.	0.	0.000	2700.00	0.756s
Pb-214	542.47	351.53	210.	1299.	1.443	9.96	1.592
Tl-208	787.46	510.32	81.	131.	0.146	54.99	2.441s
Tl-208	899.06	582.66	51.	31.	0.034	148.35	1.440
Bi-214	939.26	608.72	103.	1130.	1.256	10.18	1.645
Cs-137	1020.86	661.62	42.	3.	0.003	1091.21	1.626D
Bi-212	1118.68	725.04	60.	30.	0.033	137.84	3.210s
Pa-234m	1182.48	766.41	105.	0.	0.000	0.00	0.000D
Tl-210	1229.00	796.57	38.	4.	0.005	625.09	0.172s
Tl-208	1327.00	860.12	9.	0.	0.000	1102.27	0.000s
Ac-228	1404.51	910.38	63.	50.	0.056	96.75	0.913s
Ac-228	1494.82	968.94	40.	18.	0.020	186.09	1.144s
Pa-234m	1543.50	1000.51	6.	0.	0.000	900.00	0.757s
Bi-214	1727.06	1119.56	30.	292.	0.324	20.25	1.706
Tl-210	2018.56	1308.66	28.	15.	0.016	227.11	1.061s
K-40	2252.08	1460.16	26.	304.	0.337	19.80	1.787
Bi-212	2497.62	1619.49	1.	1.	0.001	509.90	0.973s
Bi-214	2720.18	1763.93	6.	202.	0.225	22.19	2.735
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 046 15 Min Colim@6Det@Pos4

smp hs 046 col @6 det @ pos 4 10_31_07



Acquired: 10/31/2007 12:20:39 PM Real Time: 907.52 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 047 15 Min Colim@6Det@Pos

Sample description
SMP HS 047 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 047 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 11:41:28
Live time: 900
Real time: 912
Dead time: 1.34 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM8DAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 047 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1867

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.55	74.92	546.	249.	0.277	44.12	1.217	BI-207	D
119.05	77.19	535.	459.	0.509	25.59	1.218	PB-214	D
134.46	87.13	486.	270.	0.301	55.00	1.664	BI-207	s
383.03	248.20	200.	72.	0.080	115.77	1.766	EU-154	s
701.15	454.38	82.	42.	0.047	128.47	1.883	TE-131	sM
787.68	510.54	209.	86.	0.095	78.44	1.509	J-133	D
899.55	582.98	52.	58.	0.064	92.24	2.398	TL-208	s
1026.30	665.29	72.	89.	0.099	51.34	1.629	BI-214	D
1084.45	702.85	60.	33.	0.037	122.98	1.426	RH-106M	
1184.93	767.99	98.	226.	0.251	31.21	1.622	BI-214	
1212.16	785.65	64.	52.	0.058	83.54	2.249	BI-212	sM
1243.42	806.09	75.	56.	0.063	76.29	1.746	BI-214	D
1440.47	933.69	80.	130.	0.144	45.26	1.816	BI-214	
1781.66	1154.98	43.	60.	0.066	66.56	1.222	BI-214	sM
1909.25	1237.74	54.	170.	0.189	32.91	2.318	J-133	M
1975.49	1280.71	42.	68.	0.076	63.63	1.659	BI-214	M
2124.58	1377.44	38.	121.	0.134	38.01	1.928	BI-214	
2172.44	1408.49	32.	62.	0.068	64.58	2.269	EU-152	
2327.59	1509.15	48.	72.	0.080	67.70	2.294	BI-214	
2666.96	1729.39	13.	76.	0.084	42.73	2.529	BI-214	
3398.55	2204.32	0.	78.	0.087	33.97	2.597	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 047 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

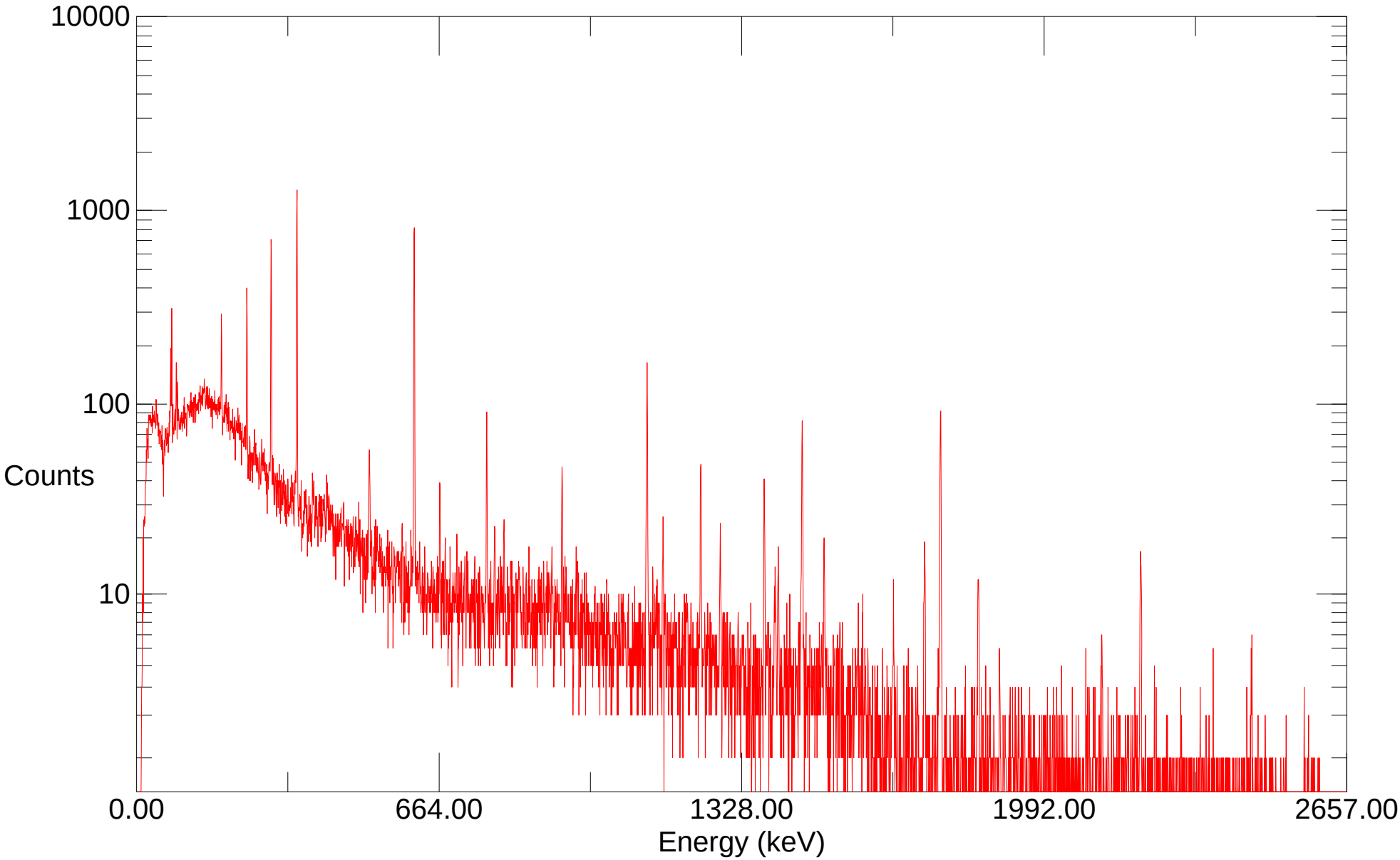
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	6.	1.	0.001	885.60	0.000s
Pb-210	71.43	46.29	560.	58.	0.064	276.52	1.588s
Th-234	98.08	63.56	345.	51.	0.057	222.52	1.588s
Th-234	142.33	92.23	312.	22.	0.024	422.07	0.972
Ra-226	287.17	186.08	805.	513.	0.570	42.75	1.329s
Pb-212	368.26	238.63	436.	58.	0.064	157.64	1.318D
Pb-214	373.43	241.98	361.	782.	0.869	14.87	1.321D
Pb-214	455.57	295.21	291.	1639.	1.821	8.63	1.356D
Tl-210	459.88	298.00	991.	42.	0.047	318.75	1.358D
Pb-212	463.10	300.09	256.	41.	0.045	173.18	1.359D
Ac-228	524.00	339.56	81.	26.	0.029	174.42	0.324s
Pb-214	542.65	351.64	402.	2789.	3.099	6.80	1.367
Tl-208	788.26	510.84	262.	33.	0.037	212.58	1.509D
Tl-208	899.47	582.93	104.	0.	0.000	4326.66	1.564
Bi-214	939.52	608.89	178.	2208.	2.454	7.15	1.620
Cs-137	1020.86	661.62	74.	8.	0.009	469.30	1.626D
Bi-212	1120.60	726.29	91.	45.	0.050	121.69	0.987s
Pa-234m	1182.56	766.46	269.	0.	0.000	6958.45	1.713
Tl-210	1233.83	799.70	78.	12.	0.013	329.79	1.741D
Tl-208	1328.01	860.77	82.	29.	0.032	178.03	0.723s
Ac-228	1406.61	911.74	68.	37.	0.041	122.24	1.659s
Ac-228	1493.85	968.31	56.	24.	0.027	156.45	1.954
Pa-234m	1543.72	1000.66	18.	2.	0.002	848.53	0.459s
Bi-214	1727.59	1119.91	75.	534.	0.594	15.96	1.870s
Tl-210	2020.00	1309.59	28.	21.	0.023	151.05	0.680s
K-40	2252.71	1460.57	40.	283.	0.314	21.80	2.015
Bi-212	2499.00	1620.39	3.	8.	0.009	147.64	0.694s
Bi-214	2720.90	1764.40	12.	394.	0.438	16.01	2.411
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 047 15 Min Colim@6Det@Pos4

SMP HS 047 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 11:41:28 AM Real Time: 912.24 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 048 15 Min Colim@6Det@Pos

Sample description
SMP HS 048 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 048 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 10:21:43
Live time: 900
Real time: 908
Dead time: 0.89 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4CAF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 048 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1833

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.60	77.50	196.	141.	0.157	68.05	0.996	PB-214	s
787.57	510.53	111.	63.	0.070	80.19	1.509	J-133	D
1184.25	767.55	50.	56.	0.062	78.13	1.855	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	1.	1.	0.001	474.34	0.000s
Pb-210	72.21	46.80	178.	50.	0.056	173.58	1.639s
Th-234	100.30	65.00	144.	50.	0.056	166.49	3.805s
Th-234	143.42	92.94	268.	45.	0.050	248.10	0.829s
Ra-226	287.38	186.22	198.	85.	0.094	104.52	1.827s
Pb-212	368.26	238.63	133.	70.	0.078	78.21	1.318D
Pb-214	373.43	241.98	137.	157.	0.174	39.66	1.321D
Pb-214	455.57	295.21	124.	248.	0.275	27.00	1.356D
Tl-210	459.88	298.00	211.	0.	0.000	6162.79	1.358D
Pb-212	463.10	300.09	112.	7.	0.008	616.19	1.359D
Ac-228	516.78	334.88	108.	18.	0.020	282.84	0.891
Pb-214	542.62	351.62	136.	471.	0.523	18.88	1.536
Tl-208	788.26	510.84	155.	19.	0.021	283.91	1.509D

ORTEC Spectrum name: SMP HS 048 15 Min Colim@6Det@Pos

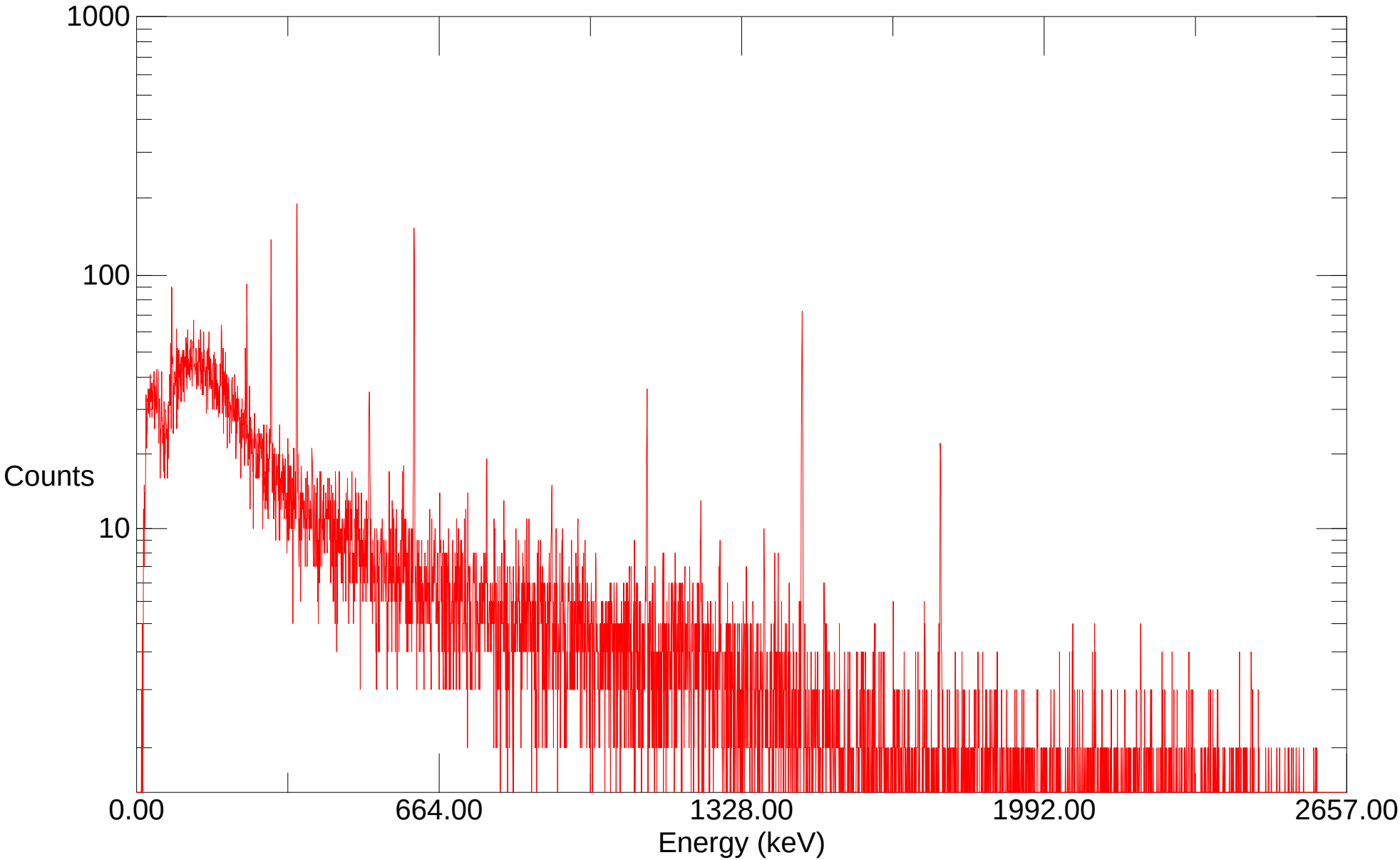
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	902.10	584.63	55.	46.	0.051	126.46	0.721s
Bi-214	939.24	608.71	69.	392.	0.435	18.94	1.542
Cs-137	1019.04	660.44	37.	12.	0.014	255.24	1.083
Bi-212	1122.65	727.62	40.	27.	0.030	134.72	0.659s
Pa-234m	1182.48	766.41	34.	0.	0.000	0.00	1.507D
Tl-210	1235.85	801.01	30.	15.	0.017	194.94	0.824s
Tl-208	1327.68	860.56	42.	17.	0.019	208.07	0.677s
Ac-228	1404.58	910.42	40.	44.	0.049	87.32	2.144s
Ac-228	1493.19	967.88	32.	18.	0.019	168.18	1.354
Pa-234m	1544.00	1000.84	7.	0.	0.000	972.11	0.000s
Bi-214	1726.78	1119.38	30.	111.	0.123	39.45	1.874s
Tl-210	2022.82	1311.42	6.	9.	0.010	163.30	1.063s
K-40	2252.44	1460.40	10.	274.	0.304	19.25	2.200
Bi-212	2497.20	1619.22	0.	19.	0.021	68.82	0.757s
Bi-214	2720.77	1764.31	4.	96.	0.106	33.13	2.177s
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 048 15 Min Colim@6Det@Pos4

SMP HS 048 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 10:21:43 AM Real Time: 908.08 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 049 15 Min Colim@6Det@Pos

Sample description
SMP HS 049 down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 049 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	17-Oct-2007 14:59:41
Live time:	900
Real time:	926
Dead time:	2.76 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM0B0F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 049 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1005

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
54.32	35.21	290.	88.	0.097	128.04	2.394	XE-138	s
115.35	74.77	386.	202.	0.224	46.35	1.217	BI-207	D
119.10	77.20	363.	359.	0.399	27.53	1.218	PB-214	D
134.45	87.12	368.	136.	0.152	92.99	1.337	BI-207	s
712.11	461.48	64.	53.	0.059	109.32	1.396	CS-138	sM
787.72	510.47	163.	41.	0.045	141.33	1.509	J-133	D
1084.65	702.98	64.	26.	0.029	167.34	0.953	RH-106M	s
1184.63	767.80	72.	106.	0.117	52.87	0.952	BI-214	s
1243.79	806.65	45.	50.	0.056	70.57	1.747	BI-214	D
1440.59	933.77	55.	57.	0.063	76.78	1.637	BI-214	
1781.86	1155.11	36.	35.	0.039	102.50	1.338	BI-214	M
1909.31	1237.78	28.	100.	0.111	42.18	1.860	J-133	M
2124.37	1377.30	17.	74.	0.082	46.17	1.721	BI-214	
2162.47	1402.07	11.	27.	0.029	79.54	2.324	BI-214	D
2171.72	1408.07	14.	46.	0.051	55.64	2.330	EU-152	D
2326.79	1508.64	12.	42.	0.047	67.76	1.660	BI-214	
2667.20	1729.54	0.	60.	0.067	38.73	2.109	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 049 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

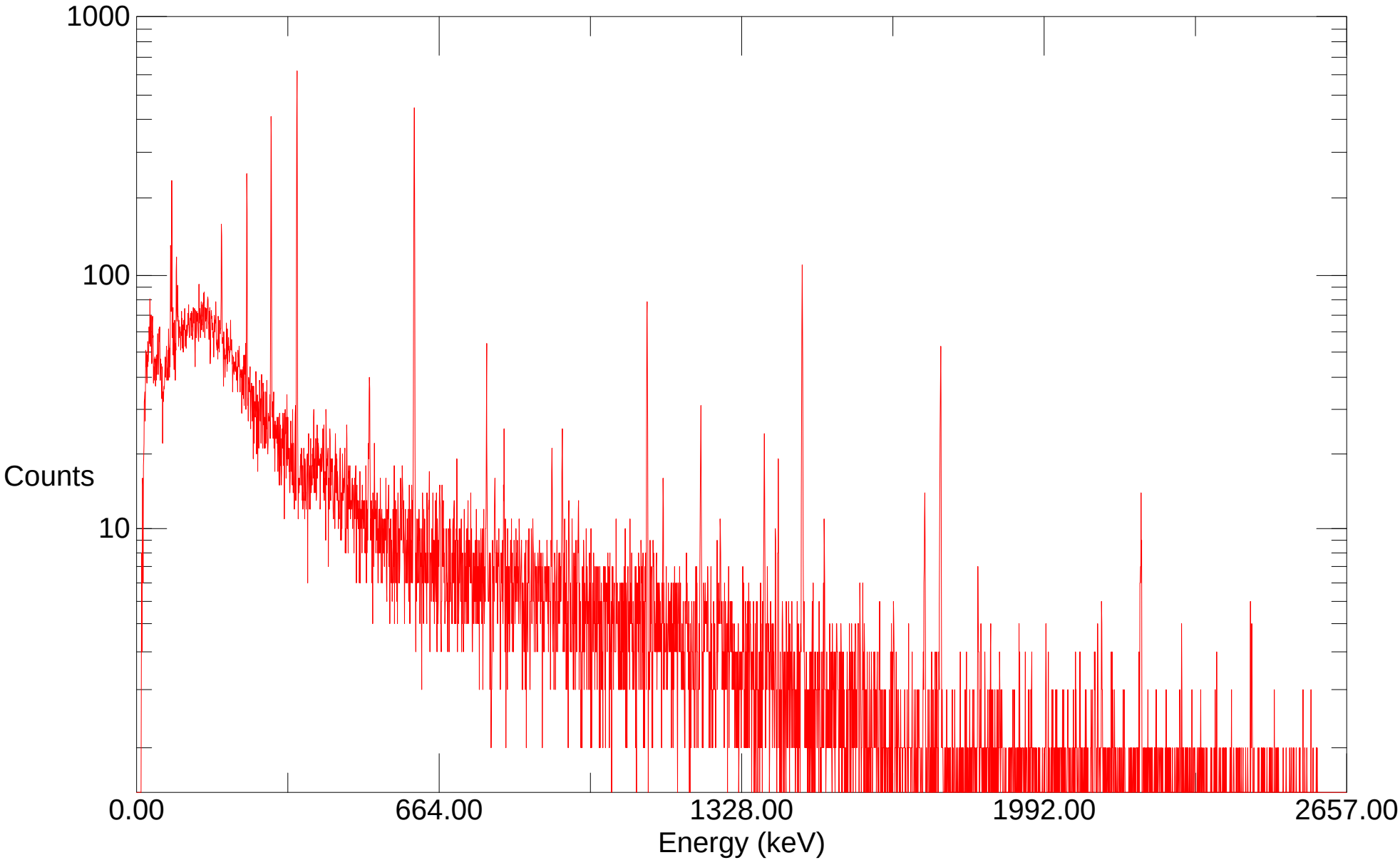
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.46	11.33	11.	2.	0.002	649.85	0.566s
Pb-210	70.49	45.68	356.	35.	0.039	252.19	1.282
Th-234	98.51	63.84	338.	56.	0.062	236.34	1.728s
Th-234	143.00	92.67	165.	12.	0.013	515.08	0.648
Ra-226	287.40	186.23	452.	251.	0.279	59.89	1.481s
Pb-212	368.26	238.63	164.	9.	0.010	593.34	1.318D
Pb-214	373.43	241.98	238.	465.	0.517	19.80	1.321D
Pb-214	455.57	295.21	153.	912.	1.013	11.48	1.356D
Tl-210	459.88	298.00	559.	34.	0.038	296.30	1.358D
Pb-212	463.10	300.09	188.	33.	0.036	185.15	1.359D
Ac-228	523.01	338.92	130.	46.	0.052	178.36	1.335s
Pb-214	542.82	351.75	190.	1264.	1.404	9.99	1.319
Tl-208	788.26	510.84	153.	51.	0.057	110.76	1.509D
Tl-208	900.33	583.49	88.	41.	0.046	181.16	1.932s
Bi-214	939.65	608.97	110.	1163.	1.293	10.08	1.622
Cs-137	1022.00	662.36	18.	0.	0.000	1558.85	0.000s
Bi-212	1121.33	726.76	20.	18.	0.020	156.35	1.297
Pa-234m	1182.67	766.53	143.	0.	0.000	5073.46	1.713
Tl-210	1233.83	799.70	28.	11.	0.013	216.71	1.740D
Tl-208	1325.94	859.43	37.	33.	0.037	110.71	1.562s
Ac-228	1405.79	911.21	52.	52.	0.058	84.92	1.686
Ac-228	1494.89	968.99	40.	35.	0.039	105.61	1.747s
Pa-234m	1543.78	1000.69	17.	3.	0.003	608.28	1.175s
Bi-214	1727.65	1119.95	35.	245.	0.272	23.47	1.728
Tl-210	2021.67	1310.67	22.	4.	0.004	610.84	0.912s
K-40	2253.04	1460.78	25.	333.	0.370	18.88	1.642
Bi-212	2499.65	1620.81	3.	26.	0.029	74.03	2.540s
Bi-214	2721.23	1764.61	3.	203.	0.225	21.74	2.157
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 049 15 Min Colim@6Det@Pos4

SMP HS 049 down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 2:59:41 PM Real Time: 925.50 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 050 15 Min Colim@6Det@Pos

Sample description
SMP HS 050 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 050 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 19-Oct-2007 11:23:02
Live time: 900
Real time: 906
Dead time: 0.68 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM467E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1697

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.01	76.47	588.	506.	0.563	38.98	1.248	PB-214	s
134.63	88.03	379.	174.	0.194	52.51	1.224	PB-214	D
229.87	148.95	350.	60.	0.067	179.23	1.041	TE-131	
400.50	259.52	274.	108.	0.119	112.23	1.657	XE-138	s
787.24	510.23	187.	53.	0.059	116.61	1.508	J-133	D
818.26	530.28	51.	43.	0.048	109.65	1.072	ND-147	M
1184.89	767.97	64.	162.	0.181	33.22	1.627	BI-214	
1243.37	805.52	67.	47.	0.052	85.69	1.746	PA-234	D
1440.73	933.87	88.	98.	0.109	61.27	2.241	BI-214	s
1908.88	1237.51	48.	142.	0.157	37.19	2.364	J-133	s
2124.31	1377.26	35.	91.	0.101	48.17	2.743	BI-214	
2171.77	1408.06	35.	59.	0.066	68.50	1.605	EU-152	s
2667.07	1729.46	3.	60.	0.066	43.28	2.550	BI-214	s
3397.66	2203.75	0.	80.	0.089	33.54	2.878	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 050 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

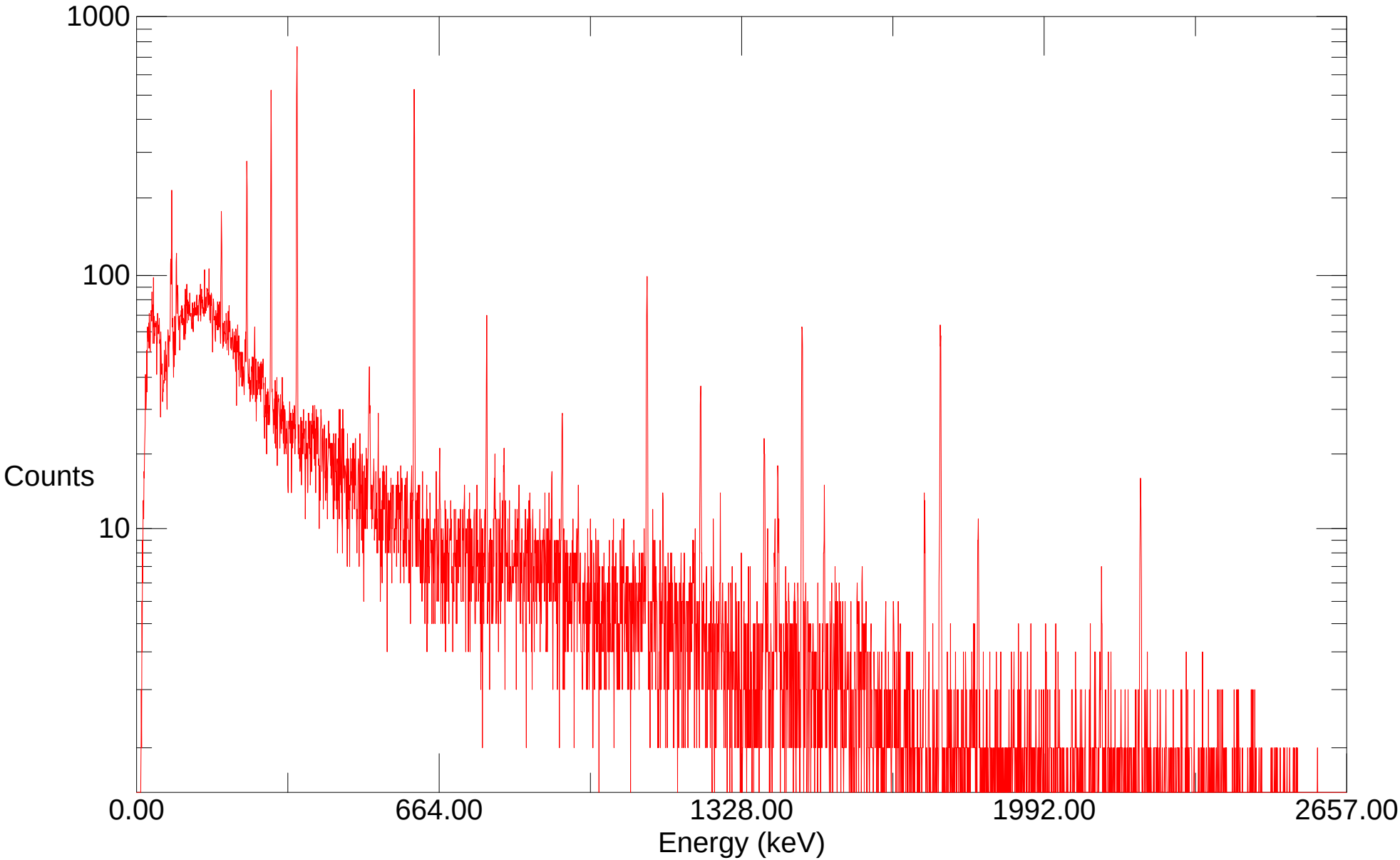
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.00	11.68	10.	2.	0.002	676.39	0.555s
Pb-210	70.16	45.47	250.	32.	0.036	282.34	0.752
Th-234	99.63	64.56	242.	62.	0.068	165.30	1.512s
Th-234	143.21	92.80	422.	40.	0.044	224.76	1.227D
Ra-226	287.17	186.08	477.	369.	0.410	44.47	1.697s
Pb-212	368.26	238.63	280.	0.	0.000	0.00	2.430D
Pb-214	373.20	241.83	378.	572.	0.636	27.00	1.487s
Pb-214	455.57	295.21	215.	1114.	1.238	10.58	1.356D
Tl-210	459.88	298.00	629.	33.	0.037	324.36	1.358D
Pb-212	463.10	300.09	225.	11.	0.013	561.18	1.359D
Ac-228	522.13	338.35	90.	30.	0.033	185.74	2.044s
Pb-214	542.65	351.65	274.	1880.	2.089	8.29	1.520
Tl-208	788.26	510.84	205.	39.	0.043	162.57	1.509D
Tl-208	894.00	579.38	104.	32.	0.035	172.37	0.261s
Bi-214	939.46	608.85	117.	1612.	1.791	8.29	1.843
Cs-137	1019.32	660.62	32.	6.	0.007	380.10	0.756s
Bi-212	1119.25	725.41	57.	16.	0.018	236.06	1.084s
Pa-234m	1182.48	766.41	45.	0.	0.000	0.00	1.683D
Tl-210	1233.83	799.70	37.	3.	0.003	856.91	1.741D
Tl-208	1330.74	862.54	99.	43.	0.048	144.04	1.625
Ac-228	1404.38	910.29	64.	44.	0.049	104.74	1.877
Ac-228	1494.90	969.00	38.	24.	0.026	132.00	1.347
Pa-234m	1543.00	1000.19	6.	0.	0.000	900.00	0.216s
Bi-214	1727.55	1119.88	59.	358.	0.398	20.05	2.333
Tl-210	2018.74	1308.77	18.	12.	0.013	205.09	0.680s
K-40	2252.62	1460.51	24.	266.	0.296	21.22	2.582
Bi-212	2499.86	1620.94	6.	14.	0.016	122.55	2.517s
Bi-214	2720.82	1764.35	5.	263.	0.292	19.10	2.373
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 050 15 Min Colim@6Det@Pos4

SMP HS 050 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 11:23:02 AM Real Time: 906.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 051 15 Min Colim@6Det@Pos

Sample description
SMP HS 051 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 051 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 12:48:56
Live time: 900
Real time: 921
Dead time: 2.30 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0D6E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 051 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1217

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.34	74.77	1013.	516.	0.574	29.29	1.217	BI-207	D
118.97	77.13	838.	971.	1.079	15.89	1.218	PB-214	D
134.57	87.21	901.	395.	0.439	35.59	1.224	BI-207	D
138.83	89.97	1089.	161.	0.178	90.39	1.226	PB-214	D
340.59	220.70	662.	88.	0.097	189.79	1.609	J-135	s
398.66	258.33	592.	123.	0.137	135.43	1.825	XE-138	s
626.61	406.06	280.	79.	0.088	138.96	1.386	RH-106M	sM
740.77	480.06	184.	66.	0.073	142.73	1.714	W-187	sM
751.34	486.91	204.	122.	0.136	93.10	2.411	LA-140	sM
765.25	495.92	87.	48.	0.053	124.37	1.320	RU-103	M
787.65	510.42	345.	73.	0.081	113.60	1.509	J-133	D
1026.13	664.93	118.	128.	0.142	44.79	1.629	PA-234	D
1108.89	718.70	113.	59.	0.065	97.14	1.897	RH-106M	sM
1184.89	767.97	160.	380.	0.422	23.54	1.790	BI-214	s
1212.21	785.68	104.	82.	0.092	67.17	1.767	BI-212	
1243.07	805.71	94.	80.	0.089	61.46	1.746	PA-234	D
1293.89	838.65	108.	88.	0.097	71.02	1.498	J-135	sM
1440.65	933.82	176.	217.	0.241	41.20	1.578	BI-214	
1526.91	989.75	44.	22.	0.024	150.23	1.777	SB-126	s
1781.77	1155.05	108.	123.	0.137	57.46	1.957	BI-214	s
1909.63	1237.99	95.	311.	0.346	24.47	2.040	BI-214	
1975.84	1280.94	54.	133.	0.148	42.14	2.155	BI-214	s
2124.60	1377.45	62.	212.	0.236	29.32	2.305	BI-214	
2161.97	1401.72	46.	72.	0.080	53.66	2.323	BI-214	D

ORTEC Spectrum name: SMP HS 051 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2171.37	1407.82	50.	131.	0.146	34.78	2.330	BI-214	D
2328.04	1509.44	52.	94.	0.105	48.45	2.403	BI-214	
2667.23	1729.56	8.	130.	0.144	29.49	1.990	BI-214	
2848.89	1847.47	11.	91.	0.101	38.32	2.515	BI-214	
3266.67	2118.69	3.	53.	0.059	44.69	1.732	BI-214	s
3398.49	2204.28	4.	196.	0.218	22.71	2.264	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

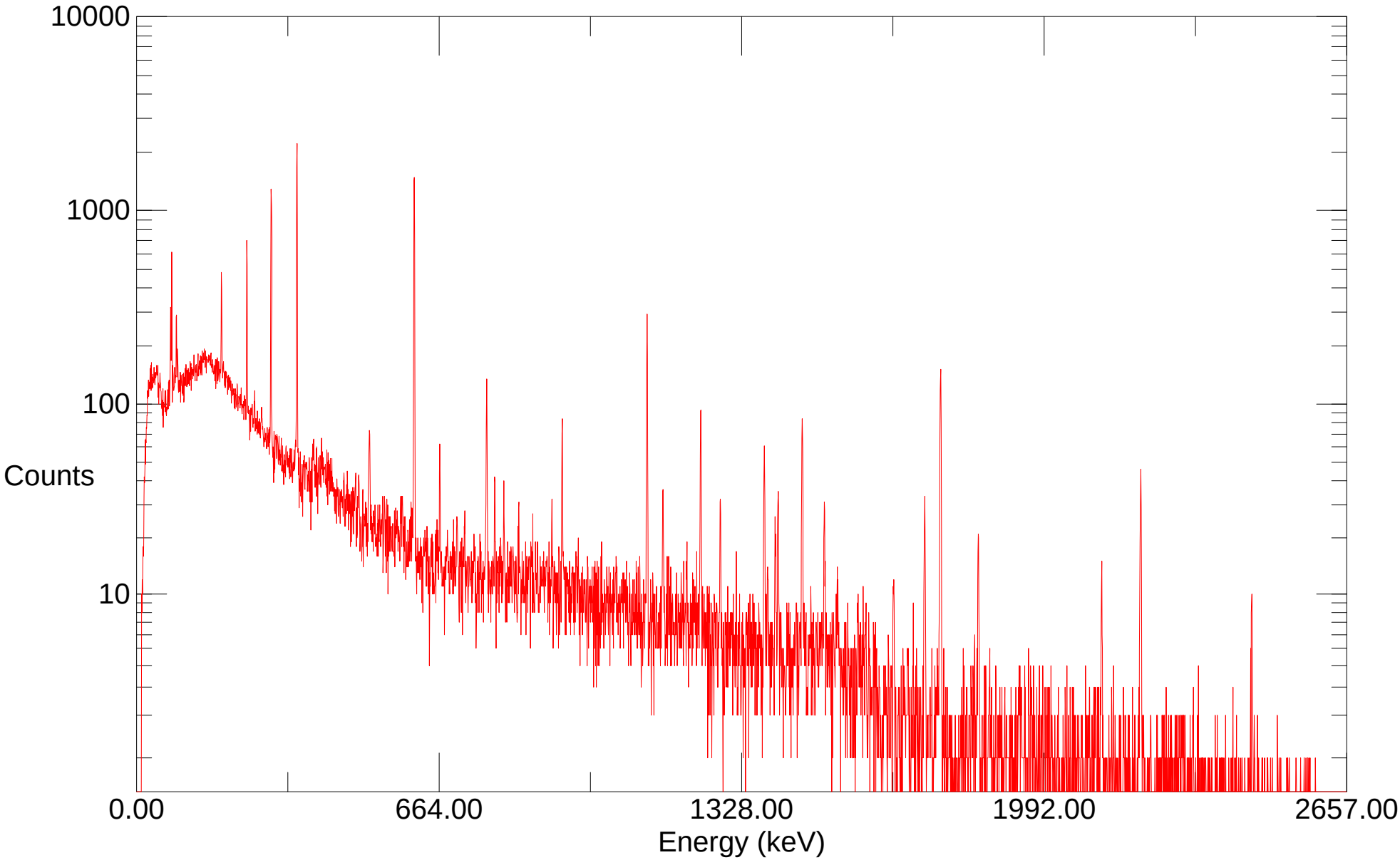
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.40	11.94	25.	5.	0.006	427.78	0.432s
Pb-210	72.33	46.88	723.	57.	0.063	285.81	0.688
Th-234	97.63	63.27	534.	78.	0.087	180.97	1.209
Th-234	143.21	92.80	857.	47.	0.052	270.61	1.228D
Ra-226	287.19	186.09	1335.	837.	0.930	33.71	1.383s
Pb-212	368.26	238.63	654.	53.	0.059	207.47	1.318D
Pb-214	373.43	241.98	607.	1375.	1.528	11.10	1.321D
Pb-214	455.57	295.21	365.	2998.	3.331	6.11	1.356D
Tl-210	459.88	298.00	1639.	54.	0.060	318.58	1.358D
Pb-212	463.10	300.09	296.	24.	0.027	306.69	1.359D
Ac-228	519.54	336.66	482.	60.	0.066	189.34	0.760s
Pb-214	542.72	351.69	648.	5043.	5.604	5.01	1.431
Tl-208	788.26	510.84	328.	90.	0.099	91.54	1.509D
Tl-208	899.32	582.83	108.	50.	0.056	131.73	2.309s
Bi-214	939.61	608.95	261.	4174.	4.637	5.11	1.685
Cs-137	1020.86	661.62	75.	3.	0.004	1170.22	1.626D
Bi-212	1123.00	727.84	29.	0.	0.000	1978.64	0.000s
Pa-234m	1182.48	766.41	234.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	98.	30.	0.034	148.95	1.741D
Tl-208	1328.59	861.14	65.	63.	0.070	101.35	5.035s
Ac-228	1405.93	911.30	101.	58.	0.065	95.64	1.267s
Ac-228	1495.05	969.09	88.	23.	0.025	212.68	1.167s
Pa-234m	1548.00	1003.43	47.	6.	0.007	500.00	0.000s
Bi-214	1727.73	1120.00	80.	872.	0.969	11.68	1.825
Tl-210	2020.29	1309.78	35.	9.	0.010	305.31	1.085s
K-40	2253.06	1460.79	75.	297.	0.330	23.58	2.179
Bi-212	2495.33	1618.01	33.	16.	0.018	205.54	0.883s
Bi-214	2721.21	1764.60	19.	630.	0.700	12.53	2.597
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HPGe gs\

SMP HS 051 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 12:48:56 PM Real Time: 921.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 052 15 Min Colim@6Det@Pos

Sample description
SMP HS 052 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 052 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	19-Oct-2007 10:22:00
Live time:	900
Real time:	907
Dead time:	0.74 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCC6E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 052 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1757

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
117.67	76.25	304.	178.	0.198	69.45	1.093	PB-214	
133.89	86.77	306.	114.	0.127	111.56	1.655	BI-207	s
787.90	510.60	136.	36.	0.040	145.13	1.509	TL-208	D
899.59	583.01	44.	37.	0.041	129.98	1.922	TL-208	s
1186.07	768.74	55.	41.	0.046	102.66	2.327	BI-214	s
1909.16	1237.68	39.	71.	0.079	63.66	1.522	J-133	
2124.32	1377.26	14.	40.	0.044	73.07	1.462	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	18.60	12.07	8.	2.	0.002	740.95	1.595	s
Pb-210	70.34	45.59	233.	15.	0.016	466.53	0.606	s
Th-234	99.16	64.26	180.	63.	0.070	147.77	2.532	s
Th-234	141.97	92.00	208.	16.	0.018	495.52	1.918	s
Ra-226	287.58	186.35	245.	147.	0.163	72.14	1.229	s
Pb-212	368.26	238.63	207.	74.	0.082	90.19	1.318	D
Pb-214	373.43	241.98	188.	186.	0.207	38.22	1.321	D
Pb-214	455.57	295.21	133.	389.	0.432	19.77	1.356	D
Tl-210	459.88	298.00	269.	5.	0.006	1340.05	1.357	D

ORTEC Spectrum name: SMP HS 052 15 Min Colim@6Det@Pos

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	463.10	300.09	142.	22.	0.024	241.48	1.359D
Ac-228	521.65	338.03	105.	20.	0.022	332.89	1.231s
Pb-214	542.60	351.61	128.	686.	0.763	13.86	1.407
Tl-208	788.26	510.84	117.	55.	0.061	93.30	1.509D
Tl-208	899.56	582.99	78.	0.	0.000	3747.00	1.564
Bi-214	939.36	608.79	72.	580.	0.644	14.70	1.626
Cs-137	1019.20	660.55	28.	12.	0.013	213.11	0.637s
Bi-212	1125.74	729.62	50.	14.	0.016	277.70	0.573s
Pa-234m	1182.48	766.41	51.	0.	0.000	0.00	0.000D
Tl-210	1232.00	798.52	10.	0.	0.000	1161.90	0.432s
Tl-208	1329.03	861.43	35.	27.	0.030	123.89	1.199s
Ac-228	1403.68	909.84	43.	47.	0.052	87.18	1.371
Ac-228	1495.54	969.41	37.	16.	0.018	196.21	0.966s
Pa-234m	1544.00	1000.84	10.	0.	0.001	1209.34	0.000s
Bi-214	1728.06	1120.21	40.	142.	0.158	36.16	1.954
Tl-210	2020.00	1309.59	1.	0.	0.000	367.42	0.000s
K-40	2252.58	1460.49	4.	291.	0.323	18.01	2.475
Bi-212	2499.70	1620.84	7.	9.	0.010	189.54	1.880
Bi-214	2720.46	1764.11	0.	120.	0.133	27.39	2.215s
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

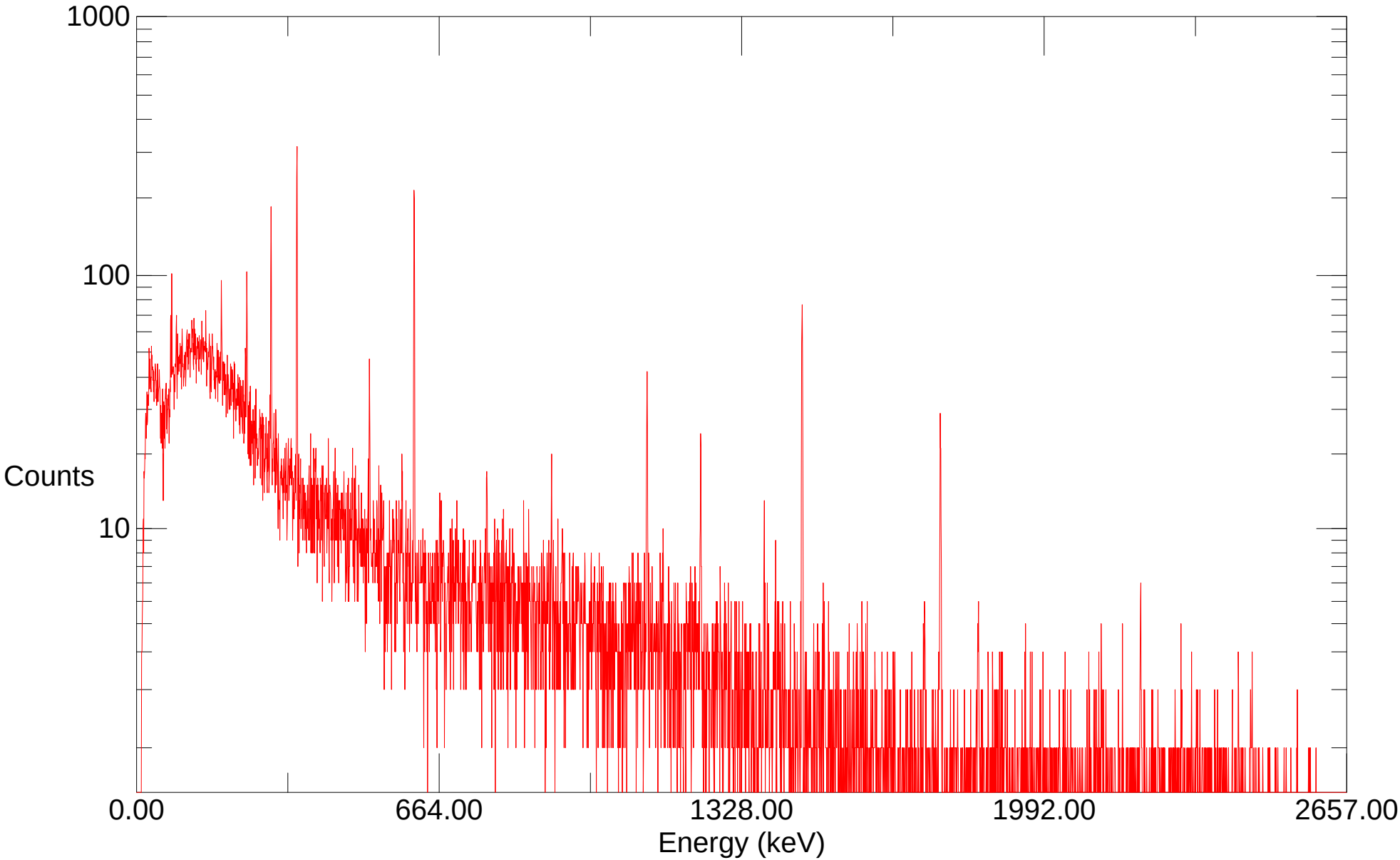
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 052 15 Min Colim@6Det@Pos4

SMP HS 052 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 10:22:00 AM Real Time: 906.74 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 053 15 Min Colim@6Det@Pos

Sample description
SMP HS 53 down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 053 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 15-Oct-2007 14:47:34
Live time: 900
Real time: 907
Dead time: 0.80 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM806E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 053 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2431

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.24	74.65	527.	277.	0.308	39.45	1.217	BI-207	D
118.95	77.06	419.	466.	0.517	23.27	1.218	PB-214	D
134.53	87.18	476.	192.	0.213	75.49	1.353	BI-207	s
317.15	205.51	262.	76.	0.084	125.29	1.652	U-235	s
563.74	365.32	140.	60.	0.067	142.66	1.459	J-131	sM
912.08	591.10	30.	39.	0.043	97.00	1.801	EU-154	
1025.92	664.88	65.	55.	0.061	73.85	1.629	PA-234	D
1184.78	767.90	84.	158.	0.176	39.07	1.578	BI-214	
1440.03	933.41	50.	110.	0.122	43.30	2.107	BI-214	s
1781.06	1154.59	46.	44.	0.049	91.98	2.127	BI-214	
1909.07	1237.62	34.	138.	0.153	33.68	2.376	J-133	
2123.63	1376.82	21.	106.	0.118	37.55	2.397	BI-214	s
2160.75	1400.96	28.	35.	0.039	81.67	2.323	BI-214	D
2171.23	1407.77	20.	59.	0.066	50.05	2.330	BI-214	D
2327.25	1508.94	26.	46.	0.051	78.91	2.074	BI-214	s
3397.83	2203.85	8.	66.	0.074	44.91	2.247	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 053 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

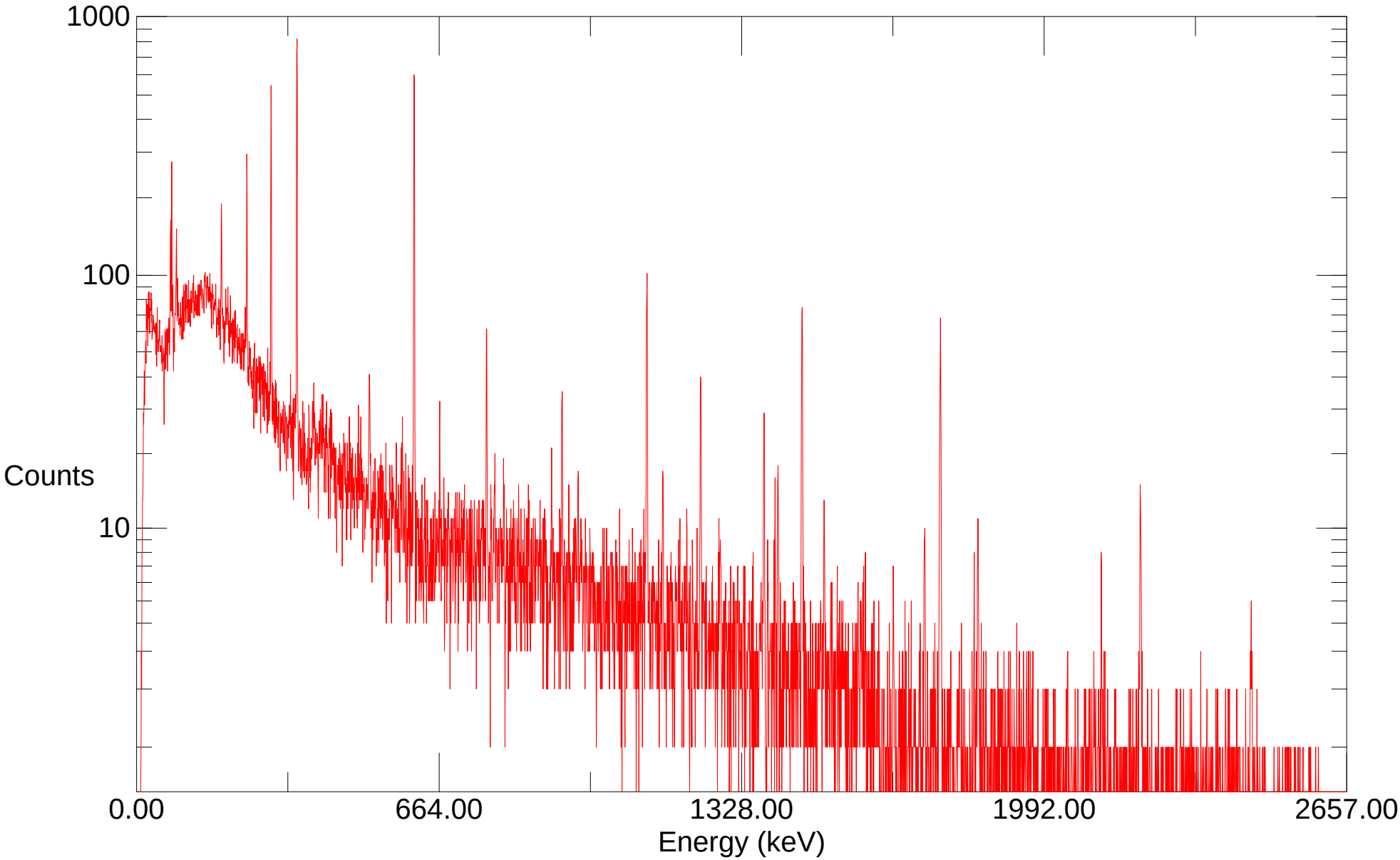
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.67	12.11	18.	4.	0.004	499.55	0.860
Pb-210	70.05	45.40	282.	57.	0.063	181.18	1.127s
Th-234	95.49	61.88	257.	35.	0.039	200.83	0.719
Th-234	146.00	94.61	323.	7.	0.007	1101.76	0.324s
Ra-226	287.13	186.06	565.	383.	0.426	48.11	1.481s
Pb-212	368.26	238.63	328.	74.	0.083	109.06	1.318D
Pb-214	373.43	241.98	295.	538.	0.598	18.71	1.321D
Pb-214	455.57	295.21	178.	1152.	1.280	10.12	1.356D
Tl-210	459.88	298.00	632.	26.	0.029	412.80	1.358D
Pb-212	463.10	300.09	185.	26.	0.029	226.94	1.359D
Ac-228	521.34	337.84	135.	29.	0.032	246.76	0.741s
Pb-214	542.62	351.62	288.	1907.	2.119	8.28	1.456
Tl-208	788.26	510.84	130.	85.	0.095	65.42	1.509D
Tl-208	899.24	582.78	51.	42.	0.047	112.03	0.878s
Bi-214	939.36	608.78	106.	1622.	1.802	8.11	1.623
Cs-137	1020.86	661.62	43.	1.	0.002	1864.63	1.626D
Bi-212	1116.73	723.77	62.	17.	0.019	233.35	0.839s
Pa-234m	1182.27	766.27	193.	0.	0.000	5894.06	1.713
Tl-210	1230.63	797.62	48.	12.	0.014	265.35	1.409
Tl-208	1326.29	859.66	52.	22.	0.024	172.45	0.728s
Ac-228	1405.07	910.74	90.	42.	0.047	134.96	1.261
Ac-228	1494.02	968.43	41.	31.	0.034	110.29	1.490
Pa-234m	1543.58	1000.57	58.	18.	0.019	244.10	1.379
Bi-214	1727.18	1119.64	56.	347.	0.386	19.97	2.097
Tl-210	2020.39	1309.84	28.	28.	0.031	126.58	0.820s
K-40	2252.54	1460.46	22.	285.	0.317	19.78	2.344
Bi-212	2499.00	1620.39	4.	1.	0.001	793.73	0.260s
Bi-214	2720.48	1764.13	7.	262.	0.291	19.72	2.400
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 053 15 Min Colim@6Det@Pos1

SMP HS 53 down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 2:47:34 PM Real Time: 907.22 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 054 15 Min Colim@6Det@Pos

Sample description
SMP HS054_15_Min,Colim@6, Detector @Pos1
Sample Collected 8/06/2007

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 054 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 08-Oct-2007 11:52:06
Live time: 900
Real time: 910
Dead time: 1.10 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM416E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 054 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2205

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
76.72	50.28	1422.	75.	0.084	215.02	1.202	EU-155	D
115.54	74.91	1525.	196.	0.218	87.24	1.217	BI-207	D
119.21	77.29	1505.	262.	0.291	65.49	1.218	BI-207	D
134.88	87.49	873.	122.	0.135	106.38	1.224	PB-214	D
193.01	125.07	860.	126.	0.140	158.40	0.964	PA-234	s
220.75	143.04	888.	114.	0.127	159.34	1.192	FE-59	
230.26	149.21	1166.	172.	0.191	128.74	1.038	TE-131	s
301.36	195.28	1035.	135.	0.150	145.30	1.696	RH-106M	sM
399.64	258.96	852.	169.	0.188	118.14	1.865	XE-138	s
423.80	274.62	1089.	129.	0.143	197.43	1.107	SR-91	s
740.78	480.06	297.	88.	0.098	141.45	2.332	W-187	sM
751.67	487.12	264.	91.	0.101	123.83	2.008	LA-140	sM
787.49	510.46	371.	107.	0.119	81.68	1.509	J-133	D
1026.55	665.42	174.	191.	0.212	36.54	1.629	BI-214	D
1082.96	701.88	145.	85.	0.094	109.07	1.678	NB-94	sM
1185.10	768.10	245.	638.	0.709	18.18	2.254	BI-214	s
1212.26	785.71	185.	99.	0.110	75.79	2.085	PB-214	sM
1243.60	806.04	136.	140.	0.156	46.87	2.172	BI-214	s
1294.44	839.01	124.	86.	0.095	69.89	2.281	J-135	sM
1440.79	933.90	161.	281.	0.312	29.03	2.361	BI-214	s
1486.92	964.16	115.	40.	0.045	122.31	1.886	EU-152	D
1781.64	1154.97	139.	166.	0.185	46.85	1.634	BI-214	sM
1909.71	1238.04	152.	463.	0.514	21.45	2.492	BI-214	sM
1975.97	1281.02	108.	142.	0.158	49.66	1.067	BI-214	sM

ORTEC Spectrum name: SMP HS 054 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2124.98	1377.69	111.	325.	0.361	25.60	2.206	BI-214	
2160.67	1400.94	92.	70.	0.078	67.97	2.322	BI-214	D
2171.85	1408.20	93.	174.	0.193	32.75	2.330	EU-152	D
2328.47	1509.73	85.	196.	0.217	34.58	2.808	BI-214	s
2562.29	1661.46	32.	106.	0.118	44.38	2.500	BI-214	
2668.33	1730.28	22.	218.	0.242	24.64	2.946	BI-214	
2849.38	1847.79	10.	136.	0.151	28.85	2.443	BI-214	
3399.34	2204.83	4.	295.	0.328	18.10	2.407	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

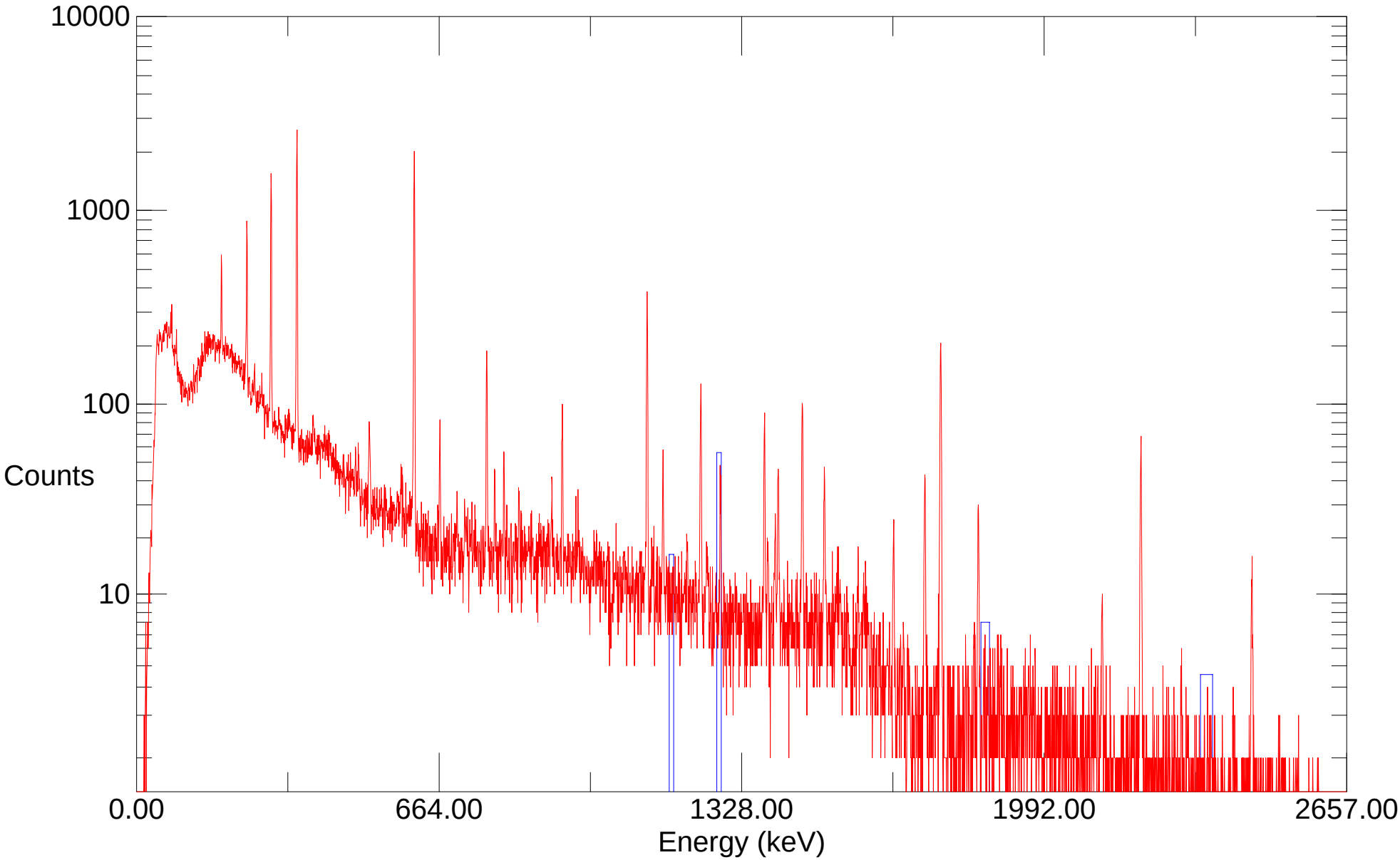
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	71.75	46.50	1381.	69.	0.077	230.41	1.200D
Th-234	95.71	62.03	1561.	150.	0.167	169.40	0.951s
Th-234	143.21	92.80	990.	13.	0.015	1000.70	1.228D
Ra-226	287.18	186.09	2002.	1149.	1.277	31.07	1.626s
Pb-212	368.26	238.63	740.	0.	0.000	0.00	2.214D
Pb-214	373.04	241.73	1548.	2132.	2.369	16.02	1.589s
Pb-214	455.57	295.21	1199.	3876.	4.307	6.13	1.356D
Tl-210	459.88	298.00	2508.	48.	0.053	446.17	1.358D
Pb-212	463.10	300.09	618.	22.	0.025	481.62	1.359D
Ac-228	522.98	338.89	328.	22.	0.025	455.83	1.920s
Pb-214	542.67	351.66	884.	7529.	8.366	4.05	1.798s
Tl-208	788.26	510.84	409.	69.	0.076	129.85	1.509D
Tl-208	900.82	583.80	126.	49.	0.054	143.98	1.281
Bi-214	939.68	608.99	344.	6250.	6.944	4.11	1.902s
Cs-137	1020.86	661.62	146.	40.	0.045	135.28	1.626D
Bi-212	1121.41	726.81	72.	34.	0.038	158.33	0.956s
Pa-234m	1182.48	766.41	228.	0.	0.000	0.00	2.232D
Tl-210	1233.55	799.52	86.	0.	0.000	3934.46	1.741
Tl-208	1327.43	860.39	130.	32.	0.035	260.69	1.529s
Ac-228	1404.90	910.63	176.	83.	0.092	87.17	1.485
Ac-228	1495.08	969.11	139.	50.	0.056	108.18	1.891D
Pa-234m	1540.44	998.53	92.	9.	0.010	498.52	1.396
Bi-214	1727.96	1120.15	160.	1365.	1.517	9.71	2.189
Tl-210	2020.00	1309.59	16.	0.	0.000	1469.69	0.000s
K-40	2253.12	1460.84	100.	456.	0.507	19.62	2.772
Bi-212	2503.68	1623.42	32.	8.	0.009	382.43	0.659s
Bi-214	2721.60	1764.85	41.	951.	1.056	10.57	2.820
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 054 15 Min Colim@6Det@Pos1
SMP HS054_15_Min,Colim@6, Detector @Pos1
Sample Collected 8/06/2007



Acquired: 10/8/2007 11:52:06 AM Real Time: 910.00 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 055_15 Min Colim@6Det@Pos

Sample description
HS 055
Chip in bag, Colimator at 6 inches, Detector at Pos 1

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 055_15 Min Colim@6Det@Pos1.An1

Acquisition information

Start time:	06-Oct-2007 10:53:18
Live time:	900
Real time:	910
Dead time:	1.11 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM20EE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 055_15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	01-Jan-2007 12:00:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1266

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
66.83	43.42	1652.	482.	0.535	38.31	1.199	EU-155	D
69.76	45.32	1931.	471.	0.523	41.96	1.200	EU-155	D
115.43	74.85	1250.	412.	0.457	39.33	1.217	BI-207	D
119.11	77.23	1007.	825.	0.916	19.39	1.218	PB-214	D
134.51	87.19	802.	383.	0.426	34.89	1.224	BI-207	D
139.06	90.14	832.	176.	0.196	73.05	1.226	PB-214	D
322.78	209.16	1242.	158.	0.176	143.52	1.660	AC-228	sM
399.90	259.13	864.	260.	0.289	78.09	1.552	XE-138	s
423.77	274.60	876.	124.	0.138	162.37	1.734	SR-91	s
598.11	387.59	520.	260.	0.289	67.08	1.492	-	sM
740.41	479.82	335.	153.	0.170	91.19	1.516	W-187	sM
750.98	486.68	236.	131.	0.146	82.92	2.412	LA-140	sM
788.16	510.77	514.	280.	0.311	68.98	2.468	TL-208	s
823.31	533.56	153.	64.	0.071	121.88	1.977	ND-147	sM
869.04	563.20	117.	53.	0.059	129.20	1.351	CS-134	M
899.14	582.76	134.	39.	0.043	135.73	1.564	TL-208	D
1026.17	665.08	154.	242.	0.269	29.03	1.629	BI-214	D
1083.79	702.42	180.	63.	0.070	160.99	1.422	NB-94	sM
1110.17	719.52	130.	100.	0.111	88.99	2.253	SB-126	sM
1185.05	767.98	170.	631.	0.701	14.81	1.714	BI-214	D
1211.99	785.54	214.	133.	0.148	62.79	2.231	BI-212	sM
1243.45	805.78	157.	167.	0.186	39.41	1.746	PA-234	D
1294.47	839.02	132.	80.	0.089	102.01	2.568	J-135	sM
1440.59	933.78	221.	439.	0.488	24.51	1.842	BI-214	s

ORTEC Spectrum name: SMP HS 055_15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1487.23	964.37	149.	48.	0.053	116.52	1.887	AC-228	D
1644.33	1065.91	56.	15.	0.017	225.39	0.780	-	s
1781.54	1154.90	154.	191.	0.212	41.68	2.071	BI-214	M
1862.36	1207.33	104.	56.	0.062	102.77	1.564	-	sM
1909.36	1237.81	121.	570.	0.633	16.44	2.194	BI-214	M
1975.73	1280.87	110.	152.	0.169	45.74	2.422	BI-214	sM
2124.80	1377.51	98.	349.	0.388	20.05	2.297	BI-214	D
2136.44	1385.07	87.	71.	0.078	66.57	2.306	AG-110M	D
2161.37	1401.28	89.	137.	0.152	38.95	2.323	BI-214	D
2171.69	1407.98	58.	231.	0.257	24.23	2.330	BI-214	D
2327.14	1508.86	90.	204.	0.227	34.92	2.690	BI-214	s
2443.41	1584.31	80.	96.	0.106	67.21	1.843	AC-228	s
2561.36	1660.85	59.	92.	0.103	56.97	1.906	BI-214	s
2667.67	1729.85	20.	235.	0.261	22.29	2.472	BI-214	
2836.41	1839.19	20.	27.	0.030	92.24	2.831	RH-106M	D
2849.26	1847.53	20.	139.	0.154	28.87	2.841	BI-214	D
3398.89	2204.54	3.	328.	0.364	16.93	2.940	BI-214	
3774.13	2448.23	0.	91.	0.101	31.45	1.963	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	1.	0.	0.000	360.56	0.510s
Pb-210	71.75	46.50	2325.	223.	0.248	93.94	1.200D
Th-234	97.01	62.87	1185.	40.	0.044	518.53	1.075
Th-234	143.21	92.80	791.	37.	0.041	325.00	1.228D
Ra-226	287.20	186.10	2180.	1463.	1.626	24.73	1.446
Pb-212	368.26	238.63	840.	0.	0.000	0.00	1.828D
Pb-214	373.20	241.83	948.	2360.	2.622	10.35	1.401
Pb-214	455.57	295.21	660.	5218.	5.797	4.65	1.356D
Tl-210	459.88	298.00	2794.	64.	0.071	352.86	1.358D
Pb-212	463.10	300.09	660.	49.	0.055	226.09	1.359D
Ac-228	520.46	337.26	675.	68.	0.076	271.26	2.616s
Pb-214	542.67	351.66	986.	9012.	10.013	3.64	1.459
Tl-208	788.08	510.72	578.	0.	0.000	10200.00	1.509
Tl-208	899.80	583.14	159.	14.	0.015	395.99	1.564D
Bi-214	939.63	608.96	314.	7206.	8.007	3.76	1.658
Cs-137	1020.86	661.62	164.	1.	0.001	5441.96	1.626D
Bi-212	1118.13	724.69	160.	72.	0.079	139.68	1.888s
Pa-234m	1182.48	766.41	747.	4.	0.005	2779.48	1.713D
Tl-210	1233.83	799.70	62.	22.	0.025	162.31	1.741D
Tl-208	1326.39	859.72	124.	41.	0.046	188.12	1.088s
Ac-228	1407.46	912.29	180.	90.	0.100	122.47	2.264s

ORTEC Spectrum name: SMP HS 055_15 Min Colim@6Det@Pos

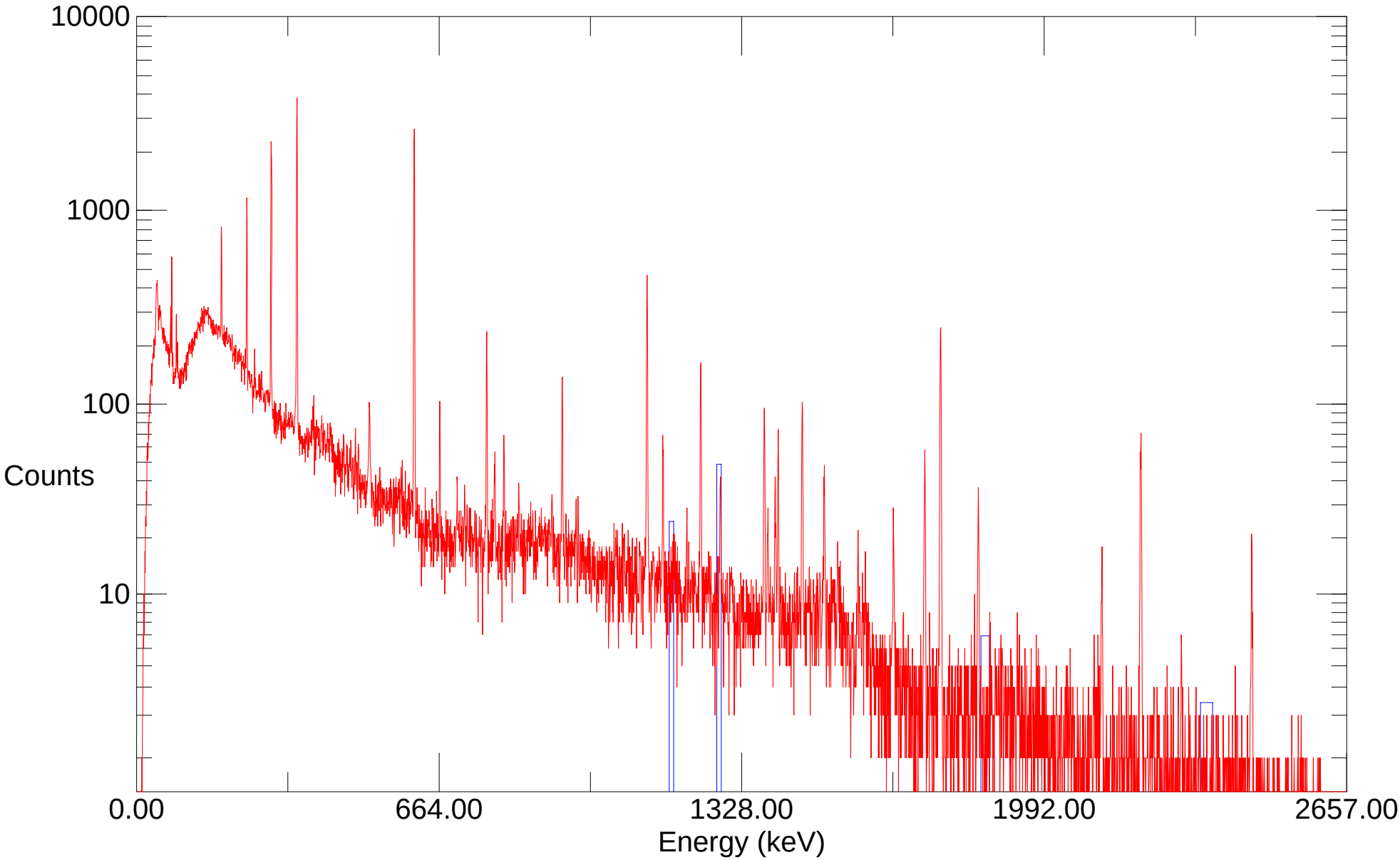
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1495.08	969.11	120.	50.	0.056	102.09	1.891D
Pa-234m	1544.90	1001.42	128.	31.	0.034	197.14	0.671s
Bi-214	1727.78	1120.03	213.	1481.	1.646	9.78	1.988
Tl-210	2020.92	1310.18	20.	4.	0.004	437.32	0.389s
K-40	2253.06	1460.80	87.	359.	0.399	21.02	2.349
Bi-212	2499.00	1620.39	8.	0.	0.000	1039.23	0.000s
Bi-214	2721.38	1764.71	20.	1097.	1.219	9.41	2.709
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

Detector: #1 digiDart - HPGe gs\
HS 055
Chip in bag, Colimator at 6 inches, Detector at Pos 1



Acquired: 10/6/2007 10:53:18 AM Real Time: 910.08 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 056_15 Min array down Col

Sample description
smp hs 56 array down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\Re-Analyzed\SMP HS 056_15 Min array down Colim@6Det@Pos4.An1

Acquisition information
Start time:	15-Oct-2007 10:37:53
Live time:	900
Real time:	906
Dead time:	0.70 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM7990~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 056_15 Min array down Col

Systematic error:	1.0000000E+00
Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2499

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
402.89	261.07	58.	40.	0.045	115.17	1.275	J-132	
787.53	510.35	118.	40.	0.044	126.02	1.509	J-133	D
898.96	582.60	43.	19.	0.021	169.19	1.114	TL-208	

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

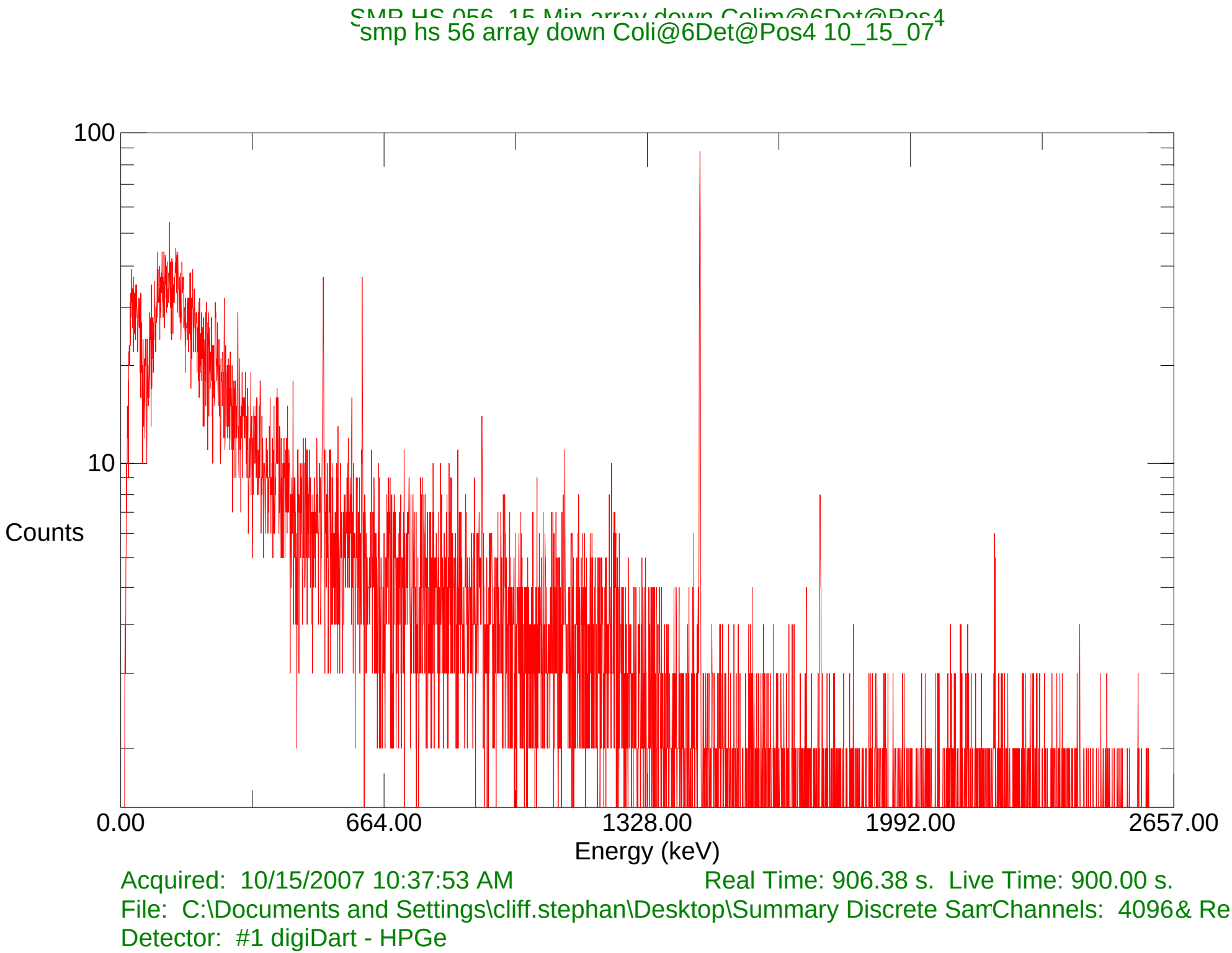
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	8.	2.	0.002	740.95	1.440s
Pb-210	73.44	47.60	112.	22.	0.024	284.34	1.248
Th-234	97.37	63.10	88.	59.	0.066	113.58	3.401s
Th-234	141.97	92.00	165.	34.	0.038	232.45	1.190s
Ra-226	286.54	185.67	198.	48.	0.053	210.75	1.944s
Pb-212	368.26	238.63	111.	41.	0.046	117.64	1.318D
Pb-214	373.43	241.98	147.	5.	0.005	1057.52	1.321D
Pb-214	455.57	295.21	81.	48.	0.053	90.84	1.356D
Tl-210	459.88	298.00	119.	5.	0.005	964.04	1.358D
Pb-212	463.10	300.09	76.	31.	0.035	130.58	1.359D
Ac-228	518.87	336.23	99.	12.	0.013	402.73	1.279
Pb-214	542.76	351.72	52.	34.	0.037	147.08	2.185s

ORTEC Spectrum name: SMP HS 056_15 Min array down Col

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	788.26	510.84	111.	47.	0.052	105.29	1.509D
Tl-208	899.91	583.22	62.	0.	0.000	3340.66	1.564
Bi-214	939.28	608.74	56.	80.	0.089	60.49	1.012s
Cs-137	1022.37	662.60	18.	13.	0.014	190.38	0.819s
Bi-212	1120.76	726.39	44.	26.	0.029	145.04	2.276s
Pa-234m	1180.57	765.17	40.	24.	0.027	154.26	2.277s
Tl-210	1235.82	800.99	21.	5.	0.005	474.34	0.484s
Tl-208	1320.28	855.76	33.	12.	0.013	256.78	0.553s
Ac-228	1405.74	911.17	35.	40.	0.045	91.13	1.981
Ac-228	1493.86	968.32	22.	18.	0.019	147.22	2.110
Pa-234m	1548.51	1003.76	32.	18.	0.020	193.89	1.260
Bi-214	1727.43	1119.80	25.	18.	0.020	153.36	1.082s
Tl-210	2016.91	1307.58	8.	11.	0.012	161.29	1.085s
K-40	2252.45	1460.40	9.	312.	0.347	17.94	2.026
Bi-212	2499.33	1620.60	0.	14.	0.016	80.18	0.811s
Bi-214	2719.92	1763.76	0.	39.	0.043	48.04	2.758
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor


SMP HS 056_15 Min array down Colim@6Det@Pos4
smp hs 56 array down Coli@6Det@Pos4 10_15_07
100
10
Counts
0.00
664.00
1328.00
1992.00
2657.00
Energy (keV)
Acquired: 10/15/2007 10:37:53 AM
Real Time: 906.38 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam
Channels: 4096
& Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 057 15 Min Colim@6Det@Pos

Sample description
SMP HS 57 down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 057 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 15-Oct-2007 16:13:01
Live time: 900
Real time: 905
Dead time: 0.56 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM816E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 057 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1930

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.24	74.76	413.	208.	0.231	46.43	1.217	BI-207	D
119.13	77.28	439.	327.	0.364	31.82	1.218	BI-207	D
134.64	87.25	396.	92.	0.102	141.83	1.568	BI-207	s
787.13	510.22	141.	66.	0.073	85.22	1.508	J-133	D
1026.22	665.15	51.	32.	0.036	107.15	1.629	BI-214	D
1184.77	767.89	57.	96.	0.107	50.03	1.399	BI-214	
1404.23	910.19	31.	47.	0.052	74.47	1.879	AC-228	s
1440.86	933.95	47.	59.	0.066	74.12	1.682	BI-214	
1861.60	1206.83	19.	24.	0.027	99.23	1.810	-	sM
1909.27	1237.76	42.	87.	0.097	51.95	1.825	J-133	sM
1974.32	1279.96	18.	37.	0.041	77.35	1.542	BI-214	sM
2124.85	1377.61	14.	53.	0.059	56.51	2.019	BI-214	
2171.68	1407.99	19.	44.	0.049	69.85	1.911	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 057 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

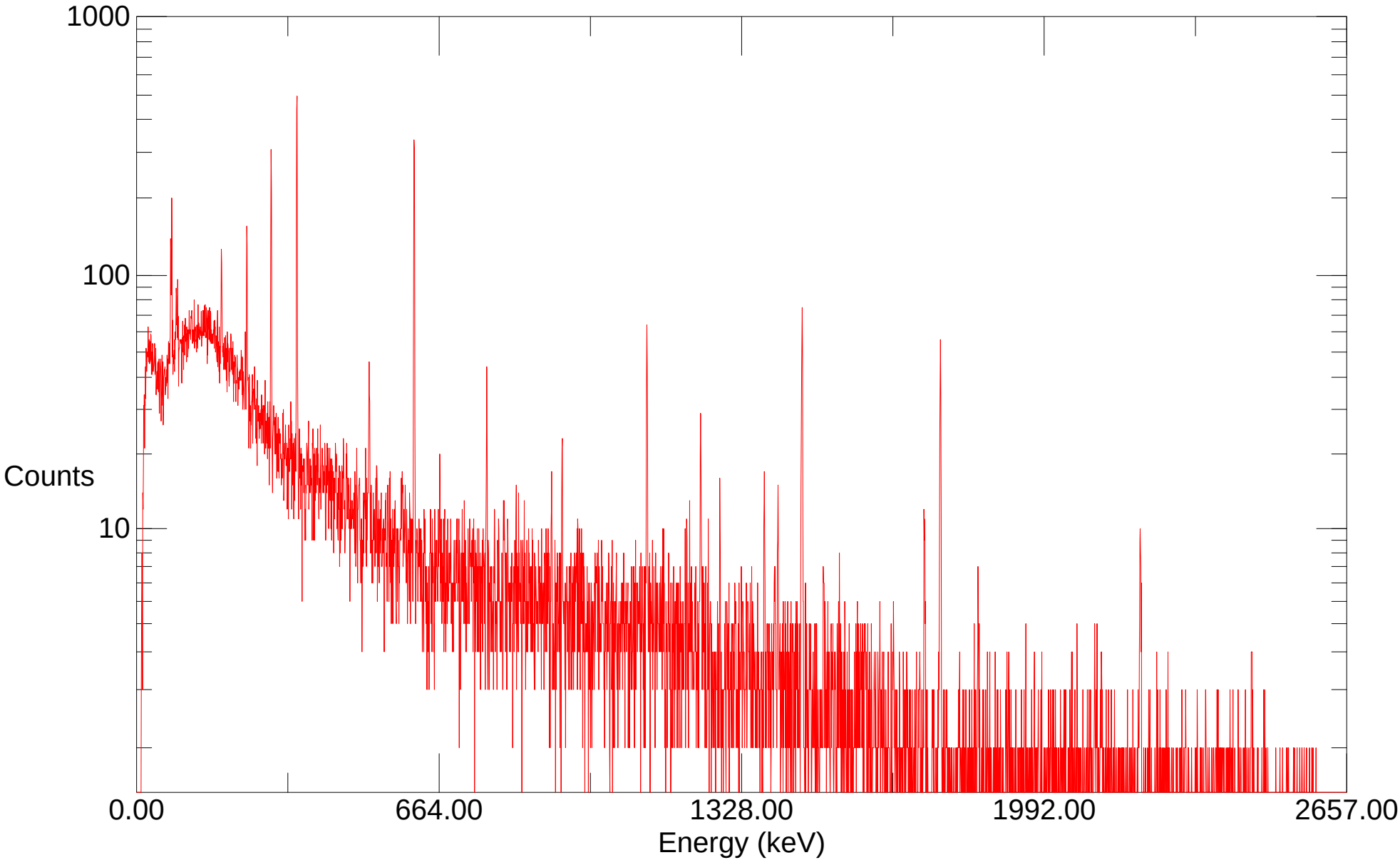
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.06	11.71	15.	6.	0.007	289.40	1.069
Pb-210	74.98	48.59	394.	42.	0.046	244.10	1.057
Th-234	98.80	64.03	142.	5.	0.006	1245.63	0.756
Th-234	142.84	92.56	317.	0.	0.000	7549.22	1.228
Ra-226	287.27	186.14	428.	236.	0.262	64.79	1.718s
Pb-212	368.26	238.63	230.	54.	0.060	126.67	1.318D
Pb-214	373.43	241.98	249.	299.	0.332	28.34	1.321D
Pb-214	455.57	295.21	167.	713.	0.793	13.61	1.356D
Tl-210	459.88	298.00	482.	0.	0.000	9314.50	1.358D
Pb-212	463.10	300.09	163.	26.	0.029	214.47	1.359D
Ac-228	522.13	338.35	116.	52.	0.058	145.04	0.893s
Pb-214	542.58	351.60	189.	1217.	1.352	10.32	1.516
Tl-208	788.26	510.84	168.	33.	0.036	176.25	1.509D
Tl-208	898.38	582.22	72.	42.	0.047	149.49	2.281s
Bi-214	939.41	608.82	76.	974.	1.082	10.68	1.745
Cs-137	1020.86	661.62	37.	9.	0.010	307.44	1.626D
Bi-212	1122.34	727.41	32.	10.	0.012	253.55	1.220
Pa-234m	1182.48	766.41	58.	0.	0.000	0.00	0.000D
Tl-210	1231.67	798.30	15.	1.	0.001	1536.23	1.012s
Tl-208	1327.41	860.38	34.	14.	0.015	221.94	0.820s
Ac-228	1405.58	911.07	31.	0.	0.000	0.00	1.879D
Ac-228	1493.11	967.83	35.	14.	0.016	203.10	1.372
Pa-234m	1539.15	997.69	21.	7.	0.008	330.58	1.056s
Bi-214	1727.21	1119.66	50.	197.	0.219	29.37	2.125
Tl-210	2018.70	1308.74	10.	6.	0.007	249.62	1.808
K-40	2252.28	1460.29	21.	306.	0.340	19.62	2.498s
Bi-212	2498.18	1619.85	7.	13.	0.014	139.10	2.281s
Bi-214	2720.41	1764.08	3.	219.	0.243	20.88	2.206
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 057 15 Min Colim@6Det@Pos1

SMP HS 57 down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 4:13:01 PM Real Time: 905.10 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 058_15 Min array down Col

Sample description
smp hs 058 array down col @ 6 det pos 4 10_29_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 058_15 Min array down Colim@6Det@Pos4.An1

Acquisition information
Start time: 29-Oct-2007 09:47:48
Live time: 900
Real time: 904
Dead time: 0.41 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM6994~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 058_15 Min array down Col

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2741

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
208.43	135.06	172.	58.	0.064	150.24	1.873	J-134	s
523.04	338.55	83.	34.	0.038	124.87	1.385	AC-228	D
786.99	510.19	113.	41.	0.045	120.73	1.508	J-133	D
1184.30	767.59	40.	28.	0.032	119.90	1.416	BI-214	
2122.95	1376.38	9.	41.	0.046	60.19	2.060	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	0.	0.	0.001	335.41	0.000s
Pb-210	68.80	44.59	230.	20.	0.022	374.72	0.633
Th-234	96.08	62.26	160.	21.	0.023	319.76	0.678
Th-234	143.49	92.98	189.	50.	0.056	180.05	1.111s
Ra-226	286.53	185.67	244.	58.	0.064	184.91	1.009s
Pb-212	368.26	238.63	169.	54.	0.060	110.04	1.318D
Pb-214	373.43	241.98	155.	137.	0.152	46.40	1.320D
Pb-214	455.57	295.21	150.	237.	0.264	29.31	1.356D
Tl-210	459.88	298.00	188.	19.	0.021	320.29	1.357D
Pb-212	463.10	300.09	89.	14.	0.015	306.70	1.359D
Ac-228	522.09	338.32	121.	7.	0.008	644.37	1.385D

ORTEC Spectrum name: SMP HS 058_15 Min array down Col

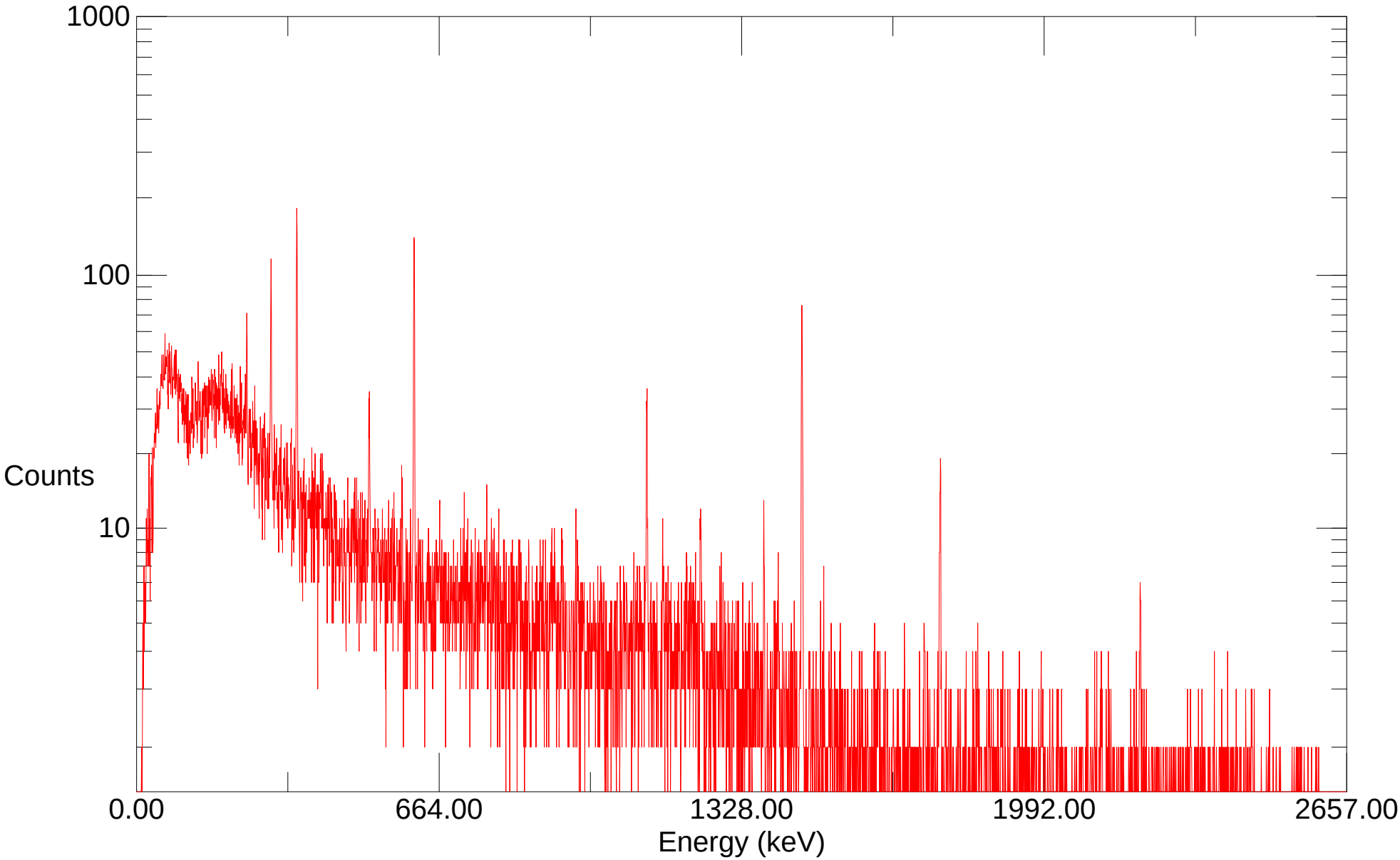
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	542.33	351.43	156.	510.	0.567	18.40	1.829s
Tl-208	788.26	510.84	122.	33.	0.036	152.07	1.509D
Tl-208	898.58	582.35	35.	46.	0.051	73.03	0.861s
Bi-214	939.15	608.65	65.	476.	0.529	16.46	2.093s
Cs-137	1022.00	662.36	24.	0.	0.000	1897.37	0.000s
Bi-212	1119.30	725.44	51.	14.	0.015	276.89	0.714s
Pa-234m	1182.48	766.41	32.	0.	0.000	0.00	0.000D
Tl-210	1231.54	798.22	25.	12.	0.013	216.33	1.688
Tl-208	1327.05	860.15	29.	19.	0.021	162.14	1.537
Ac-228	1404.25	910.21	33.	20.	0.022	151.86	1.223
Ac-228	1493.32	967.97	28.	22.	0.025	133.61	1.578s
Pa-234m	1537.87	996.86	26.	2.	0.003	976.73	0.621s
Bi-214	1726.81	1119.40	45.	129.	0.143	39.36	2.158s
Tl-210	2019.00	1308.94	4.	0.	0.001	719.37	0.260s
K-40	2251.90	1460.04	13.	296.	0.329	19.08	2.453
Bi-212	2498.67	1620.17	4.	0.	0.000	774.60	0.470s
Bi-214	2719.83	1763.71	7.	93.	0.103	36.47	2.733
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 058_15 Min array down Colim@6Dot@Pos4

`smp hs 058 array down col @ 6 det pos 4 10_29_07



Acquired: 10/29/2007 9:47:48 AM Real Time: 903.68 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 059 15 Min Colim@6Det@Pos

Sample description
SMP HS 059 @6 det @ 4 11_09_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 059 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	09-Nov-2007 13:15:43
Live time:	900
Real time:	914
Dead time:	1.48 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM0F3E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 059 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1149

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
134.01	86.84	170.	67.	0.074	115.21	1.868	BI-207	s
399.69	259.00	198.	65.	0.072	169.71	1.298	XE-138	s
1404.16	910.15	58.	51.	0.056	92.70	1.750	AC-228	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	71.08	46.07	198.	12.	0.013	708.87	0.749
Th-234	96.72	62.68	261.	25.	0.028	392.35	1.162
Th-234	143.90	93.25	261.	68.	0.076	171.07	2.017s
Ra-226	286.67	185.76	280.	154.	0.171	83.43	1.682s
Pb-212	368.26	238.63	142.	0.	0.000	0.00	1.833D
Pb-214	373.57	242.07	280.	154.	0.171	83.43	1.432s
Pb-214	455.57	295.21	192.	303.	0.337	25.91	1.356D
Tl-210	459.88	298.00	250.	0.	0.000	6708.20	1.357D
Pb-212	463.10	300.09	126.	7.	0.008	661.59	1.359D
Ac-228	522.32	338.47	86.	56.	0.062	123.94	2.228s
Pb-214	542.40	351.48	198.	619.	0.688	16.88	1.586s
Tl-208	787.81	510.55	108.	104.	0.115	61.16	2.979s

ORTEC Spectrum name: SMP HS 059 15 Min Colim@6Det@Pos

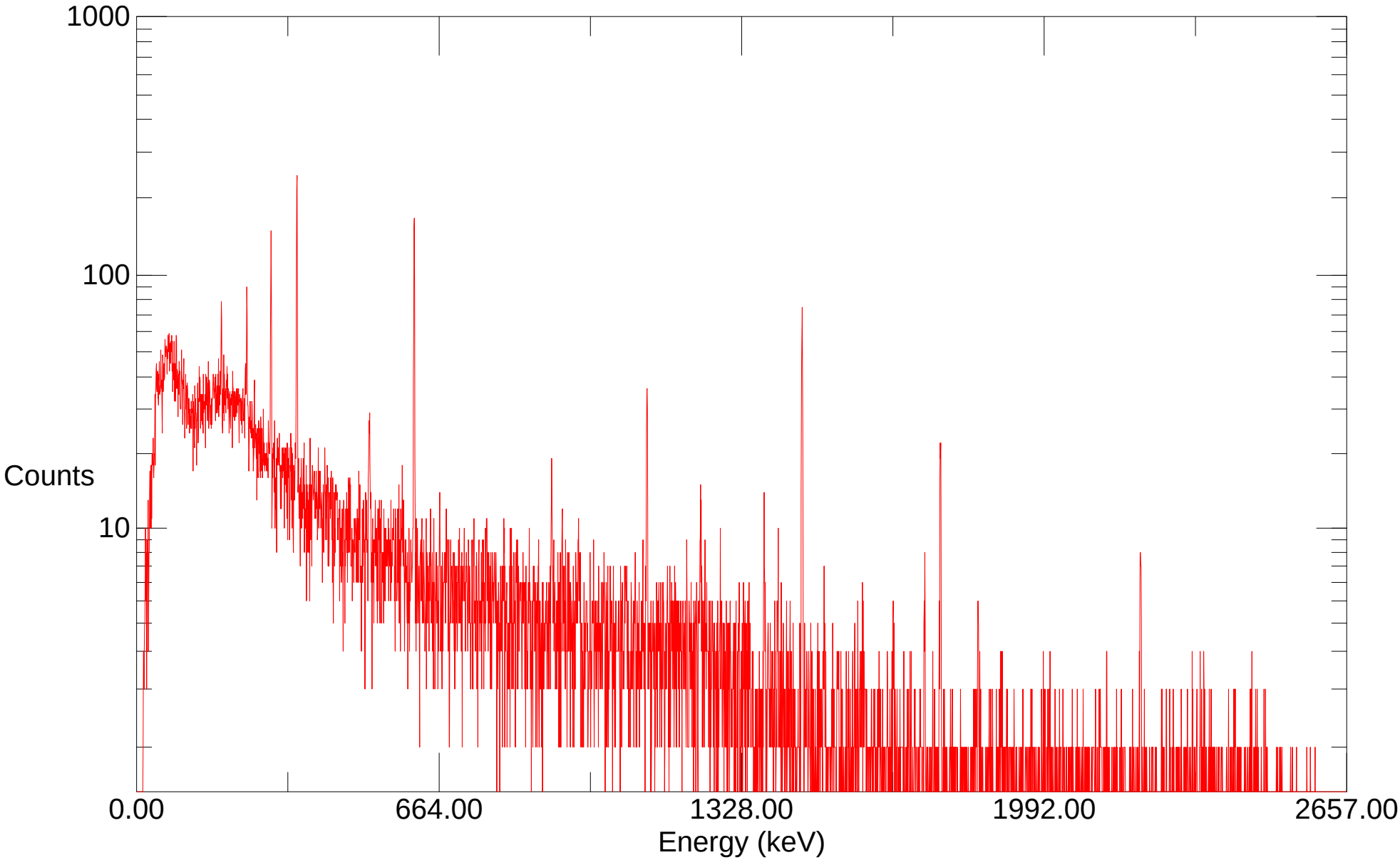
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	900.39	583.52	78.	44.	0.049	165.61	1.206s
Bi-214	939.43	608.83	79.	507.	0.563	16.44	1.750s
Cs-137	1021.00	661.71	10.	0.	0.000	1161.90	0.000s
Bi-212	1123.27	728.02	22.	6.	0.006	372.95	1.037
Pa-234m	1180.36	765.03	26.	1.	0.001	1791.31	0.483s
Tl-210	1233.28	799.34	21.	6.	0.007	358.82	1.285
Tl-208	1329.18	861.53	33.	26.	0.029	132.48	0.911s
Ac-228	1405.58	911.07	55.	0.	0.000	0.00	1.621D
Ac-228	1496.83	970.25	52.	26.	0.029	155.66	1.806s
Pa-234m	1544.38	1001.08	26.	20.	0.022	148.49	0.770s
Bi-214	1727.45	1119.82	28.	141.	0.157	31.91	2.595s
Tl-210	2028.42	1315.05	19.	16.	0.018	169.12	0.578s
K-40	2252.48	1460.42	4.	300.	0.333	17.72	2.455
Bi-212	2496.72	1618.91	2.	7.	0.008	147.17	0.858s
Bi-214	2720.55	1764.17	3.	103.	0.115	30.88	2.942
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 059 15 Min Colim@6Det@Pos1

SMP HS 059 @6 det @ 4 11_09_07



Acquired: 11/9/2007 1:15:43 PM Real Time: 913.52 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 060 15 Min Colim@6Det@Pos

Sample description
SMP HS 60 down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 060 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 15-Oct-2007 14:05:59
Live time: 900
Real time: 908
Dead time: 0.86 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4A2E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2396

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.32	74.74	533.	247.	0.274	44.02	1.217	BI-207	D
118.99	77.11	454.	409.	0.454	26.66	1.218	PB-214	D
134.01	86.84	568.	172.	0.191	95.72	1.245	BI-207	
394.87	255.87	183.	71.	0.079	119.73	1.962	TH-227	s
644.80	417.85	75.	46.	0.051	121.31	1.709	J-135	M
787.91	510.48	215.	33.	0.037	192.87	1.509	J-133	D
1026.19	665.12	57.	42.	0.046	89.85	1.629	BI-214	D
1184.94	767.95	67.	169.	0.187	30.97	1.714	BI-214	D
1212.19	785.67	70.	46.	0.051	99.48	1.136	BI-212	
1243.30	805.85	53.	47.	0.052	88.35	1.659	BI-214	s
1440.16	933.50	88.	102.	0.114	61.51	1.470	BI-214	s
1909.08	1237.63	48.	138.	0.153	38.03	2.006	J-133	
2124.30	1377.26	43.	99.	0.110	48.30	1.779	BI-214	
2171.43	1407.84	33.	59.	0.066	65.58	2.541	BI-214	
2666.38	1729.02	10.	56.	0.063	52.05	2.416	BI-214	
3396.84	2203.21	0.	77.	0.086	34.19	3.003	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 060 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

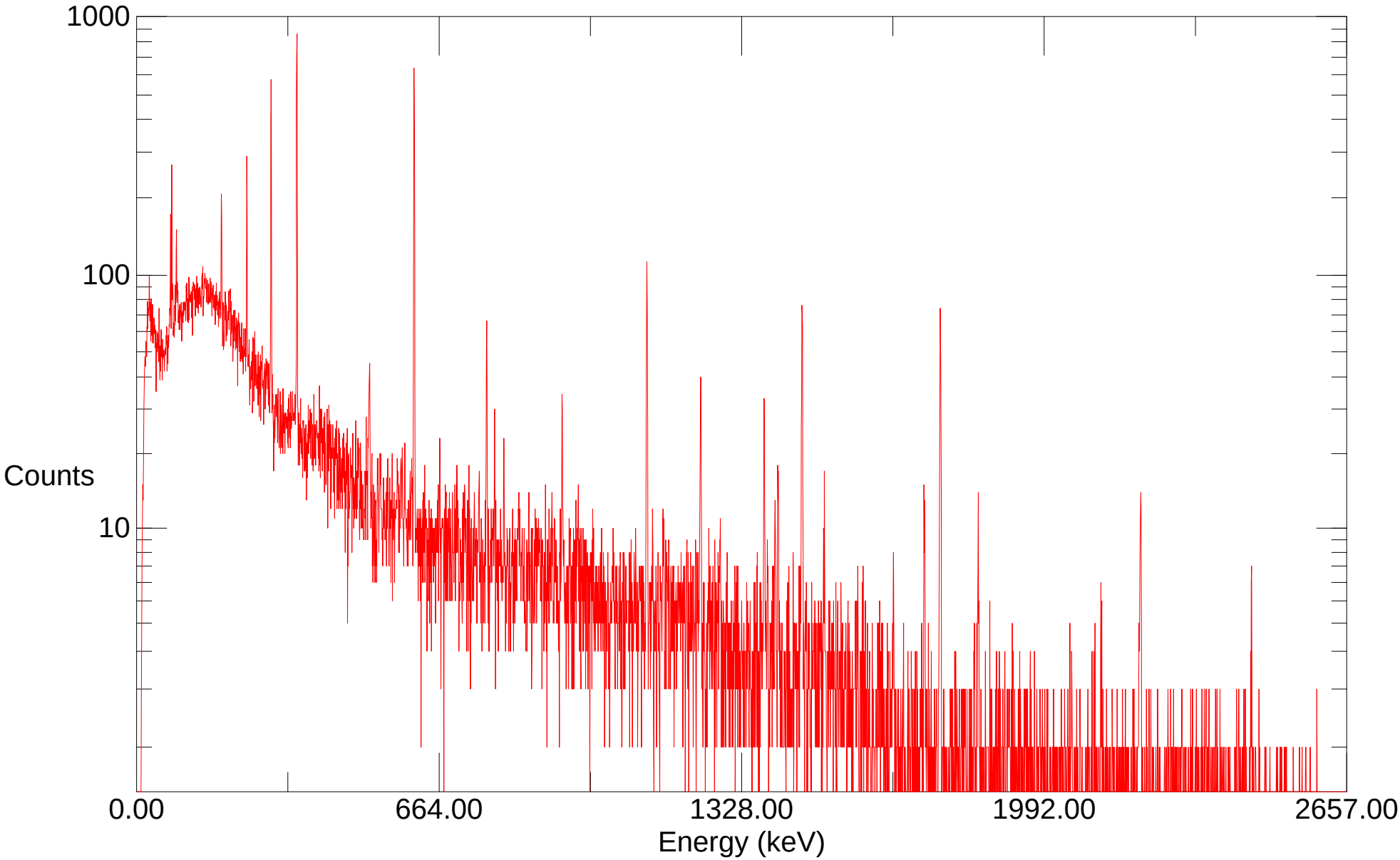
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.70	12.13	18.	4.	0.004	511.30	0.534s
Pb-210	69.70	45.17	364.	98.	0.108	141.08	2.154s
Th-234	96.45	62.50	243.	7.	0.007	957.54	0.848
Th-234	145.81	94.49	469.	14.	0.016	687.78	0.905
Ra-226	287.37	186.21	484.	372.	0.413	42.61	1.576s
Pb-212	368.26	238.63	225.	0.	0.000	0.00	1.406D
Pb-214	373.09	241.76	387.	498.	0.553	30.87	1.189
Pb-214	455.57	295.21	173.	1236.	1.373	9.66	1.356D
Tl-210	459.88	298.00	630.	48.	0.054	223.69	1.358D
Pb-212	463.10	300.09	157.	18.	0.020	298.19	1.359D
Ac-228	522.22	338.40	115.	18.	0.020	341.77	0.909
Pb-214	542.58	351.60	293.	1921.	2.134	8.19	1.422
Tl-208	788.26	510.84	183.	65.	0.073	95.11	1.509D
Tl-208	899.76	583.12	72.	34.	0.038	175.14	1.714s
Bi-214	939.38	608.80	126.	1632.	1.813	8.24	1.571
Cs-137	1020.86	661.62	47.	10.	0.011	311.66	1.626D
Bi-212	1124.25	728.65	68.	35.	0.039	128.63	0.560s
Pa-234m	1182.48	766.41	223.	2.	0.003	2599.27	1.713D
Tl-210	1233.78	799.67	35.	0.	0.000	2509.98	1.741
Tl-208	1327.43	860.40	50.	18.	0.021	193.41	1.049s
Ac-228	1405.97	911.32	57.	27.	0.030	146.62	1.611s
Ac-228	1493.85	968.31	62.	29.	0.032	149.94	1.142s
Pa-234m	1544.46	1001.14	42.	20.	0.023	169.15	0.783s
Bi-214	1727.26	1119.70	47.	356.	0.396	19.05	1.944
Tl-210	2018.34	1308.51	13.	4.	0.004	410.79	0.548s
K-40	2252.54	1460.46	40.	292.	0.325	21.63	2.191
Bi-212	2498.00	1619.74	2.	0.	0.000	519.62	0.108s
Bi-214	2720.51	1764.15	3.	282.	0.313	18.28	1.783s
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 060 15 Min Colim@6Det@Pos1

SMP HS 60 down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 2:05:59 PM Real Time: 907.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 061_15 Min array down Col

Sample description
smp hs 61 array down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 061_15 Min array down Colim@6Det@Pos4.An1

Acquisition information
Start time: 15-Oct-2007 10:16:38
Live time: 900
Real time: 910
Dead time: 1.04 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM775E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 061_15 Min array down Col

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1997

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.36	74.77	804.	286.	0.318	45.61	1.217	BI-207	D
119.03	77.15	739.	444.	0.493	29.65	1.218	PB-214	D
136.24	88.29	905.	127.	0.141	104.33	1.225	PB-214	D
210.06	136.12	390.	50.	0.056	192.09	0.346	SE-75	s
400.62	259.60	616.	178.	0.197	100.96	0.972	XE-138	s
740.58	479.88	158.	59.	0.066	97.67	1.486	W-187	D
750.70	486.44	134.	105.	0.116	55.48	1.491	LA-140	D
787.85	510.62	247.	84.	0.093	86.36	1.509	TL-208	D
1026.13	665.03	88.	120.	0.133	43.21	1.629	BI-214	D
1184.76	767.88	118.	314.	0.349	22.42	1.714	BI-214	D
1212.27	785.72	120.	71.	0.079	87.72	1.555	PB-214	sM
1243.31	805.71	101.	84.	0.094	60.02	1.746	PA-234	D
1440.33	933.60	163.	198.	0.220	42.64	2.142	BI-214	
1486.84	963.98	67.	48.	0.053	84.52	1.886	EU-152	D
1505.84	976.30	60.	16.	0.018	219.83	1.898	CO-56	D
1909.06	1237.62	68.	304.	0.338	22.91	1.936	J-133	M
1975.23	1280.54	51.	106.	0.118	49.14	1.600	BI-214	sM
2124.17	1377.15	43.	176.	0.195	27.61	2.297	BI-214	D
2135.94	1384.79	52.	38.	0.042	93.63	2.305	AG-110M	D
2160.45	1400.76	42.	66.	0.073	55.53	2.322	BI-214	D
2170.93	1407.56	37.	118.	0.131	35.35	2.330	BI-214	D
2327.09	1508.83	63.	102.	0.113	57.23	2.647	BI-214	s
2439.83	1581.99	35.	36.	0.040	104.91	1.620	-	s
2666.90	1729.35	22.	112.	0.125	35.92	1.188	BI-214	s

ORTEC Spectrum name: SMP HS 061_15 Min array down Col

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
3397.83	2203.86	4.	170.	0.188	24.67	2.644	BI-214	
3773.11	2447.57	0.	56.	0.062	40.09	2.176	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

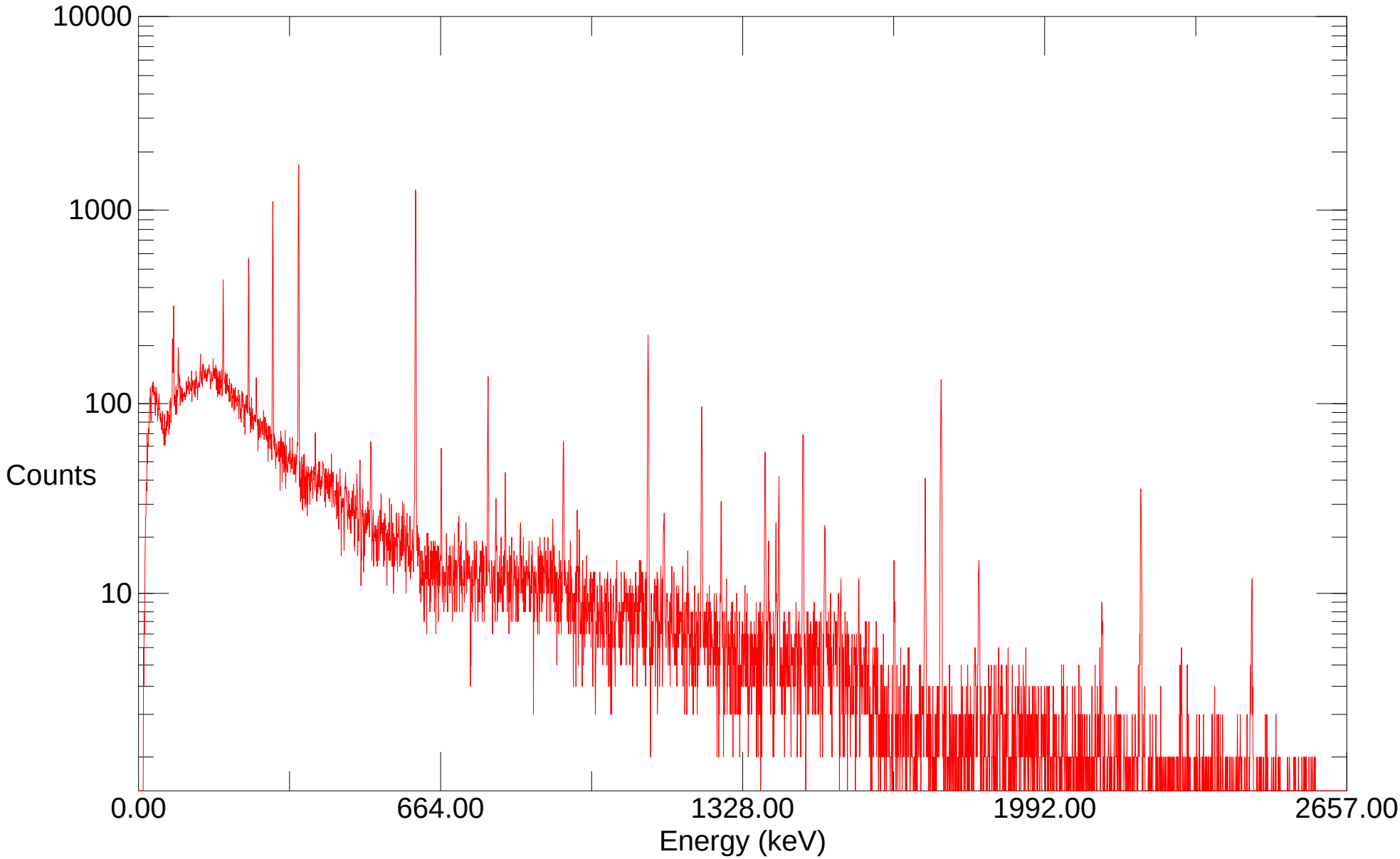
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.46	11.33	5.	3.	0.003	382.43	0.615
Pb-210	72.00	46.66	432.	8.	0.009	1377.04	0.000s
Th-234	99.40	64.42	564.	94.	0.104	172.28	0.778s
Th-234	143.21	92.80	747.	27.	0.030	431.89	1.228D
Ra-226	287.06	186.01	1185.	700.	0.778	37.87	1.241s
Pb-212	368.26	238.63	562.	49.	0.054	211.66	1.318D
Pb-214	373.43	241.98	600.	1139.	1.266	12.74	1.321D
Pb-214	455.57	295.21	380.	2477.	2.752	6.89	1.356D
Tl-210	459.88	298.00	1392.	51.	0.056	315.20	1.358D
Pb-212	463.10	300.09	376.	37.	0.041	230.34	1.359D
Ac-228	521.12	337.69	435.	72.	0.080	215.78	0.814s
Pb-214	542.60	351.61	613.	4174.	4.638	5.62	1.513
Tl-208	788.26	510.84	280.	51.	0.057	144.56	1.509D
Tl-208	900.00	583.27	116.	34.	0.038	218.64	0.838s
Bi-214	939.34	608.78	265.	3622.	4.024	5.59	1.712
Cs-137	1020.86	661.62	105.	5.	0.006	888.75	1.626D
Bi-212	1122.28	727.37	55.	9.	0.010	363.62	0.850s
Pa-234m	1182.48	766.41	396.	19.	0.021	447.63	1.713D
Tl-210	1233.83	799.70	63.	8.	0.008	456.99	1.741D
Tl-208	1327.00	860.12	40.	1.	0.001	2467.79	0.000s
Ac-228	1404.65	910.47	136.	40.	0.044	158.75	1.335
Ac-228	1495.08	969.11	77.	34.	0.038	120.41	1.891D
Pa-234m	1544.96	1001.46	50.	32.	0.036	120.55	1.039s
Bi-214	1727.42	1119.80	90.	771.	0.857	13.09	2.041
Tl-210	2021.76	1310.73	33.	14.	0.015	222.30	0.631s
K-40	2252.73	1460.58	48.	299.	0.332	22.23	2.701
Bi-212	2500.96	1621.65	16.	16.	0.017	152.71	0.690s
Bi-214	2720.58	1764.19	20.	552.	0.613	13.55	2.565
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 061_15 Min array down Colim@6Det@Pos4

smp hs 61 array down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 10:16:38 AM Real Time: 909.50 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 062 15 Min Colim@6Det@Pos

Sample description
smp hs 062 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 062 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 30-Oct-2007 11:31:52
Live time: 900
Real time: 908
Dead time: 0.90 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMCC2E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 062 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3011

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
134.38	87.08	651.	133.	0.148	118.01	2.271	BI-207	s
399.90	259.13	612.	144.	0.160	117.92	1.663	XE-138	s
553.92	358.95	188.	60.	0.066	134.89	1.860	KR-89	sM
598.59	387.90	395.	131.	0.146	114.53	1.960	RH-106M	sM
858.00	556.04	111.	45.	0.050	147.42	1.917	SR-91	sM
1025.81	664.89	93.	138.	0.153	39.23	1.629	PA-234	D
1184.50	767.71	167.	339.	0.377	26.05	1.961	BI-214	s
1212.00	785.55	122.	102.	0.113	68.06	2.356	BI-212	s
1242.60	805.22	114.	57.	0.063	89.33	1.746	PA-234	D
1439.63	933.15	128.	233.	0.259	32.50	2.653	BI-214	s
1780.42	1154.18	74.	91.	0.101	58.32	2.016	BI-214	s
1908.72	1237.40	88.	336.	0.374	23.15	2.341	J-133	s
1974.68	1280.19	91.	71.	0.079	86.08	1.163	BI-214	s
2123.99	1377.00	56.	183.	0.203	28.14	2.297	BI-214	D
2135.88	1384.71	42.	59.	0.066	60.81	2.305	AG-110M	D
2160.32	1400.59	49.	68.	0.076	56.78	2.322	BI-214	D
2171.14	1407.61	59.	95.	0.105	46.28	2.330	BI-214	D
2326.56	1508.49	64.	110.	0.122	50.63	2.497	BI-214	s
2665.96	1728.74	18.	135.	0.150	31.97	2.570	BI-214	s
3397.06	2203.36	0.	177.	0.197	22.55	2.467	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 062 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

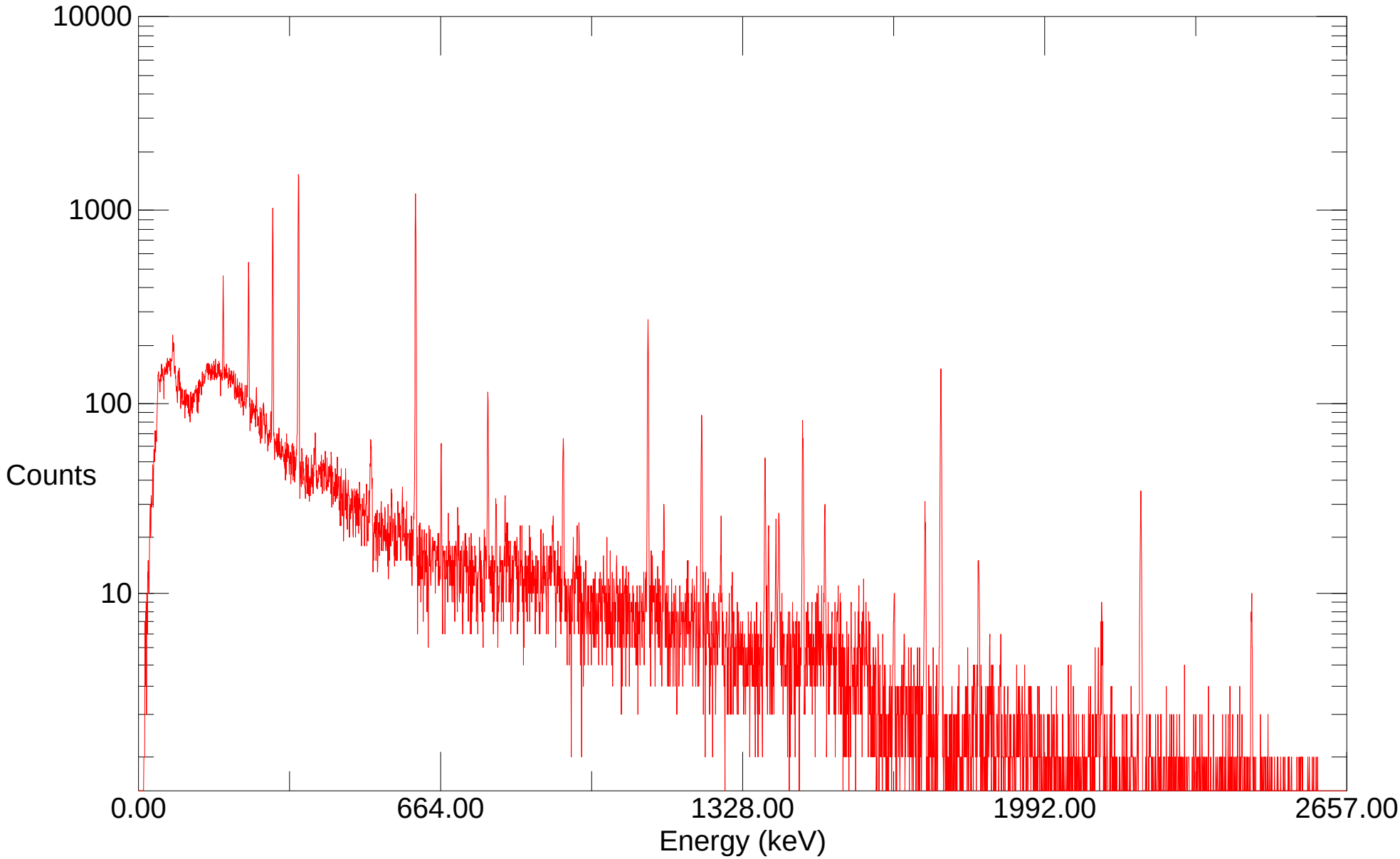
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.83	12.22	1.	1.	0.001	509.90	0.879
Pb-210	68.28	44.26	1030.	144.	0.161	158.28	3.626s
Th-234	97.72	63.33	570.	40.	0.044	313.75	0.846
Th-234	142.00	92.02	330.	16.	0.017	436.99	0.156s
Ra-226	287.15	186.07	1192.	842.	0.935	30.67	1.460s
Pb-212	368.26	238.63	819.	96.	0.107	130.20	1.318D
Pb-214	373.43	241.98	837.	1154.	1.282	13.82	1.320D
Pb-214	455.57	295.21	752.	2383.	2.648	7.85	1.356D
Tl-210	459.88	298.00	1342.	26.	0.029	605.19	1.357D
Pb-212	463.10	300.09	485.	12.	0.014	769.06	1.359D
Ac-228	520.13	337.05	351.	89.	0.099	151.48	2.049s
Pb-214	542.37	351.46	659.	4637.	5.153	5.30	1.842s
Tl-208	788.31	510.87	296.	219.	0.243	45.58	3.618s
Tl-208	898.88	582.55	148.	43.	0.048	195.22	2.549s
Bi-214	939.21	608.69	250.	3821.	4.246	5.36	1.937s
Cs-137	1020.86	661.62	71.	2.	0.002	1692.13	1.626D
Bi-212	1121.61	726.94	52.	51.	0.057	103.74	2.002s
Pa-234m	1182.48	766.41	120.	0.	0.000	0.00	1.976D
Tl-210	1233.83	799.70	73.	14.	0.015	273.03	1.741D
Tl-208	1325.01	858.82	136.	28.	0.031	223.72	0.708s
Ac-228	1404.71	910.50	167.	50.	0.056	143.83	1.581
Ac-228	1493.49	968.08	81.	21.	0.023	210.58	1.068s
Pa-234m	1546.99	1002.78	64.	12.	0.013	342.87	0.736s
Bi-214	1727.14	1119.62	133.	871.	0.967	12.70	2.037
Tl-210	2025.00	1312.83	33.	8.	0.009	356.74	2.333
K-40	2252.00	1460.11	48.	321.	0.357	20.84	2.430
Bi-212	2490.00	1614.54	17.	21.	0.023	126.18	0.226s
Bi-214	2719.91	1763.75	11.	637.	0.708	12.36	2.442
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 062 15 Min Colim@6Det@Pos4

smp hs 062 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 11:31:52 AM Real Time: 908.18 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 063 15 Min Colim@6Det@Pos

Sample description
SMP HS 063 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 063 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	19-Oct-2007 09:34:38
Live time:	900
Real time:	911
Dead time:	1.22 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM8C2E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 063 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2148

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.31	74.74	1163.	398.	0.442	39.39	1.217	BI-207	D
119.04	77.16	1015.	719.	0.798	21.89	1.218	PB-214	D
134.59	87.22	1169.	297.	0.330	75.30	1.330	BI-207	s
423.54	274.45	908.	242.	0.269	85.73	1.958	SR-91	s
598.37	387.76	620.	177.	0.197	105.81	1.272	-	sM
624.56	404.73	560.	151.	0.168	117.72	2.189	J-134	sM
710.55	460.47	320.	162.	0.181	80.89	3.540	J-134	sM
751.05	486.72	276.	86.	0.096	133.56	1.093	LA-140	sM
786.25	509.47	378.	161.	0.179	56.34	1.508	J-133	D
789.30	511.45	457.	144.	0.160	67.96	1.510	RH-106M	D
893.62	579.13	207.	108.	0.120	98.07	1.505	KR-89	s
1025.90	664.97	175.	170.	0.189	40.23	1.629	PA-234	D
1084.83	703.09	160.	87.	0.097	111.58	2.156	RH-106M	s
1184.85	767.88	189.	584.	0.649	15.94	1.714	BI-214	D
1211.02	784.91	198.	146.	0.162	54.64	1.515	BI-212	sM
1243.38	805.78	147.	135.	0.150	46.17	1.746	PA-234	D
1293.99	838.71	202.	102.	0.113	80.38	1.786	J-135	sM
1440.43	933.67	180.	363.	0.404	25.23	1.704	BI-214	
1485.25	962.59	133.	46.	0.051	115.22	1.885	TB-160	D
1748.19	1133.27	132.	42.	0.047	158.82	1.670	J-135	M
1781.22	1154.70	112.	169.	0.188	39.89	2.475	BI-214	M
1909.30	1237.77	112.	524.	0.582	17.36	1.981	J-133	M
1975.65	1280.82	98.	116.	0.129	54.41	2.086	BI-214	M
2124.44	1377.17	56.	325.	0.361	19.33	2.297	BI-214	D

ORTEC Spectrum name: SMP HS 063 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2137.13	1385.40	72.	70.	0.078	62.50	2.306	AG-110M	D
2160.75	1400.89	68.	97.	0.107	47.29	2.322	BI-214	D
2171.10	1407.60	78.	207.	0.230	27.57	2.330	BI-214	D
2327.63	1509.18	97.	194.	0.216	38.23	2.395	BI-214	
2440.98	1582.73	52.	68.	0.075	70.45	2.370	-	s
2560.38	1660.22	23.	97.	0.108	41.83	2.128	BI-214	s
2666.45	1729.06	24.	207.	0.230	25.23	2.893	BI-214	
2849.06	1847.58	27.	144.	0.160	33.51	1.836	BI-214	s
3398.34	2204.18	5.	283.	0.314	18.82	2.190	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

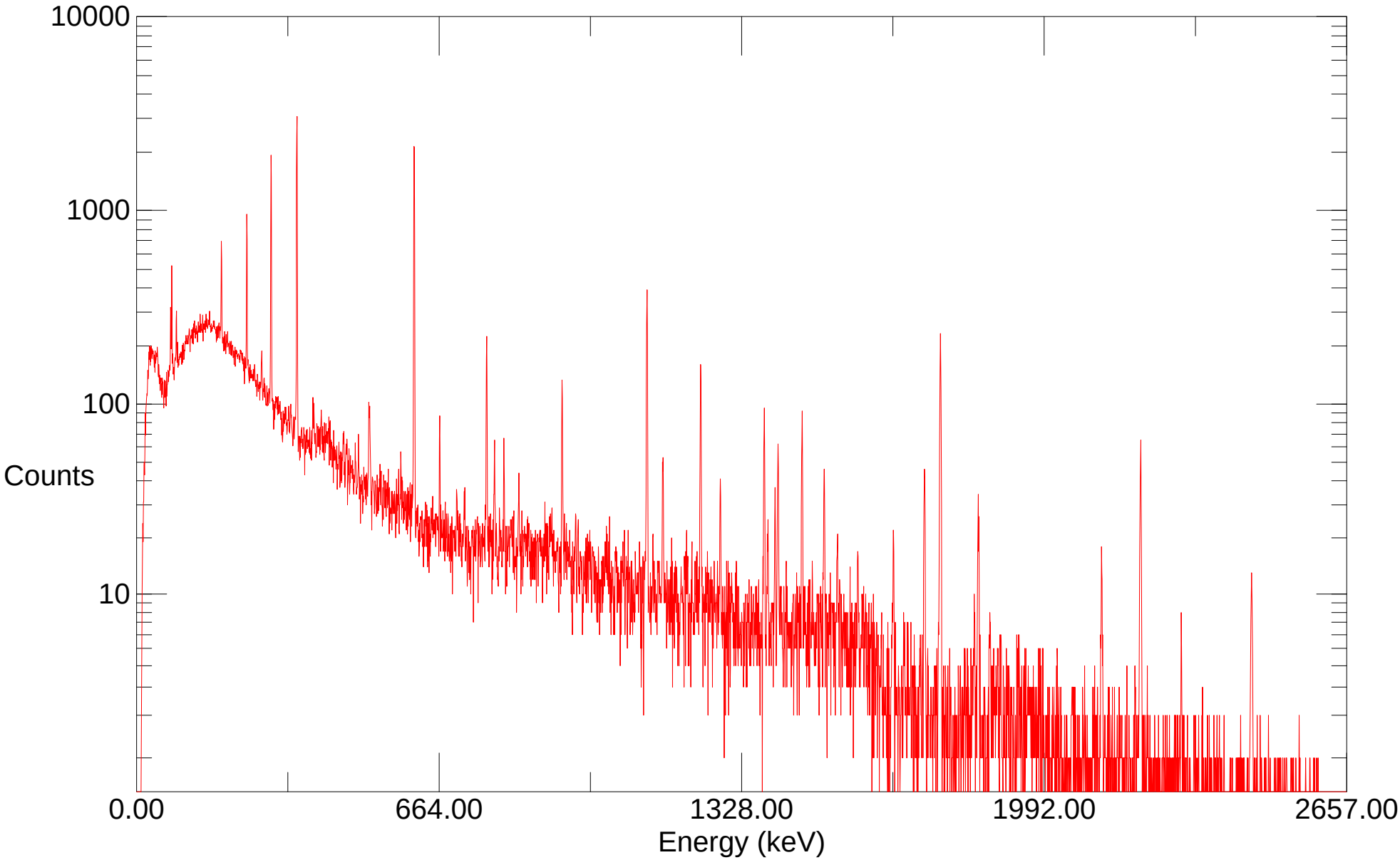
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.92	12.27	18.	4.	0.004	499.55	1.111
Pb-210	70.68	45.81	948.	60.	0.067	310.32	1.620s
Th-234	93.83	60.81	783.	58.	0.065	216.02	0.583s
Th-234	143.44	92.95	978.	20.	0.022	940.58	0.512s
Ra-226	287.00	185.97	2135.	1186.	1.318	29.93	1.427s
Pb-212	368.26	238.63	1033.	128.	0.142	110.01	1.318D
Pb-214	373.43	241.98	1012.	1868.	2.076	10.02	1.321D
Pb-214	455.57	295.21	673.	4328.	4.809	5.22	1.356D
Tl-210	459.88	298.00	2368.	85.	0.095	243.97	1.358D
Pb-212	463.10	300.09	533.	52.	0.057	194.74	1.359D
Ac-228	522.10	338.32	705.	119.	0.132	166.25	2.110s
Pb-214	542.61	351.62	888.	7315.	8.128	4.10	1.480
Tl-208	788.26	510.84	560.	35.	0.039	290.13	1.509D
Tl-208	899.80	583.14	172.	0.	0.000	0.00	0.758D
Bi-214	939.43	608.83	357.	6159.	6.843	4.18	1.693
Cs-137	1020.86	661.62	116.	2.	0.003	1954.66	1.626D
Bi-212	1123.06	727.88	104.	44.	0.049	167.02	1.976s
Pa-234m	1182.48	766.41	726.	5.	0.005	2507.53	1.713D
Tl-210	1233.83	799.70	100.	10.	0.011	445.28	1.741D
Tl-208	1325.91	859.41	102.	40.	0.044	169.19	0.794s
Ac-228	1406.82	911.87	135.	38.	0.042	220.56	1.065s
Ac-228	1495.08	969.11	121.	32.	0.035	157.19	1.892D
Pa-234m	1544.77	1001.34	126.	34.	0.038	172.37	3.148s
Bi-214	1727.44	1119.81	177.	1376.	1.529	10.03	2.149
Tl-210	2021.00	1310.24	18.	0.	0.000	1558.85	0.000s
K-40	2252.27	1460.28	85.	293.	0.325	25.22	2.058
Bi-212	2498.17	1619.84	15.	6.	0.007	289.40	1.190s
Bi-214	2720.66	1764.24	17.	993.	1.103	9.83	2.603
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 063 15 Min Colim@6Det@Pos4

SMP HS 063 array down Coli@6Det@Pos4 10_19_07



Acquired: 10/19/2007 9:34:38 AM Real Time: 911.10 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 064 15 Min Colim@6Det@Pos

Sample description
smp hs 064 array down Coli@6Det@Pos4 10_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 064 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 20-Oct-2007 10:00:27
Live time: 900
Real time: 907
Dead time: 0.76 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4D2E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 064 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2245

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.03	77.13	180.	114.	0.127	71.78	0.902	PB-214	
136.35	88.36	327.	52.	0.058	152.07	1.225	PB-214	D
788.52	510.91	143.	44.	0.049	124.64	1.509	TL-208	D
912.75	591.53	31.	17.	0.019	156.85	1.024	EU-154	s
1027.21	665.74	54.	25.	0.028	139.12	1.630	BI-214	D
1184.58	767.98	47.	61.	0.068	60.66	1.714	BI-214	D
1440.22	933.53	42.	36.	0.040	106.07	1.479	BI-214	
1781.28	1154.74	18.	39.	0.043	74.18	1.369	BI-214	
1909.87	1238.14	24.	94.	0.104	43.06	1.674	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	6.	3.	0.003	360.56	0.000s
Pb-210	73.88	47.88	207.	34.	0.038	259.06	1.203
Th-234	100.05	64.84	135.	19.	0.021	373.31	1.080s
Th-234	143.21	92.80	271.	26.	0.029	278.74	1.228D
Ra-226	287.28	186.15	210.	224.	0.249	43.69	1.552s
Pb-212	368.26	238.63	220.	0.	0.000	0.00	2.182D
Pb-214	373.50	242.03	260.	226.	0.251	56.10	1.467s

ORTEC Spectrum name: SMP HS 064 15 Min Colim@6Det@Pos

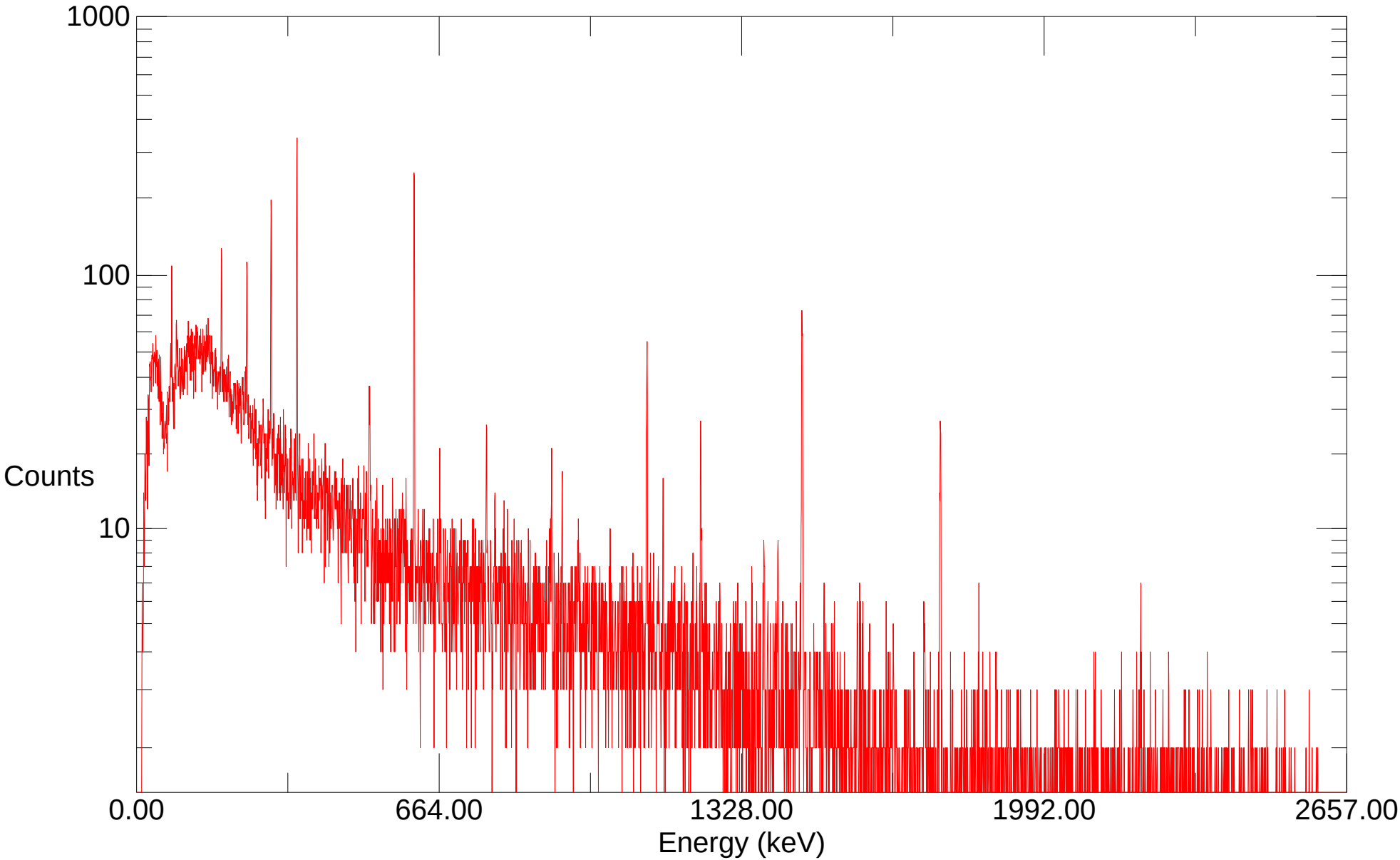
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	455.57	295.21	135.	439.	0.487	18.22	1.356D
Tl-210	459.88	298.00	314.	16.	0.018	480.76	1.358D
Pb-212	463.10	300.09	152.	23.	0.026	231.12	1.359D
Ac-228	521.41	337.88	105.	58.	0.064	135.67	1.938s
Pb-214	542.52	351.56	170.	754.	0.837	14.00	1.428
Tl-208	788.26	510.84	149.	38.	0.042	145.43	1.509D
Tl-208	898.55	582.33	48.	29.	0.032	169.67	2.053s
Bi-214	939.37	608.79	64.	674.	0.749	13.02	1.632
Cs-137	1020.86	661.62	30.	1.	0.001	2329.01	1.626D
Bi-212	1119.93	725.85	42.	15.	0.017	219.09	2.904s
Pa-234m	1182.48	766.41	82.	9.	0.010	420.98	1.712D
Tl-210	1235.32	800.67	26.	10.	0.011	235.76	2.321s
Tl-208	1328.30	860.96	26.	24.	0.027	121.46	1.057s
Ac-228	1403.91	909.99	63.	44.	0.049	105.91	1.077s
Ac-228	1495.94	969.67	44.	35.	0.039	116.89	1.490s
Pa-234m	1542.17	999.65	35.	9.	0.010	339.89	0.612s
Bi-214	1727.14	1119.62	30.	182.	0.202	27.52	2.222
Tl-210	2020.26	1309.76	19.	27.	0.030	114.49	2.339
K-40	2252.26	1460.27	21.	288.	0.320	19.95	2.561
Bi-212	2499.17	1620.49	4.	8.	0.009	180.97	1.081s
Bi-214	2720.26	1763.98	0.	131.	0.146	26.21	2.492
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 064 15 Min Colim@6Det@Pos4

smp hs 064 array down Coli@6Det@Pos4 10_20_07



Acquired: 10/20/2007 10:00:27 AM Real Time: 906.88 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 065 01_11_08.An1

Sample description
SMP HS 065 01_11_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 065 01_11_08.An1

Acquisition information
Start time: 11-Jan-2008 14:35:52
Live time: 900
Real time: 913
Dead time: 1.46 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 065 01_11_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 065 01_11_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0638

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.20	53.27	1265.	311.	0.346	66.40	1.640	LU-177	s
115.44	74.84	2627.	2135.	2.373	12.08	1.217	BI-207	D
119.12	77.22	2904.	3833.	4.259	7.69	1.218	PB-214	D
129.34	83.77	1570.	191.	0.212	90.83	1.222	TA-182	D
134.65	87.22	1902.	1559.	1.732	14.09	1.224	BI-207	D
138.88	89.95	2688.	651.	0.723	35.78	1.226	PB-214	D
174.02	112.76	1980.	271.	0.301	111.64	1.863	LU-177	s
399.70	259.00	1352.	339.	0.377	74.56	1.438	XE-138	s
423.68	274.54	1395.	300.	0.333	89.29	1.563	SR-91	s
522.09	338.32	597.	101.	0.112	148.19	1.841	AC-228	sM
598.80	388.03	1072.	342.	0.381	74.91	1.136	-	sM
700.80	454.15	524.	178.	0.198	89.15	1.613	TE-131	sM
711.98	461.39	340.	58.	0.064	182.73	1.002	CS-138	M
740.76	480.05	396.	124.	0.138	105.15	1.617	W-187	M
751.33	486.90	312.	142.	0.158	78.77	1.822	LA-140	sM
788.02	510.72	656.	193.	0.214	60.30	1.509	TL-208	D
823.41	533.62	312.	104.	0.115	112.46	2.218	ND-147	sM
894.60	579.79	317.	97.	0.108	83.52	1.562	KR-89	D
1001.89	649.33	164.	86.	0.095	100.83	1.995	J-132	s
1015.57	658.26	168.	74.	0.083	81.70	1.623	AG-110M	D
1026.42	665.29	271.	356.	0.396	25.23	1.629	BI-214	D
1084.76	703.05	312.	200.	0.222	75.60	3.783	RH-106M	sM
1110.91	720.00	275.	132.	0.147	99.57	1.885	SB-126	s
1185.32	768.20	248.	1079.	1.199	11.03	1.714	BI-214	D

ORTEC Spectrum name: SMP HS 065 01_11_08.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1212.35	785.77	255.	223.	0.248	40.43	1.582	PB-214	
1243.64	806.13	227.	250.	0.277	31.90	1.746	BI-214	D
1275.04	826.42	172.	80.	0.089	114.97	1.230	PA-234	sM
1293.91	838.66	324.	142.	0.158	70.51	1.617	J-135	M
1440.76	933.88	352.	616.	0.684	20.62	1.981	BI-214	
1487.10	963.79	222.	80.	0.089	85.97	1.887	EU-152	D
1622.88	1051.99	217.	72.	0.080	114.22	1.550	-	
1650.83	1070.13	140.	54.	0.061	110.54	2.243	J-134	
1746.65	1132.27	194.	93.	0.104	87.37	1.886	J-135	s
1781.86	1155.11	206.	258.	0.287	34.42	1.855	BI-214	
1862.81	1207.62	156.	75.	0.083	93.21	1.838	-	
1909.94	1238.19	208.	888.	0.987	13.73	1.933	BI-214	
1976.24	1281.20	138.	236.	0.263	33.47	2.257	BI-214	s
2030.06	1316.14	92.	40.	0.045	111.04	2.233	BR-82	D
2125.36	1377.68	140.	557.	0.619	15.57	2.298	BI-214	D
2137.93	1385.83	113.	119.	0.132	46.81	2.307	AG-110M	D
2161.81	1401.43	112.	197.	0.219	31.21	2.323	BI-214	D
2172.38	1408.29	124.	353.	0.392	20.83	2.331	EU-152	D
2327.94	1509.38	207.	318.	0.353	30.09	2.642	BI-214	
2441.93	1583.35	120.	170.	0.188	43.55	1.672	-	s
2562.54	1661.62	47.	165.	0.184	32.50	1.825	BI-214	s
2668.17	1730.17	42.	354.	0.393	18.84	2.304	BI-214	
2850.02	1848.21	34.	245.	0.272	23.72	2.578	BI-214	
3267.84	2119.45	22.	110.	0.122	39.77	2.590	BI-214	
3399.74	2205.10	26.	495.	0.550	15.26	2.834	BI-214	
3774.95	2448.77	0.	147.	0.163	24.74	2.644	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.37	10.62	945.	340.	0.378	53.29	2.290s
Pb-210	71.99	46.66	1922.	364.	0.404	78.34	0.993s
Th-234	95.32	61.77	2345.	87.	0.096	258.09	0.639
Th-234	143.21	92.80	1543.	129.	0.143	131.97	1.228D
Ra-226	287.34	186.19	2695.	2840.	3.156	14.56	1.374
Pb-212	368.26	238.63	1410.	91.	0.101	177.76	1.318D
Pb-214	373.43	241.98	1259.	4195.	4.661	5.86	1.321D
Pb-214	455.57	295.21	804.	8921.	9.912	3.45	1.356D
Tl-210	459.88	298.00	5115.	54.	0.060	564.60	1.358D
Pb-212	463.10	300.09	997.	95.	0.105	144.69	1.359D
Ac-228	522.09	338.32	597.	0.	0.000	148.19	1.841D
Pb-214	542.82	351.76	1590.	14478.	16.086	2.89	1.358
Tl-208	788.26	510.84	728.	121.	0.134	98.86	1.509D

ORTEC Spectrum name: SMP HS 065 01_11_08.An1

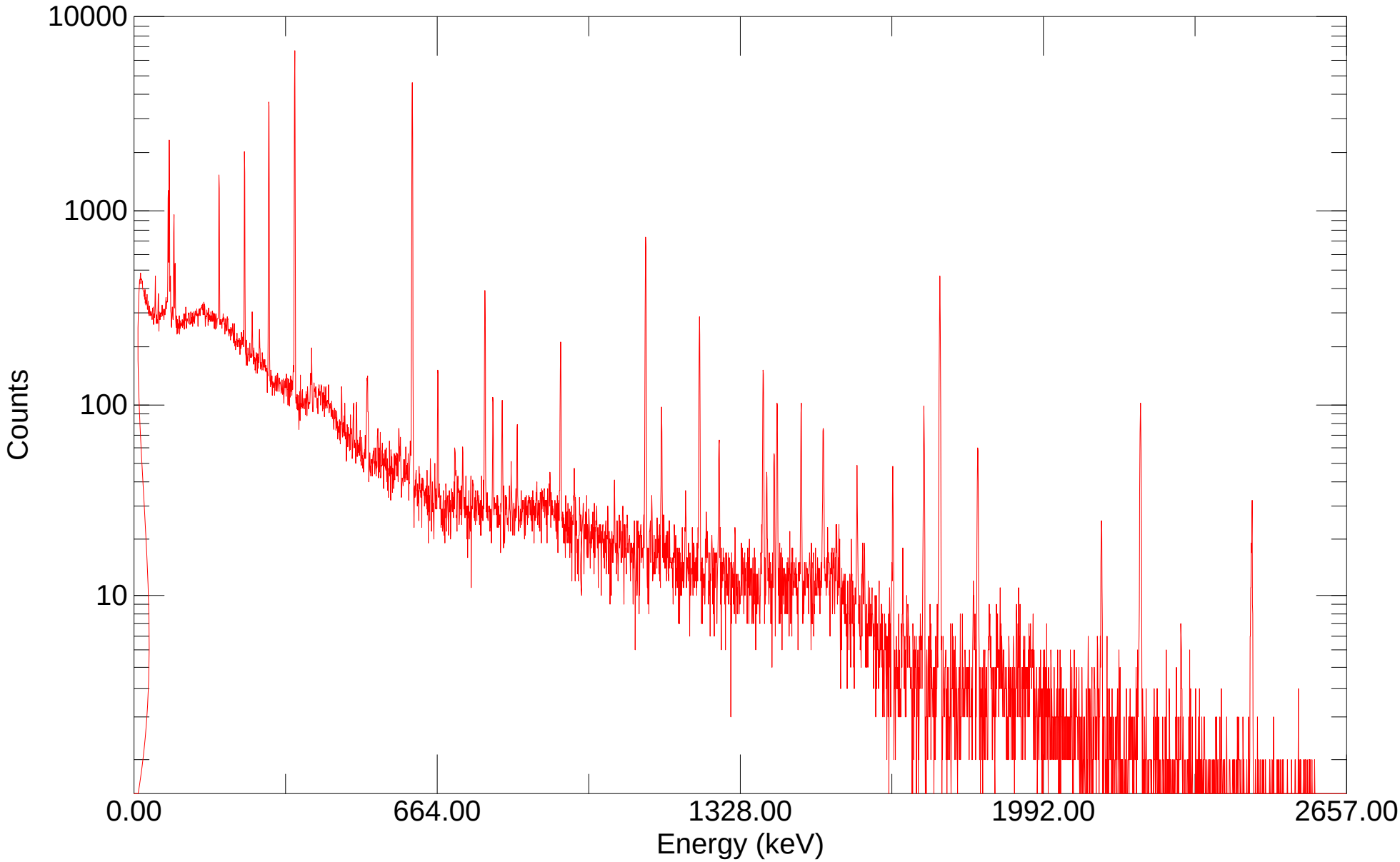
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	899.80	583.14	385.	42.	0.047	202.60	1.564D
Bi-214	939.84	609.10	642.	11696.	12.996	3.02	1.616
Cs-137	1020.86	661.62	241.	32.	0.036	212.16	1.626D
Bi-212	1121.96	727.17	189.	0.	0.000	0.00	0.872D
Pa-234m	1182.48	766.41	1191.	9.	0.010	1554.01	1.713D
Tl-210	1233.83	799.70	169.	13.	0.015	419.08	1.741D
Tl-208	1325.40	859.08	180.	42.	0.047	219.23	1.626s
Ac-228	1404.19	910.17	260.	77.	0.086	157.64	1.503s
Ac-228	1495.08	969.11	186.	27.	0.030	224.34	1.892D
Pa-234m	1543.21	1000.33	132.	4.	0.005	1225.71	0.508s
Bi-214	1728.17	1120.29	247.	2424.	2.693	7.18	2.001
Tl-210	2020.63	1310.00	97.	27.	0.030	164.68	2.226D
K-40	2253.33	1460.97	164.	297.	0.330	30.78	1.660
Bi-212	2499.00	1620.39	15.	0.	0.000	1423.02	0.000s
Bi-214	2721.87	1765.03	35.	1789.	1.988	7.40	2.265
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 065 01_11_08

SMP HS 065 01_11_08



Acquired: 1/11/2008 2:35:52 PM Real Time: 913.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 066 15 Min Colim@6Det@Pos

Sample description
SMP HS 66 down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 066 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 15-Oct-2007 15:41:44
Live time: 900
Real time: 908
Dead time: 0.83 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMC12E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 066 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1740

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.39	74.81	504.	229.	0.255	46.01	1.217	BI-207	D
119.02	77.16	438.	391.	0.434	27.31	1.218	PB-214	D
135.89	88.06	467.	129.	0.143	76.08	1.225	PB-214	D
268.04	173.69	372.	47.	0.052	250.08	0.766	-	
398.19	258.02	224.	78.	0.087	126.75	1.767	XE-138	s
787.85	510.68	156.	83.	0.092	72.13	1.509	TL-208	D
1026.58	665.07	72.	48.	0.053	87.13	1.629	BI-214	D
1184.74	767.87	67.	151.	0.168	35.96	1.666	BI-214	
1439.70	933.20	69.	80.	0.089	65.14	1.548	BI-214	
1486.02	963.35	28.	32.	0.036	87.87	1.886	EU-152	D
1908.89	1237.51	46.	126.	0.139	39.25	2.468	J-133	s
1975.51	1280.73	28.	41.	0.045	83.78	1.173	BI-214	s
2124.20	1377.19	20.	69.	0.077	49.38	2.334	BI-214	
2171.70	1408.01	15.	64.	0.071	50.59	1.925	BI-214	s
2326.60	1508.51	12.	50.	0.056	55.64	1.757	BI-214	
3398.22	2204.11	0.	79.	0.088	33.75	1.431	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

ORTEC Spectrum name: SMP HS 066 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.19	11.80	21.	4.	0.005	468.62	0.636
Pb-210	73.25	47.47	382.	96.	0.106	147.32	3.090s
Th-234	98.10	63.57	387.	60.	0.067	233.91	0.967s
Th-234	143.21	92.80	309.	24.	0.027	316.91	1.228D
Ra-226	287.50	186.29	518.	370.	0.412	45.92	1.635s
Pb-212	368.26	238.63	313.	64.	0.071	123.35	1.318D
Pb-214	373.43	241.98	267.	553.	0.615	17.87	1.321D
Pb-214	455.57	295.21	184.	1091.	1.212	10.50	1.356D
Tl-210	459.88	298.00	606.	16.	0.018	654.05	1.358D
Pb-212	463.10	300.09	211.	13.	0.014	495.89	1.359D
Ac-228	523.08	338.96	124.	60.	0.067	130.38	1.334s
Pb-214	542.57	351.59	254.	1811.	2.012	8.40	1.571
Tl-208	788.26	510.84	222.	17.	0.019	382.87	1.509D
Tl-208	898.89	582.55	35.	28.	0.031	131.44	1.585
Bi-214	939.37	608.79	92.	1501.	1.668	8.43	1.666
Cs-137	1020.86	661.62	40.	10.	0.011	294.01	1.626D
Bi-212	1123.30	728.04	58.	38.	0.043	170.23	1.092s
Pa-234m	1182.34	766.32	179.	0.	0.000	5676.27	1.713
Tl-210	1234.62	800.21	19.	2.	0.003	743.54	1.475
Tl-208	1322.00	856.88	64.	24.	0.027	183.71	0.788s
Ac-228	1403.76	909.89	60.	32.	0.036	131.81	0.718s
Ac-228	1495.08	969.11	49.	28.	0.031	122.35	1.891D
Pa-234m	1542.79	1000.05	31.	11.	0.013	241.00	0.781s
Bi-214	1727.52	1119.87	54.	322.	0.358	21.41	1.957
Tl-210	2017.92	1308.24	17.	7.	0.007	308.87	0.565s
K-40	2252.29	1460.30	38.	287.	0.319	22.06	2.571
Bi-212	2499.17	1620.50	5.	9.	0.010	157.53	0.926s
Bi-214	2720.87	1764.38	3.	226.	0.251	20.48	2.379
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

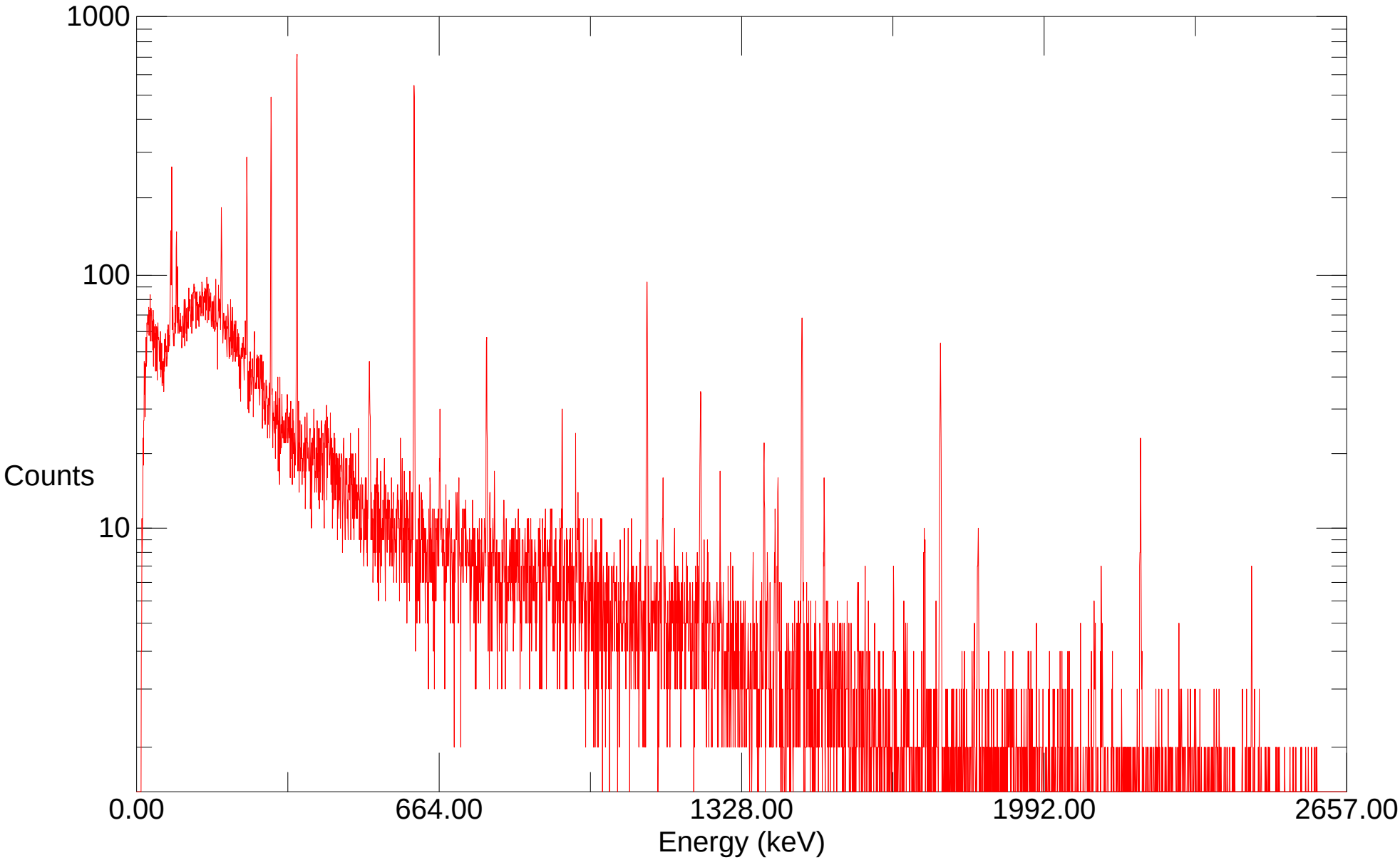
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 066 15 Min Colim@6Det@Pos1

SMP HS 66 down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 3:41:44 PM Real Time: 907.52 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 067 01_11_08.An1

Sample description
SMP HS 067 01_11_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 067 01_11_08.An1

Acquisition information
Start time:	11-Jan-2008 11:12:45
Live time:	900
Real time:	953
Dead time:	5.55 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 067 01_11_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 067 01_11_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0855

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.06	53.18	6285.	252.	0.280	189.70	1.127	LU-177	M
106.89	68.72	7055.	348.	0.386	103.78	1.214	TA-182	D
115.53	74.91	8111.	1863.	2.069	21.66	1.217	BI-207	D
119.15	77.26	8768.	3069.	3.410	14.03	1.218	BI-207	D
134.81	87.33	8180.	1397.	1.552	28.61	1.224	PB-214	D
139.06	90.09	8533.	521.	0.579	76.38	1.226	PB-214	D
399.17	258.66	7328.	829.	0.921	70.05	1.831	XE-138	s
423.34	274.33	5828.	672.	0.747	73.16	1.296	SR-91	s
596.57	386.59	2638.	293.	0.325	76.53	1.419	-	D
600.12	388.89	3619.	404.	0.449	64.90	1.420	RH-106M	D
625.72	405.48	4378.	364.	0.404	139.92	1.655	J-134	sM
701.25	454.44	2244.	373.	0.414	86.60	1.809	TE-131	sM
711.65	461.18	2252.	266.	0.296	121.08	2.115	CS-138	sM
742.04	480.92	2107.	283.	0.314	71.13	1.487	HF-181	D
750.92	486.68	2016.	457.	0.508	43.95	1.491	LA-140	D
773.09	501.01	1488.	224.	0.248	111.64	1.231	KR-89	sM
787.76	510.57	2483.	378.	0.420	58.06	1.509	TL-208	D
822.79	533.22	1616.	228.	0.253	119.93	1.950	ND-147	sM
895.04	580.05	1083.	348.	0.387	58.97	1.711	TL-208	
976.04	632.57	936.	188.	0.209	111.34	2.578	AG-108	s
1026.47	665.41	990.	1207.	1.341	14.03	1.629	BI-214	D
1036.66	672.02	885.	90.	0.100	143.31	1.635	PA-234	D
1084.83	703.10	844.	438.	0.487	46.75	1.761	RH-106M	s
1110.66	720.00	861.	373.	0.415	36.80	1.674	SB-126	D

ORTEC Spectrum name: SMP HS 067 01_11_08.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1145.10	742.17	1111.	251.	0.279	103.32	2.810	PA-234	s
1161.07	752.52	814.	212.	0.236	96.71	2.346	LA-140	s
1185.29	768.19	852.	3352.	3.725	6.36	1.714	BI-214	D
1212.66	785.98	1208.	691.	0.768	28.52	1.705	PB-214	sM
1243.70	806.15	883.	827.	0.919	18.47	1.747	BI-214	D
1266.80	821.08	688.	204.	0.227	88.77	2.577	PA-234	sM
1294.24	838.87	1170.	430.	0.478	43.79	1.700	J-135	sM
1440.88	933.96	1504.	1940.	2.156	13.35	1.936	BI-214	
1487.47	964.07	795.	298.	0.331	43.79	1.887	EU-152	D
1592.32	1032.18	738.	150.	0.167	97.24	2.125	RB-89	s
1623.07	1052.12	691.	260.	0.289	54.38	1.569	-	s
1641.91	1064.04	705.	56.	0.063	203.36	1.980	BI-207	D
1650.73	1069.77	675.	126.	0.140	91.21	1.986	J-134	D
1781.94	1155.16	829.	907.	1.007	20.79	2.309	BI-214	M
1847.35	1197.59	235.	32.	0.036	201.69	1.142	RH-106M	sM
1863.15	1207.84	607.	284.	0.316	49.55	1.550	-	sM
1909.92	1238.18	658.	3099.	3.443	7.04	2.008	BI-214	M
1933.46	1253.45	467.	104.	0.116	105.60	2.011	KR-88	M
1976.30	1281.24	642.	772.	0.858	20.96	2.275	BI-214	M
2125.35	1377.77	472.	1974.	2.194	8.21	2.298	BI-214	D
2137.62	1385.73	444.	355.	0.394	29.79	2.306	AG-110M	D
2162.15	1401.86	485.	666.	0.740	18.23	2.323	BI-214	D
2172.22	1408.39	445.	1255.	1.395	11.07	2.330	EU-152	D
2301.56	1492.27	241.	29.	0.032	233.85	0.903	-	s
2328.17	1509.53	779.	950.	1.055	19.82	2.116	BI-214	
2373.68	1539.09	440.	200.	0.222	49.30	2.475	RB-89	D
2380.85	1543.74	488.	133.	0.148	75.09	2.480	-	D
2441.96	1583.37	482.	376.	0.418	42.97	2.736	AC-228	
2459.86	1595.01	344.	123.	0.137	69.28	2.539	LA-140	D
2468.15	1600.39	360.	127.	0.141	68.68	2.545	EU-154	D
2562.53	1661.62	274.	495.	0.550	22.53	2.246	BI-214	
2597.97	1684.55	162.	116.	0.129	54.14	2.643	-	D
2611.86	1693.56	199.	115.	0.128	59.03	2.654	KR-89	D
2668.03	1730.08	304.	1199.	1.332	14.60	2.583	BI-214	
2708.85	1755.90	119.	54.	0.060	95.26	2.729	-	D
2835.73	1838.81	124.	171.	0.190	35.89	2.830	RH-106M	D
2849.99	1848.07	140.	870.	0.966	11.69	2.841	BI-214	D
2889.58	1873.88	130.	118.	0.131	65.18	2.539	-	
2915.62	1890.79	91.	43.	0.048	110.53	1.464	-	s
3129.85	2029.86	65.	18.	0.020	260.56	0.804	KR-88	s
3268.14	2119.64	60.	432.	0.480	18.00	2.671	BI-214	
3399.64	2205.03	60.	1746.	1.940	7.68	2.660	BI-214	
3537.06	2294.27	12.	108.	0.120	34.69	2.205	-	s
3775.28	2448.98	4.	499.	0.555	13.65	2.745	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 067 01_11_08.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

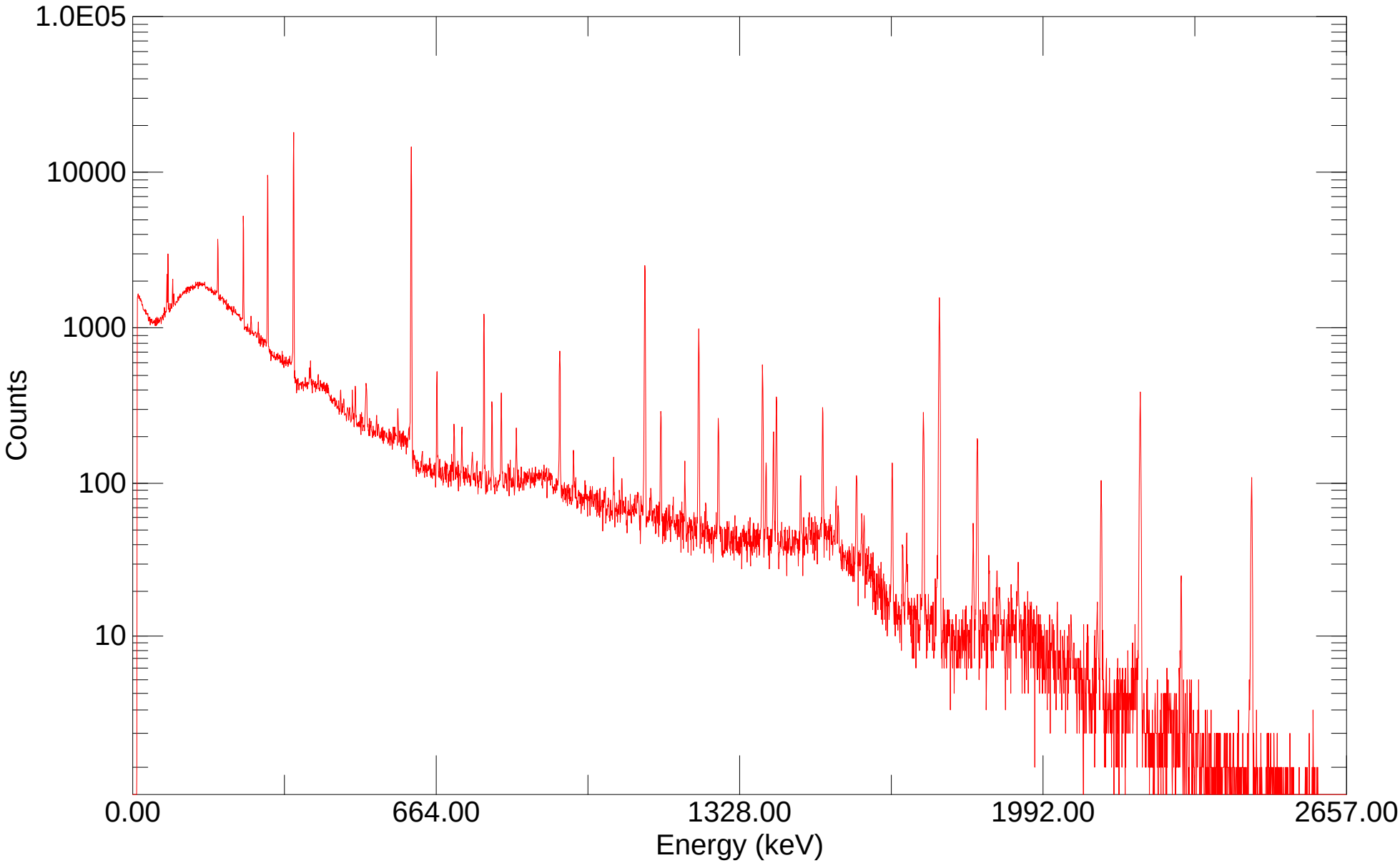
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.17	11.14	6216.	3968.	4.409	14.15	2.888s
Pb-210	71.42	46.29	9500.	294.	0.326	234.29	1.222s
Th-234	97.66	63.29	5531.	212.	0.235	150.49	1.211D
Th-234	143.21	92.80	7112.	21.	0.023	1744.30	1.228D
Ra-226	287.33	186.18	15965.	4627.	5.141	20.55	1.321
Pb-212	368.26	238.63	7790.	259.	0.288	145.70	1.318D
Pb-214	373.43	241.98	7168.	9571.	10.635	4.85	1.321D
Pb-214	455.57	295.21	5246.	21939.	24.377	2.46	1.356D
Tl-210	459.88	298.00	15309.	259.	0.288	203.66	1.358D
Pb-212	463.10	300.09	5386.	283.	0.314	111.63	1.359D
Ac-228	520.21	337.10	4560.	256.	0.284	177.94	0.916s
Pb-214	542.84	351.77	7055.	36463.	40.515	2.00	1.260
Tl-208	788.26	510.84	2576.	285.	0.317	77.64	1.509D
Tl-208	899.80	583.14	1250.	0.	0.000	0.00	1.642D
Bi-214	939.85	609.10	2225.	35030.	38.922	1.76	1.490
Cs-137	1020.86	661.62	932.	27.	0.030	485.02	1.626D
Bi-212	1121.96	727.17	851.	52.	0.058	241.18	1.680D
Pa-234m	1182.48	766.41	3844.	21.	0.024	1236.34	1.713D
Tl-210	1233.83	799.70	851.	47.	0.052	265.80	1.741D
Tl-208	1321.14	856.31	1005.	44.	0.049	355.85	0.574s
Ac-228	1403.07	909.44	1086.	198.	0.220	133.81	3.978s
Ac-228	1495.08	969.11	788.	95.	0.106	128.86	1.891D
Pa-234m	1545.46	1001.78	621.	32.	0.035	364.64	0.539s
Bi-214	1728.23	1120.32	859.	8136.	9.040	3.87	1.964
Tl-210	2020.21	1309.73	346.	44.	0.049	203.45	1.808
K-40	2254.11	1461.48	555.	374.	0.416	39.33	2.408s
Bi-212	2498.11	1619.81	218.	28.	0.031	273.94	0.588s
Bi-214	2721.06	1764.50	115.	6634.	7.371	3.75	2.740D
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiD

SMP HS 067 01_11_08



Acquired: 1/11/2008 11:12:45 AM Real Time: 952.84 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 068 15 Min Colim@6Det@Pos

Sample description
smp hs 068 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 068 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 30-Oct-2007 09:06:55
Live time: 900
Real time: 904
Dead time: 0.46 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4C2E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3264

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.25	77.28	624.	78.	0.087	195.13	0.761	PB-214	
303.92	196.93	648.	84.	0.093	205.91	1.244	TB-160	s
424.02	274.76	352.	100.	0.111	129.38	2.137	SR-91	s
786.79	510.24	225.	83.	0.093	83.05	1.508	J-133	D
1025.84	664.76	104.	89.	0.099	57.73	1.629	PA-234	D
1184.34	767.61	95.	254.	0.282	27.88	2.237	BI-214	s
1242.55	805.36	92.	64.	0.071	83.95	1.964	PA-234	s
1439.92	933.34	75.	143.	0.159	39.62	2.241	BI-214	s
1781.25	1154.72	75.	71.	0.079	77.16	2.380	BI-214	M
1908.74	1237.41	42.	226.	0.251	25.40	2.440	J-133	sM
2123.40	1376.67	43.	128.	0.143	39.45	2.851	BI-214	s
2170.78	1407.41	46.	64.	0.072	67.17	2.140	BI-214	
3396.97	2203.30	4.	111.	0.123	30.93	3.106	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 068 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

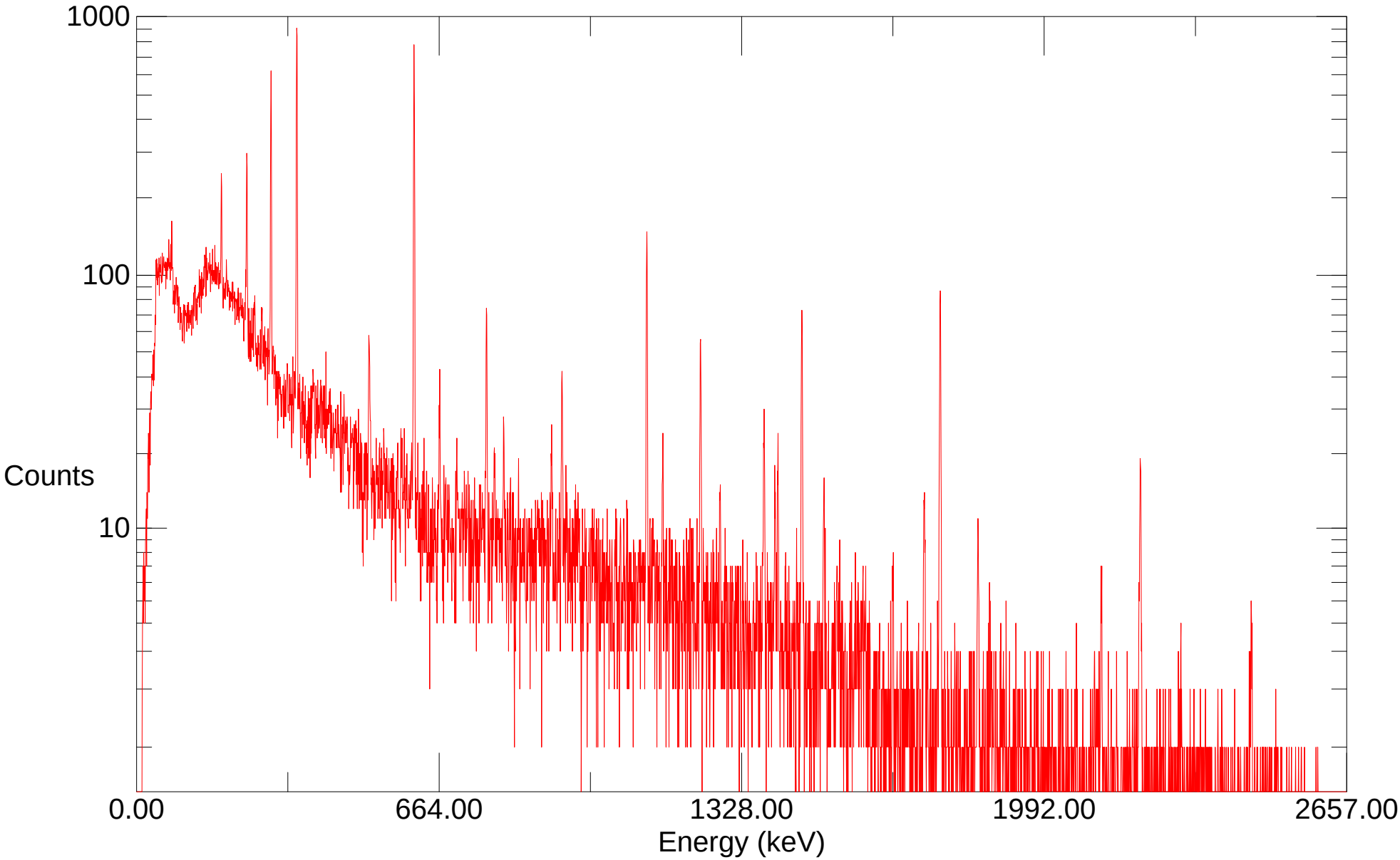
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	74.41	48.23	609.	90.	0.100	177.34	0.855s
Th-234	98.00	63.51	288.	17.	0.019	479.08	0.648
Th-234	143.97	93.29	441.	70.	0.078	194.26	2.767s
Ra-226	286.99	185.97	900.	452.	0.502	50.77	1.778s
Pb-212	368.26	238.63	559.	51.	0.057	199.47	1.318D
Pb-214	373.43	241.98	566.	644.	0.716	19.63	1.321D
Pb-214	455.57	295.21	521.	1431.	1.590	10.42	1.356D
Tl-210	459.88	298.00	860.	22.	0.025	558.50	1.357D
Pb-212	463.10	300.09	278.	46.	0.051	161.71	1.359D
Ac-228	521.59	338.00	192.	59.	0.066	162.31	1.541s
Pb-214	542.32	351.43	422.	2734.	3.038	6.94	1.888s
Tl-208	788.26	510.84	272.	50.	0.056	145.82	1.509D
Tl-208	898.42	582.25	84.	26.	0.029	219.53	1.897s
Bi-214	939.14	608.64	182.	2353.	2.614	6.94	1.874s
Cs-137	1020.86	661.62	86.	22.	0.025	186.83	1.626D
Bi-212	1121.36	726.78	58.	18.	0.020	203.81	0.898s
Pa-234m	1182.48	766.41	82.	0.	0.000	0.00	2.219D
Tl-210	1233.91	799.75	80.	0.	0.000	3794.73	1.741
Tl-208	1321.52	856.56	85.	31.	0.034	175.40	1.224
Ac-228	1405.44	910.98	92.	55.	0.061	99.24	2.019s
Ac-228	1496.08	969.76	64.	27.	0.030	161.49	1.297s
Pa-234m	1541.69	999.34	104.	30.	0.033	202.81	0.543s
Bi-214	1726.96	1119.50	75.	523.	0.581	16.08	2.278
Tl-210	2017.00	1307.64	27.	13.	0.014	207.05	0.865s
K-40	2251.65	1459.88	30.	326.	0.362	19.65	2.584
Bi-212	2499.00	1620.39	3.	0.	0.000	636.40	0.000s
Bi-214	2719.81	1763.69	16.	399.	0.444	16.21	2.499
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 068 15 Min Colim@6Det@Pos4

smp hs 068 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 9:06:55 AM Real Time: 904.12 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 069_15 Min array down Col

Sample description
smp hs 69 array down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 069_15 Min array down Colim@6Det@Pos4.An1

Acquisition information
Start time:	15-Oct-2007 11:40:35
Live time:	900
Real time:	913
Dead time:	1.43 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM675E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 069_15 Min array down Col

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1507

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.54	53.49	798.	123.	0.137	140.43	2.043	LU-177	s
115.31	74.74	1717.	837.	0.930	23.41	1.217	BI-207	D
118.94	77.09	1454.	1394.	1.549	14.12	1.218	PB-214	D
134.46	87.13	1264.	596.	0.662	28.15	1.224	BI-207	D
138.63	89.83	1496.	258.	0.287	66.25	1.226	PB-214	D
197.54	128.01	1293.	164.	0.182	133.62	2.130	AC-228	s
221.45	143.50	1404.	104.	0.116	218.17	1.384	U-235	
399.23	258.70	968.	227.	0.252	94.07	1.001	XE-138	s
424.17	274.86	990.	238.	0.264	99.08	3.029	SR-91	s
484.26	313.80	438.	78.	0.087	164.53	1.678	NP-239	s
654.57	424.18	357.	86.	0.096	143.51	1.341	BA-140	M
701.11	454.34	185.	85.	0.094	95.52	1.405	TE-131	M
740.69	480.19	225.	71.	0.079	96.66	1.486	W-187	D
750.84	486.77	258.	80.	0.089	91.29	1.491	LA-140	D
787.94	510.63	446.	103.	0.115	91.56	1.509	TL-208	D
1026.25	665.17	171.	217.	0.241	32.75	1.629	BI-214	D
1083.67	702.34	119.	78.	0.087	95.27	1.928	NB-94	M
1110.13	719.50	84.	55.	0.061	107.86	1.971	SB-126	M
1184.72	767.84	171.	575.	0.639	15.80	1.714	BI-214	D
1211.64	785.31	160.	164.	0.183	45.28	2.039	BI-212	sM
1224.95	793.88	78.	41.	0.046	102.81	1.736	PA-234	D
1243.21	805.72	120.	157.	0.174	38.03	1.746	PA-234	D
1293.31	838.27	174.	88.	0.098	84.20	1.419	J-135	sM
1308.79	848.31	150.	70.	0.077	148.95	1.460	J-134	sM

ORTEC Spectrum name: SMP HS 069_15 Min array down Col

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1440.05	933.43	212.	333.	0.370	29.09	1.892	BI-214	
1781.05	1154.58	138.	128.	0.143	57.65	2.457	BI-214	M
1834.10	1189.00	47.	22.	0.025	149.25	1.472	TA-182	sM
1909.27	1237.76	115.	496.	0.551	18.13	2.016	J-133	M
1974.92	1280.34	113.	132.	0.146	54.21	2.310	BI-214	M
2039.24	1322.07	29.	17.	0.019	152.83	0.861	-	s
2124.36	1377.11	81.	312.	0.346	20.95	2.297	BI-214	D
2136.54	1385.01	76.	62.	0.069	70.43	2.306	AG-110M	D
2160.72	1400.91	79.	99.	0.110	48.67	2.322	BI-214	D
2171.24	1407.74	75.	200.	0.223	27.99	2.330	BI-214	D
2327.07	1508.82	91.	184.	0.205	37.53	2.383	BI-214	
2443.27	1584.22	76.	81.	0.090	73.86	2.252	AC-228	s
2560.81	1660.49	30.	93.	0.103	45.07	1.907	BI-214	s
2667.02	1729.43	28.	198.	0.220	26.56	1.978	BI-214	
2848.49	1847.22	15.	123.	0.136	31.92	2.636	BI-214	
3267.16	2119.01	8.	68.	0.076	42.63	2.609	BI-214	
3398.13	2204.05	8.	259.	0.288	20.03	3.149	BI-214	
3773.50	2447.82	0.	96.	0.107	30.62	2.196	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

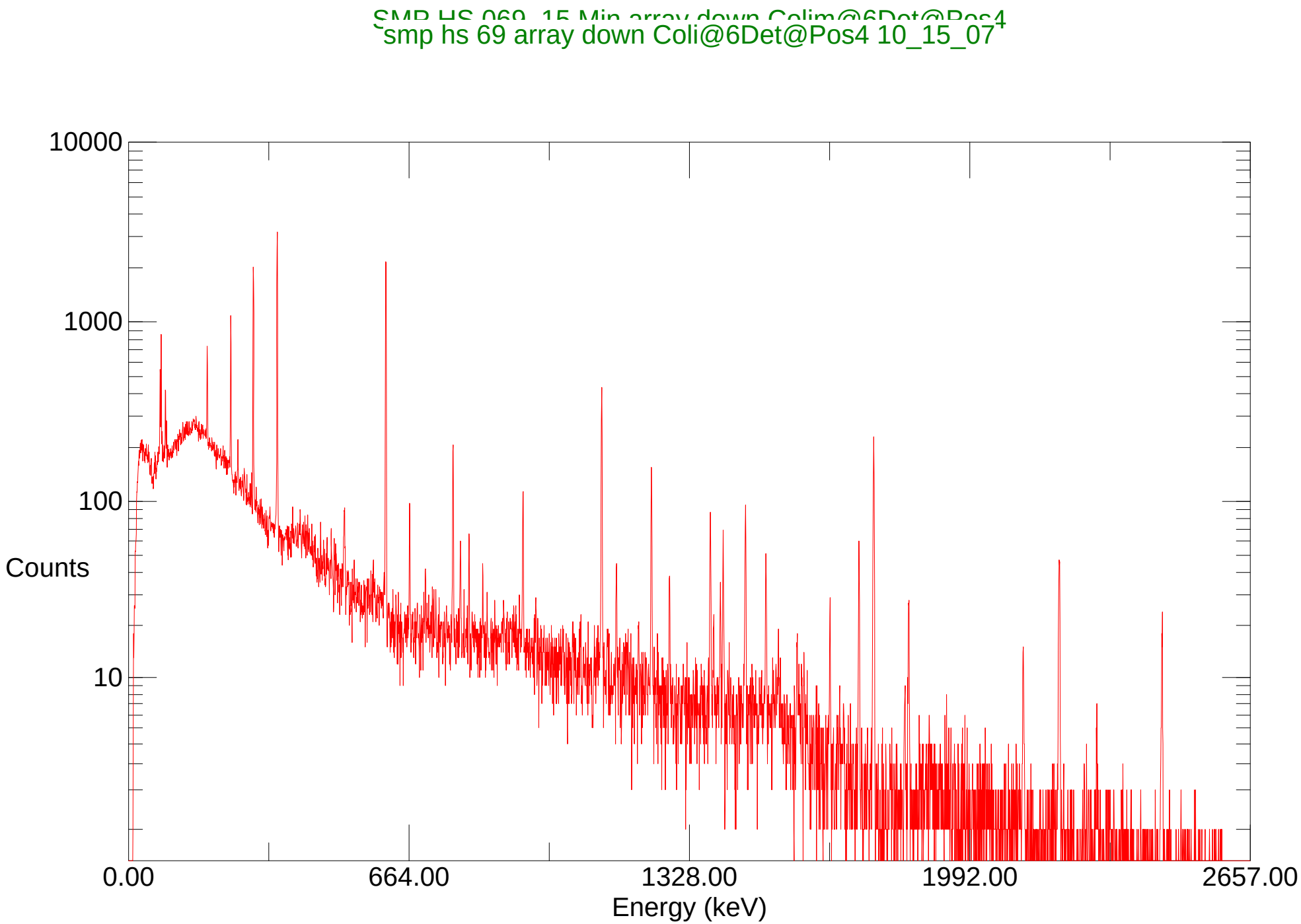
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.85	12.23	32.	6.	0.007	380.10	0.663
Pb-210	73.18	47.43	1240.	154.	0.171	155.28	1.166s
Th-234	97.34	63.08	831.	127.	0.141	138.77	0.764s
Th-234	143.21	92.80	1226.	68.	0.075	222.82	1.228D
Ra-226	287.14	186.06	2095.	1311.	1.457	26.96	1.493s
Pb-212	368.26	238.63	875.	21.	0.024	593.50	1.318D
Pb-214	373.43	241.98	1074.	2109.	2.344	9.28	1.321D
Pb-214	455.57	295.21	613.	4538.	5.042	5.02	1.356D
Tl-210	459.88	298.00	2482.	43.	0.048	492.51	1.358D
Pb-212	463.10	300.09	648.	15.	0.017	724.79	1.359D
Ac-228	523.70	339.36	675.	48.	0.053	400.10	1.637s
Pb-214	542.66	351.65	904.	7540.	8.378	4.06	1.483
Tl-208	788.26	510.84	458.	91.	0.101	104.96	1.509D
Tl-208	899.84	583.17	150.	19.	0.021	392.84	0.900s
Bi-214	939.41	608.82	284.	6370.	7.078	3.99	1.759
Cs-137	1020.86	661.62	170.	5.	0.006	1116.57	1.626D
Bi-212	1121.99	727.19	105.	40.	0.044	169.79	1.185
Pa-234m	1182.48	766.41	707.	13.	0.015	852.25	1.713D
Tl-210	1233.83	799.70	141.	28.	0.031	188.21	1.741D
Tl-208	1323.96	858.15	232.	41.	0.045	225.12	1.458
Ac-228	1405.56	911.06	176.	70.	0.078	158.46	1.389s

ORTEC Spectrum name: SMP HS 069_15 Min array down Col

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1494.79	968.93	63.	26.	0.029	142.26	1.255
Pa-234m	1543.70	1000.65	96.	25.	0.028	195.35	0.878s
Bi-214	1727.48	1119.83	171.	1428.	1.587	9.52	2.009
Tl-210	2016.91	1307.59	36.	5.	0.005	566.14	0.670s
K-40	2252.37	1460.35	86.	356.	0.395	22.51	2.292s
Bi-212	2495.44	1618.08	27.	8.	0.009	325.84	1.338s
Bi-214	2720.78	1764.32	21.	923.	1.026	10.24	2.523
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor


SMP HS 069_15 Min array down Colim@6Det@Pos4
smp hs 69 array down Coli@6Det@Pos4 10_15_07
10000
1000
100
10
Counts
0.00
664.00
1328.00
1992.00
2657.00
Energy (keV)
Acquired: 10/15/2007 11:40:35 AM
Real Time: 913.08 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam
Channels: 4096
& Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 070 15 Min Colim@6Det@Pos

Sample description
SMP HS 070 array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 070 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 17-Oct-2007 11:36:54
Live time: 900
Real time: 912
Dead time: 1.27 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM46FD~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 070 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2011

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
33.26	21.56	115.	50.	0.056	127.63	1.440	TC-99M	s
117.93	76.42	634.	264.	0.293	69.75	0.908	PB-214	s
129.29	83.86	387.	88.	0.097	100.61	1.222	TA-182	D
134.18	87.02	534.	175.	0.195	60.30	1.224	BI-207	D
153.24	99.30	430.	90.	0.100	133.12	1.434	AC-228	
423.54	274.45	496.	116.	0.129	131.77	1.423	SR-91	s
598.63	387.92	390.	131.	0.146	113.84	1.681	RH-106M	sM
740.75	480.04	172.	84.	0.093	109.73	1.458	W-187	sM
787.65	510.65	265.	114.	0.127	66.85	1.509	TL-208	D
822.64	533.12	87.	66.	0.073	92.49	2.386	ND-147	sM
1026.06	664.99	99.	122.	0.136	47.27	1.674	PA-234	
1184.37	767.63	114.	394.	0.438	20.66	1.863	BI-214	s
1212.42	785.82	125.	74.	0.083	83.45	2.008	PB-214	M
1243.32	805.88	94.	86.	0.095	57.83	1.746	BI-214	D
1293.24	838.24	108.	55.	0.061	89.46	1.774	J-135	D
1304.88	845.79	80.	22.	0.025	180.80	1.781	KR-87	D
1440.33	933.61	145.	204.	0.227	39.23	1.988	BI-214	s
1547.26	1002.95	44.	15.	0.016	215.23	1.464	TB-160	s
1781.62	1154.96	48.	106.	0.118	44.75	2.104	BI-214	sM
1909.09	1237.64	85.	292.	0.324	25.29	2.180	J-133	sM
1975.14	1280.49	57.	94.	0.105	56.13	2.447	BI-214	M
2123.97	1377.04	67.	184.	0.205	33.70	1.844	BI-214	
2170.85	1407.46	44.	110.	0.122	42.43	2.324	BI-214	
2326.31	1508.32	40.	123.	0.137	40.37	2.532	BI-214	

ORTEC Spectrum name: SMP HS 070 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2666.82	1729.30	12.	146.	0.162	29.89	2.708	BI-214	s
2848.37	1847.14	12.	75.	0.083	44.36	2.402	BI-214	s
3265.00	2117.61	0.	55.	0.061	40.45	1.515	BI-214	s
3398.37	2204.20	0.	160.	0.178	23.72	2.191	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

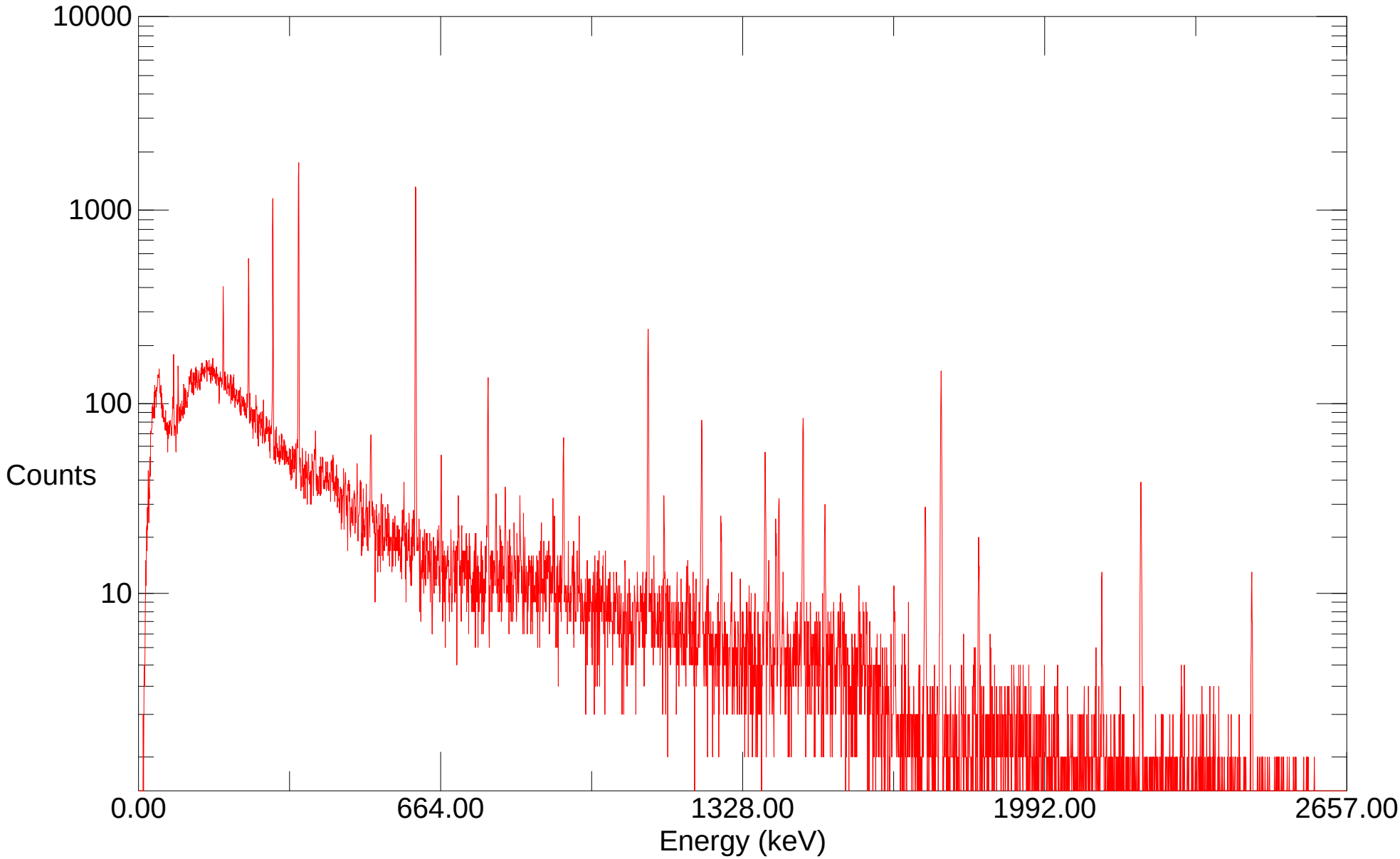
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.33	9.95	1.	1.	0.001	509.90	0.510s
Pb-210	70.25	45.53	732.	18.	0.020	904.62	0.480s
Th-234	97.63	63.27	250.	31.	0.034	270.45	1.058
Th-234	142.00	92.02	262.	10.	0.012	574.46	0.000s
Ra-226	287.01	185.98	1080.	628.	0.698	38.71	1.291
Pb-212	368.26	238.63	560.	64.	0.072	160.28	1.318D
Pb-214	373.43	241.98	623.	1103.	1.225	13.18	1.320D
Pb-214	455.57	295.21	438.	2460.	2.734	7.04	1.356D
Tl-210	459.88	298.00	1338.	7.	0.007	2340.66	1.358D
Pb-212	463.10	300.09	316.	32.	0.035	242.32	1.359D
Ac-228	523.83	339.45	298.	60.	0.066	188.54	0.737s
Pb-214	542.59	351.60	654.	4190.	4.655	5.67	1.481
Tl-208	788.26	510.84	343.	36.	0.041	220.90	1.509D
Tl-208	900.16	583.38	155.	78.	0.087	122.11	1.197s
Bi-214	939.42	608.83	240.	3701.	4.112	5.39	1.679
Cs-137	1020.84	661.61	79.	0.	0.000	3770.94	1.626
Bi-212	1122.37	727.44	80.	60.	0.067	116.19	1.920s
Pa-234m	1182.48	766.41	98.	0.	0.000	0.00	1.889D
Tl-210	1233.83	799.70	70.	30.	0.033	132.77	1.741D
Tl-208	1324.25	858.33	78.	65.	0.072	117.67	1.297s
Ac-228	1404.64	910.46	136.	56.	0.062	119.38	0.902s
Ac-228	1493.70	968.22	84.	29.	0.032	159.93	0.848s
Pa-234m	1543.94	1000.80	58.	0.	0.000	3231.10	1.921
Bi-214	1727.40	1119.79	136.	805.	0.894	13.46	1.985
Tl-210	2020.69	1310.04	33.	11.	0.012	263.71	0.534s
K-40	2252.83	1460.65	51.	310.	0.344	21.76	2.260
Bi-212	2500.00	1621.03	6.	0.	0.000	900.00	0.000s
Bi-214	2720.66	1764.24	9.	626.	0.696	12.33	2.396
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____ _____
Supervisor

SMP HS 070 15 Min Colim@6Det@Pos4

SMP HS 070 array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 11:36:54 AM Real Time: 911.56 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 071_15 Min Colim@6Det@Pos

Sample description
HS 071
Toggle switch in bag, Colimator at 6 inches, Detector at Pos 1

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 071_15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 06-Oct-2007 11:23:42
Live time: 900
Real time: 909
Dead time: 0.96 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM216E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	13-Sep-2007 12:00:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1518

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
117.76	76.31	976.	256.	0.284	88.07	1.261	PB-214	s
134.24	86.99	516.	157.	0.174	90.05	1.866	BI-207	s
171.40	111.06	749.	94.	0.104	187.85	1.152	PA-234	s
400.26	259.37	706.	166.	0.184	115.38	2.227	XE-138	s
424.20	274.88	585.	166.	0.184	105.12	1.939	SR-91	s
513.50	332.69	262.	96.	0.107	77.65	1.381	AU-196	D
702.38	455.17	250.	106.	0.118	113.42	2.372	TE-131	sM
713.35	462.28	189.	102.	0.113	99.37	1.603	CS-138	sM
741.06	480.24	184.	108.	0.119	93.49	2.239	W-187	sM
787.77	510.51	340.	63.	0.070	130.46	1.509	J-133	D
1026.56	665.27	125.	103.	0.114	54.86	1.629	BI-214	D
1084.96	703.18	94.	74.	0.083	98.16	1.207	RH-106M	sM
1185.09	768.10	187.	405.	0.450	23.73	1.902	BI-214	s
1211.78	785.40	138.	76.	0.085	84.66	1.711	BI-212	s
1243.28	805.80	106.	97.	0.107	54.52	1.746	PA-234	D
1259.82	816.56	36.	40.	0.044	101.73	2.161	LA-140	sM
1293.92	838.66	122.	58.	0.065	100.62	1.748	J-135	M
1440.87	933.95	165.	198.	0.220	42.19	1.679	BI-214	
1485.96	962.80	91.	43.	0.047	105.62	1.886	TB-160	D
1782.22	1155.34	91.	109.	0.121	54.85	2.652	BI-214	s
1909.91	1238.17	86.	309.	0.343	23.74	2.427	BI-214	
1975.57	1280.76	88.	84.	0.094	70.18	2.404	BI-214	
2125.22	1377.77	58.	226.	0.251	24.56	2.298	BI-214	D
2137.54	1385.75	45.	62.	0.069	59.73	2.306	AG-110M	D

ORTEC Spectrum name: SMP HS 071_15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2161.78	1401.70	48.	80.	0.089	49.65	2.323	BI-214	D
2171.63	1408.09	46.	121.	0.134	36.27	2.330	EU-152	D
2328.51	1509.75	67.	141.	0.157	44.03	1.328	BI-214	s
2667.22	1729.56	16.	119.	0.132	33.60	1.185	BI-214	s
2850.07	1848.24	20.	89.	0.099	42.50	2.380	BI-214	
3267.25	2119.07	5.	39.	0.044	56.51	2.084	BI-214	s
3398.98	2204.60	4.	182.	0.203	23.15	2.871	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

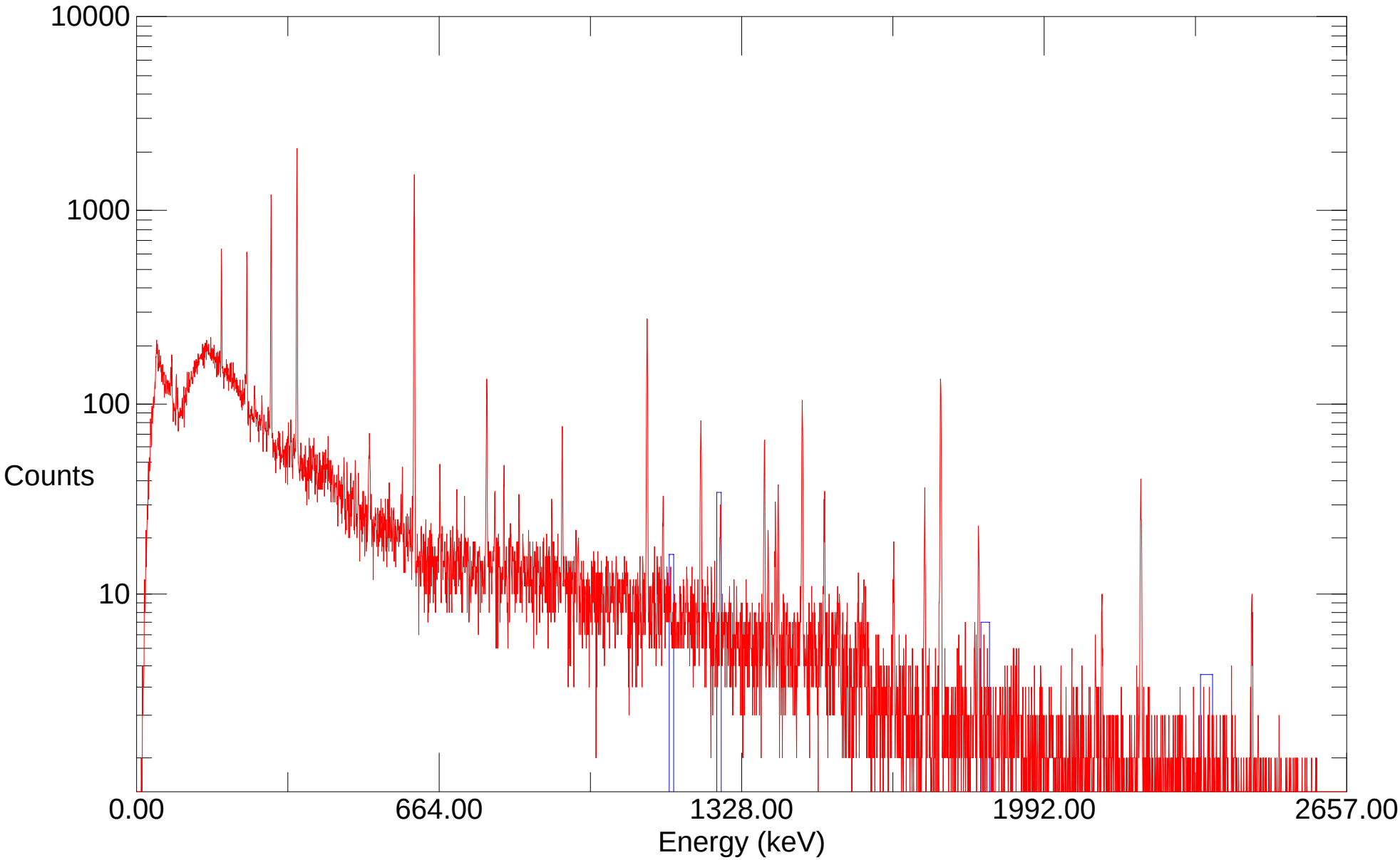
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.00	10.38	0.	1.	0.001	300.00	0.648
Pb-210	70.87	45.93	828.	88.	0.098	185.20	1.760s
Th-234	100.23	64.95	735.	32.	0.036	363.33	0.704
Th-234	142.69	92.46	392.	30.	0.034	368.59	1.492s
Ra-226	287.24	186.13	1274.	1126.	1.251	24.03	1.376
Pb-212	368.26	238.63	568.	0.	0.000	0.00	1.657D
Pb-214	373.28	241.88	922.	1164.	1.294	20.35	1.464
Pb-214	455.57	295.21	560.	2862.	3.180	6.61	1.356D
Tl-210	459.88	298.00	1772.	45.	0.050	400.77	1.358D
Pb-212	463.10	300.09	479.	20.	0.023	462.44	1.359D
Ac-228	522.09	338.32	410.	90.	0.100	100.96	1.385D
Pb-214	542.73	351.70	693.	4943.	5.492	5.13	1.479
Tl-208	788.26	510.84	335.	68.	0.075	120.44	1.509D
Tl-208	899.93	583.23	136.	74.	0.082	111.32	1.356s
Bi-214	939.74	609.03	230.	4064.	4.516	5.11	1.613
Cs-137	1020.86	661.62	115.	19.	0.022	243.72	1.626D
Bi-212	1122.06	727.23	52.	44.	0.048	115.35	2.807s
Pa-234m	1182.48	766.41	194.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	53.	1.	0.001	3105.81	1.741D
Tl-208	1325.13	858.90	103.	38.	0.043	142.00	1.202s
Ac-228	1405.79	911.21	89.	50.	0.055	97.04	1.439
Ac-228	1495.08	969.11	91.	38.	0.042	117.03	1.892D
Pa-234m	1546.57	1002.50	93.	17.	0.019	278.75	1.235
Bi-214	1727.88	1120.09	91.	904.	1.004	11.46	2.067
Tl-210	2021.37	1310.48	58.	19.	0.021	234.62	0.677s
K-40	2253.01	1460.77	72.	392.	0.436	19.96	2.291
Bi-212	2500.00	1621.03	4.	0.	0.001	807.77	0.000s
Bi-214	2721.57	1764.83	26.	593.	0.659	13.50	2.635
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 071_15 Min Colim@6Det@Pos1
HS 071
Toggle switch in bag, Colimator at 6 inches, Detector at Pos 1



Acquired: 10/6/2007 11:23:42 AM Real Time: 908.74 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 072_15 Min Colim@6Det@Pos

Sample description
HS 072
Toggle switch in bag, Colimator at 6 inches, Detector at Pos 1

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 072_15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 06-Oct-2007 11:47:07
Live time: 900
Real time: 909
Dead time: 0.94 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SME06E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 072_15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	13-Sep-2007 12:00:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1249

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.34	43.80	1504.	201.	0.223	84.63	1.199	EU-155	D
114.49	74.12	1156.	195.	0.217	76.89	1.217	BI-207	D
119.25	77.21	963.	403.	0.447	35.95	1.218	PB-214	D
134.74	87.20	789.	213.	0.236	59.73	1.224	BI-207	D
139.43	90.24	923.	95.	0.105	139.63	1.226	PB-214	D
398.90	258.48	1320.	240.	0.267	112.92	2.299	XE-138	s
423.35	274.33	792.	272.	0.302	71.75	2.297	SR-91	s
701.56	454.64	356.	108.	0.121	125.61	1.314	TE-131	sM
741.90	480.79	310.	86.	0.095	148.59	0.986	W-187	sM
788.64	510.93	419.	163.	0.181	58.10	1.509	TL-208	D
798.71	517.46	237.	71.	0.079	98.60	1.514	-	D
894.64	579.95	226.	89.	0.098	78.83	1.562	KR-89	D
900.11	583.49	205.	81.	0.090	81.91	1.564	TL-208	D
1026.63	665.36	242.	230.	0.256	40.33	1.916	BI-214	s
1083.81	702.43	185.	74.	0.082	139.50	1.589	NB-94	s
1185.21	768.18	258.	708.	0.787	16.99	1.666	BI-214	s
1212.00	785.55	220.	117.	0.130	71.47	1.382	BI-212	M
1243.48	805.96	217.	165.	0.184	52.95	1.543	BI-214	
1275.86	826.95	126.	70.	0.077	128.90	0.863	PA-234	sM
1294.05	838.75	116.	64.	0.071	114.10	2.257	J-135	sM
1440.79	933.91	215.	368.	0.409	27.29	1.472	BI-214	
1622.72	1051.89	99.	40.	0.044	127.17	1.962	CS-136	
1781.95	1155.17	131.	178.	0.198	41.68	2.057	BI-214	M
1909.83	1238.12	132.	500.	0.555	18.19	2.043	BI-214	M

ORTEC Spectrum name: SMP HS 072_15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1976.10	1281.11	82.	136.	0.151	43.11	1.376	BI-214	sM
2125.33	1377.56	94.	334.	0.371	20.50	2.298	BI-214	D
2137.76	1385.63	67.	68.	0.075	62.96	2.307	AG-110M	D
2161.33	1401.42	85.	113.	0.125	44.69	2.323	BI-214	D
2172.12	1408.43	86.	187.	0.208	30.36	2.330	EU-152	D
2327.33	1508.99	158.	174.	0.193	43.89	2.228	BI-214	
2441.81	1583.27	84.	102.	0.113	64.44	2.646	AC-228	
2459.75	1594.91	45.	39.	0.043	97.00	1.311	LA-140	s
2562.73	1661.74	56.	76.	0.084	66.21	2.578	BI-214	
2667.94	1730.02	30.	238.	0.264	24.18	2.216	BI-214	
2850.20	1848.32	21.	149.	0.166	30.73	2.542	BI-214	
3399.40	2204.87	4.	305.	0.339	17.69	2.844	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	71.75	46.50	1840.	108.	0.120	170.84	1.200D
Th-234	95.68	62.00	1396.	80.	0.088	301.03	1.395s
Th-234	143.21	92.80	946.	41.	0.046	318.51	1.228D
Ra-226	287.22	186.11	2060.	1279.	1.421	25.24	1.402s
Pb-212	368.26	238.63	906.	80.	0.089	163.15	1.318D
Pb-214	373.43	241.98	1154.	2181.	2.424	9.21	1.321D
Pb-214	455.57	295.21	885.	4630.	5.145	5.18	1.356D
Tl-210	459.88	298.00	2944.	32.	0.035	730.47	1.358D
Pb-212	463.10	300.09	540.	26.	0.029	380.62	1.359D
Ac-228	524.66	339.98	931.	37.	0.041	423.20	0.475s
Pb-214	542.77	351.72	1107.	8120.	9.022	3.98	1.497
Tl-208	788.26	510.84	545.	37.	0.041	273.23	1.509D
Tl-208	899.80	583.14	156.	0.	0.000	0.00	0.912D
Bi-214	939.76	609.04	340.	6835.	7.594	3.90	1.635
Cs-137	1020.81	661.59	138.	0.	0.000	4983.97	1.626
Bi-212	1121.34	726.77	93.	32.	0.036	188.44	2.109s
Pa-234m	1182.48	766.41	375.	0.	0.000	0.00	0.000D
Tl-210	1234.01	799.82	81.	0.	0.000	3822.53	1.741
Tl-208	1328.04	860.79	144.	74.	0.082	133.35	1.551s
Ac-228	1406.56	911.70	196.	61.	0.068	122.46	1.421s
Ac-228	1495.81	969.58	145.	48.	0.054	133.37	2.464s
Pa-234m	1541.49	999.21	143.	40.	0.044	166.50	0.823s
Bi-214	1728.06	1120.22	183.	1523.	1.692	9.35	2.171
Tl-210	2021.80	1310.76	60.	8.	0.009	471.37	0.474s
K-40	2253.23	1460.91	82.	416.	0.462	19.16	2.323
Bi-212	2500.13	1621.12	36.	11.	0.012	297.51	1.186s

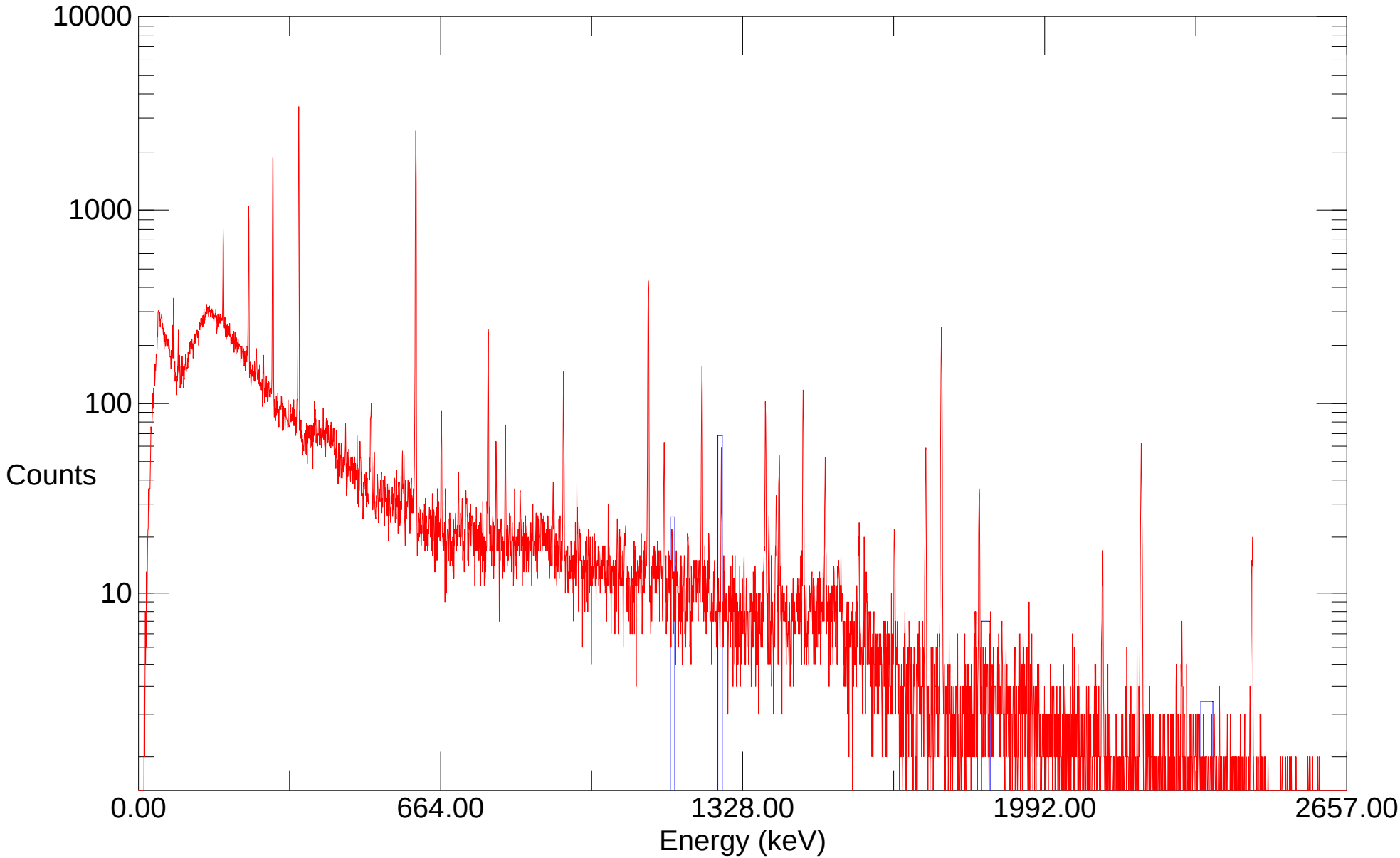
ORTEC Spectrum name: SMP HS 072_15 Min Colim@6Det@Pos

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	2721.77	1764.96	20.	1061.	1.179	9.63	2.446
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 072_15 Min Colim@6Det@Pos1
HS 072
Toggle switch in bag, Colimator at 6 inches, Detector at Pos 1



Acquired: 10/6/2007 11:47:07 AM Real Time: 908.52 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 073_15 Min Colim@6Det@Pos

Sample description
SMP HS073_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/13/2007

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 073_15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 08-Oct-2007 12:15:37
Live time: 900
Real time: 909
Dead time: 1.03 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMA06E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 073_15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0771

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
117.53	76.16	1744.	256.	0.284	111.03	1.887	BI-207	s
241.14	156.26	1068.	145.	0.161	137.50	1.976	TA-182	s
329.82	213.72	915.	165.	0.183	112.45	1.521	TB-160	s
398.70	258.36	888.	176.	0.196	115.81	2.068	XE-138	s
701.76	454.77	310.	102.	0.114	124.53	1.956	TE-131	sM
788.11	510.50	455.	76.	0.084	124.22	1.509	J-133	D
917.46	594.59	150.	46.	0.052	173.57	1.124	J-134	
1026.51	665.41	189.	179.	0.198	39.67	1.629	BI-214	D
1084.64	702.97	160.	78.	0.087	123.92	1.962	RH-106M	s
1185.05	768.08	223.	526.	0.584	20.03	1.625	BI-214	s
1212.00	785.55	182.	145.	0.161	55.57	1.603	BI-212	s
1243.68	806.02	137.	149.	0.166	41.26	1.747	BI-214	D
1294.39	838.97	143.	87.	0.097	76.50	1.528	J-135	sM
1440.94	934.00	198.	360.	0.399	27.05	1.952	BI-214	s
1781.48	1154.87	133.	180.	0.200	43.17	2.187	BI-214	s
1838.35	1191.75	72.	40.	0.044	120.00	2.076	TA-182	s
1909.85	1238.13	139.	509.	0.566	19.01	2.544	BI-214	s
1976.40	1281.31	108.	180.	0.200	41.72	1.453	BI-214	s
2125.51	1377.97	73.	285.	0.317	21.85	2.298	BI-214	D
2136.79	1385.29	55.	78.	0.087	52.68	2.306	AG-110M	D
2160.68	1400.86	94.	102.	0.114	49.84	2.322	BI-214	D
2172.18	1408.33	89.	162.	0.180	34.16	2.330	EU-152	D
2327.56	1509.14	78.	172.	0.191	36.81	2.617	BI-214	
2372.24	1538.13	55.	28.	0.031	132.20	1.546	RB-89	s

ORTEC Spectrum name: SMP HS 073_15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2562.44	1661.55	35.	94.	0.104	50.61	2.482	BI-214 s
2667.71	1729.88	25.	224.	0.249	25.17	3.157	BI-214
2849.77	1848.05	20.	126.	0.139	32.71	2.525	BI-214
3399.33	2204.83	10.	262.	0.292	20.11	3.279	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

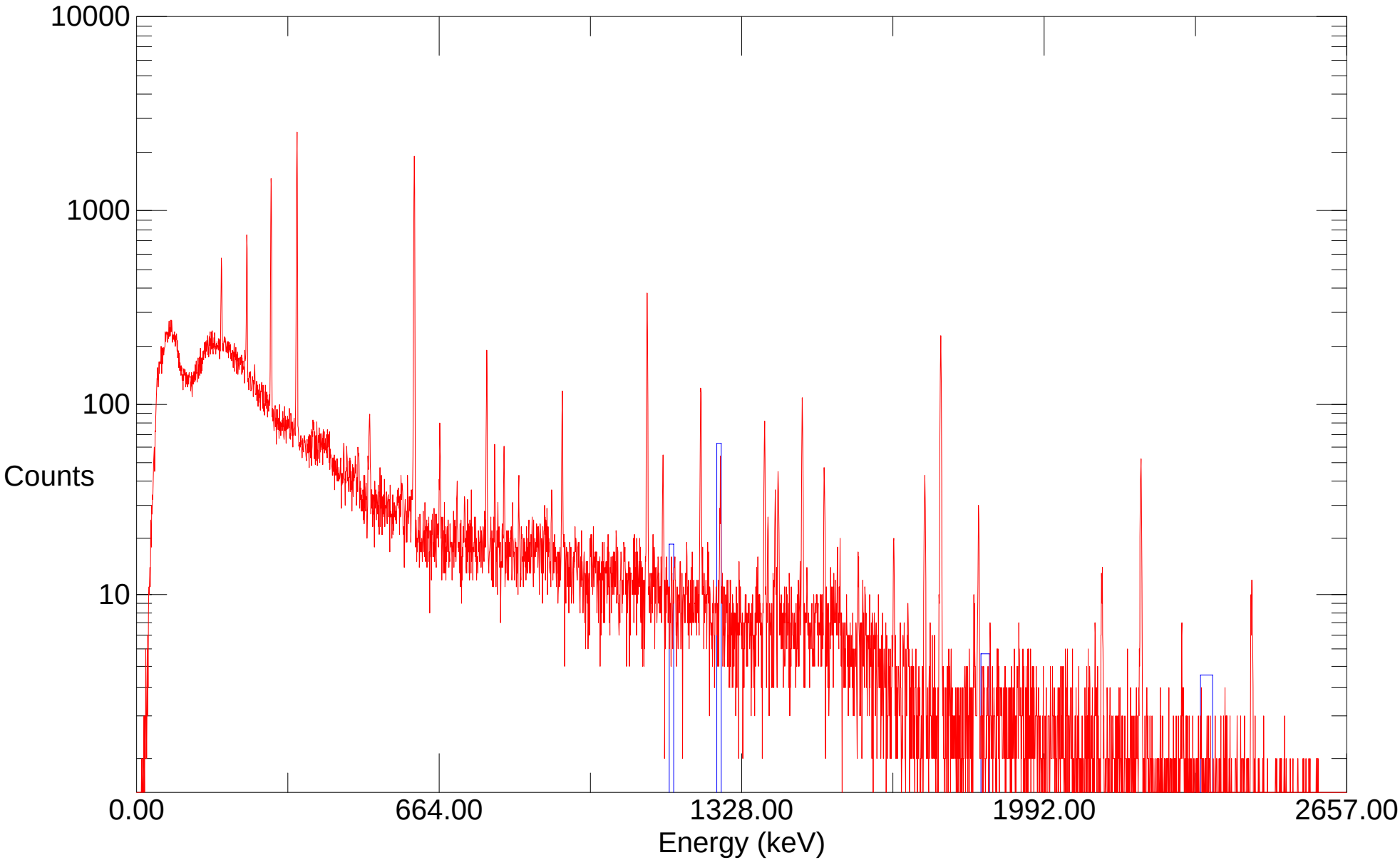
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	0.	1.	0.001	300.00	0.648
Pb-210	69.83	45.25	892.	126.	0.140	161.24	2.461s
Th-234	97.19	62.98	1206.	27.	0.030	773.88	0.614s
Th-234	140.87	91.28	1300.	93.	0.103	261.93	0.879
Ra-226	287.13	186.06	1706.	1190.	1.323	25.91	1.826s
Pb-212	368.26	238.63	1196.	96.	0.107	155.63	1.318D
Pb-214	373.43	241.98	1301.	1566.	1.740	12.37	1.321D
Pb-214	455.57	295.21	1260.	3642.	4.046	6.47	1.356D
Tl-210	459.88	298.00	2494.	58.	0.064	368.83	1.358D
Pb-212	463.10	300.09	560.	37.	0.042	272.91	1.359D
Ac-228	523.74	339.39	536.	74.	0.082	212.75	1.464s
Pb-214	542.68	351.66	951.	7291.	8.101	4.18	1.784s
Tl-208	788.26	510.84	412.	119.	0.132	77.47	1.509D
Tl-208	898.09	582.03	240.	88.	0.098	133.26	1.250s
Bi-214	939.70	609.01	405.	6026.	6.696	4.30	1.991s
Cs-137	1020.86	661.62	163.	30.	0.034	187.67	1.626D
Bi-212	1119.41	725.52	91.	39.	0.043	162.91	0.836s
Pa-234m	1182.48	766.41	387.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	67.	10.	0.011	376.83	1.741D
Tl-208	1326.87	860.03	78.	30.	0.033	184.93	1.250
Ac-228	1405.51	911.02	172.	80.	0.089	91.55	2.563s
Ac-228	1495.73	969.53	112.	39.	0.044	140.04	2.066s
Pa-234m	1543.00	1000.19	36.	0.	0.000	2204.54	0.162s
Bi-214	1728.05	1120.21	149.	1313.	1.459	9.86	2.152
Tl-210	2017.76	1308.14	64.	17.	0.019	255.12	0.603s
K-40	2253.07	1460.80	140.	422.	0.469	23.06	2.522
Bi-212	2499.43	1620.66	33.	27.	0.030	128.10	1.226s
Bi-214	2721.80	1764.98	33.	995.	1.105	10.30	2.590
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____ _____
Supervisor

SMP HS 073_15 Min Colim@6Det@Pos1
SMP HS073_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/13/2007



Acquired: 10/8/2007 12:15:37 PM Real Time: 909.40 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 074 15 Min Colim@6Det@Pos

Sample description
SMP HS 074 array down Coli@6Det@Pos4 10_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 074 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 18-Oct-2007 10:51:14
Live time: 900
Real time: 916
Dead time: 1.72 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4DED~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 074 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1572

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
36.36	23.57	1362.	99.	0.110	225.69	1.620	TC-99M	s
118.03	76.48	3614.	3975.	4.417	13.31	1.012	PB-214	s
134.61	87.22	1777.	1100.	1.222	18.60	1.224	BI-207	D
138.77	89.92	2442.	444.	0.494	49.30	1.226	PB-214	D
398.35	258.13	1683.	242.	0.269	120.82	0.810	XE-138	s
423.80	274.62	1595.	282.	0.313	105.59	1.528	SR-91	s
598.31	387.71	820.	273.	0.303	79.19	1.464	-	sM
625.07	405.06	378.	84.	0.094	133.11	1.544	J-134	M
710.83	460.64	585.	151.	0.168	120.21	2.225	J-134	sM
740.08	479.60	360.	132.	0.146	95.54	1.753	W-187	sM
750.95	486.56	392.	154.	0.171	59.57	1.491	LA-140	D
761.30	493.27	385.	69.	0.077	125.52	1.496	TE-131	D
787.75	510.54	613.	152.	0.168	73.47	1.509	J-133	D
896.38	580.92	310.	156.	0.173	86.35	1.469	TL-208	s
1025.94	664.79	248.	322.	0.358	26.63	1.629	PA-234	D
1084.61	702.95	184.	142.	0.158	68.85	2.408	RH-106M	sM
1110.49	719.73	236.	120.	0.134	101.37	1.540	SB-126	s
1142.43	740.44	170.	150.	0.167	70.72	3.053	MO-99	sM
1160.62	752.24	195.	118.	0.131	101.07	1.688	LA-140	sM
1184.69	767.84	268.	956.	1.062	13.50	1.874	BI-214	
1212.00	785.55	314.	152.	0.169	65.28	1.832	BI-212	
1243.25	805.55	196.	258.	0.286	29.71	1.746	PA-234	D
1258.98	816.01	102.	44.	0.049	144.96	1.831	LA-140	M
1294.40	838.97	240.	150.	0.166	57.69	1.859	J-135	M

ORTEC Spectrum name: SMP HS 074 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1375.48	891.55	122.	42.	0.046	176.00	0.834	-	s
1440.29	933.58	256.	497.	0.553	21.81	1.993	BI-214	
1486.52	963.30	197.	69.	0.076	93.94	1.886	EU-152	D
1621.62	1051.18	147.	45.	0.050	138.25	1.284	-	
1747.57	1132.87	152.	78.	0.087	90.52	0.951	J-135	s
1780.97	1154.54	211.	232.	0.258	40.93	1.911	BI-214	s
1847.67	1197.92	67.	36.	0.040	107.42	2.111	RH-106M	D
1862.30	1207.40	107.	84.	0.094	61.25	2.121	-	D
1909.16	1237.68	195.	727.	0.808	16.02	2.304	J-133	
1974.72	1280.22	173.	192.	0.214	45.64	1.492	BI-214	
2124.51	1377.36	99.	478.	0.531	16.33	2.297	BI-214	D
2135.81	1384.69	100.	89.	0.099	57.26	2.305	AG-110M	D
2160.88	1400.93	129.	162.	0.179	38.09	2.322	BI-214	D
2171.40	1407.76	107.	284.	0.316	23.57	2.330	BI-214	D
2327.37	1509.01	110.	242.	0.269	30.52	2.337	BI-214	
2374.38	1539.51	104.	106.	0.118	62.48	1.568	RB-89	s
2441.52	1583.09	62.	76.	0.084	63.89	1.041	-	s
2561.08	1660.67	48.	156.	0.174	36.09	2.481	BI-214	s
2667.03	1729.44	34.	303.	0.337	20.61	2.672	BI-214	
2848.97	1847.52	33.	228.	0.253	25.42	2.213	BI-214	
2914.17	1889.85	9.	18.	0.020	104.53	1.636	-	s
3398.22	2204.11	7.	405.	0.450	15.53	2.379	BI-214	
3535.95	2293.54	2.	31.	0.034	58.87	2.056	-	s
3773.80	2448.02	0.	133.	0.148	26.01	1.980	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	34.	7.	0.008	365.93	0.000s
Pb-210	71.93	46.62	1407.	136.	0.151	167.47	1.158s
Th-234	95.77	62.07	1540.	58.	0.064	301.36	0.811
Th-234	143.21	92.80	1420.	0.	0.000	15987.50	1.228D
Ra-226	287.23	186.12	3231.	2256.	2.507	18.82	1.187
Pb-212	368.26	238.63	1145.	0.	0.000	0.00	0.702D
Pb-214	373.21	241.84	1470.	3195.	3.550	9.30	1.305
Pb-214	455.57	295.21	1074.	7315.	8.127	3.99	1.356D
Tl-210	459.88	298.00	3779.	58.	0.064	454.98	1.358D
Pb-212	463.10	300.09	1186.	24.	0.027	612.56	1.359D
Ac-228	522.70	338.71	492.	54.	0.061	232.12	1.303
Pb-214	542.63	351.63	1261.	12048.	13.386	3.11	1.416
Tl-208	788.26	510.84	633.	132.	0.147	85.07	1.509D
Tl-208	899.80	583.14	213.	0.	0.000	0.00	2.679D
Bi-214	939.45	608.85	481.	9815.	10.906	3.25	1.655

ORTEC Spectrum name: SMP HS 074 15 Min Colim@6Det@Pos

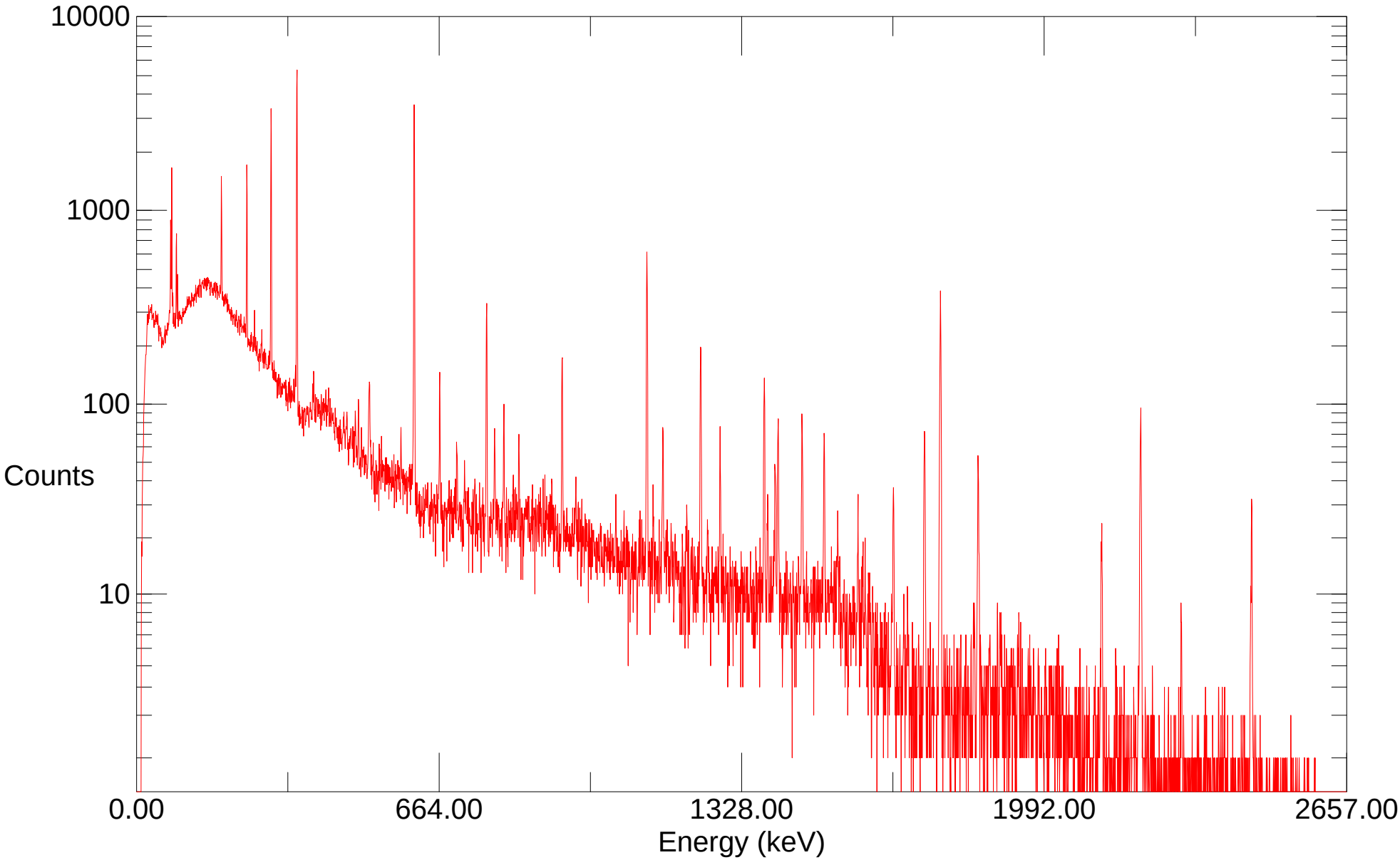
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Cs-137	1020.86	661.62	251.	22.	0.024	316.40	1.626D
Bi-212	1121.96	727.17	192.	0.	0.000	0.00	0.000D
Pa-234m	1182.48	766.41	667.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	177.	24.	0.027	238.04	1.741D
Tl-208	1323.41	857.79	176.	41.	0.046	222.06	0.561s
Ac-228	1406.00	911.34	182.	108.	0.119	100.13	1.425s
Ac-228	1495.08	969.11	121.	26.	0.028	192.54	1.892D
Pa-234m	1546.04	1002.16	110.	17.	0.019	276.35	1.030s
Bi-214	1727.44	1119.81	221.	2052.	2.280	7.82	2.055
Tl-210	2025.81	1313.36	102.	24.	0.027	227.07	0.719s
K-40	2252.62	1460.51	180.	289.	0.321	33.94	2.009
Bi-212	2502.97	1622.96	35.	20.	0.022	159.69	1.853
Bi-214	2720.79	1764.32	33.	1534.	1.704	8.03	2.407
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 074 15 Min Colim@6Det@Pos4

SMP HS 074 array down Coli@6Det@Pos4 10_18_07



Acquired: 10/18/2007 10:51:14 AM Real Time: 915.74 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 075 15 Min Colim@6Det@Pos

Sample description
SMP HS 75 down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 075 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time:	15-Oct-2007 15:08:18
Live time:	900
Real time:	908
Dead time:	0.88 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM00EF~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2218

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.45	74.84	610.	391.	0.435	30.76	1.217	BI-207	D
119.03	77.16	589.	554.	0.616	22.52	1.218	PB-214	D
134.44	87.12	465.	218.	0.242	62.73	1.411	BI-207	
397.76	257.75	370.	158.	0.176	92.59	1.062	XE-138	s
424.86	275.31	276.	126.	0.141	87.80	2.995	ND-147	s
788.27	510.78	227.	34.	0.038	192.11	1.509	TL-208	D
1025.89	665.01	70.	79.	0.088	56.03	1.629	PA-234	D
1184.61	767.79	103.	207.	0.230	33.92	2.423	BI-214	s
1243.10	805.77	62.	60.	0.067	67.84	1.746	PA-234	D
1439.92	933.34	82.	100.	0.111	57.14	1.521	BI-214	
1781.91	1155.14	48.	104.	0.115	47.61	2.921	BI-214	s
1862.50	1207.42	22.	18.	0.020	136.52	1.647	-	s
1909.14	1237.67	72.	190.	0.211	34.52	2.394	J-133	
1974.62	1280.15	25.	59.	0.066	57.00	2.118	BI-214	
2124.22	1377.20	32.	126.	0.140	38.16	2.647	BI-214	s
2327.32	1508.98	15.	43.	0.048	63.56	2.124	BI-214	
2666.59	1729.15	0.	64.	0.071	37.50	2.141	BI-214	
2848.07	1846.94	2.	37.	0.041	52.54	1.818	BI-214	s
3398.08	2204.02	4.	92.	0.103	35.12	2.703	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

ORTEC Spectrum name: SMP HS 075 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

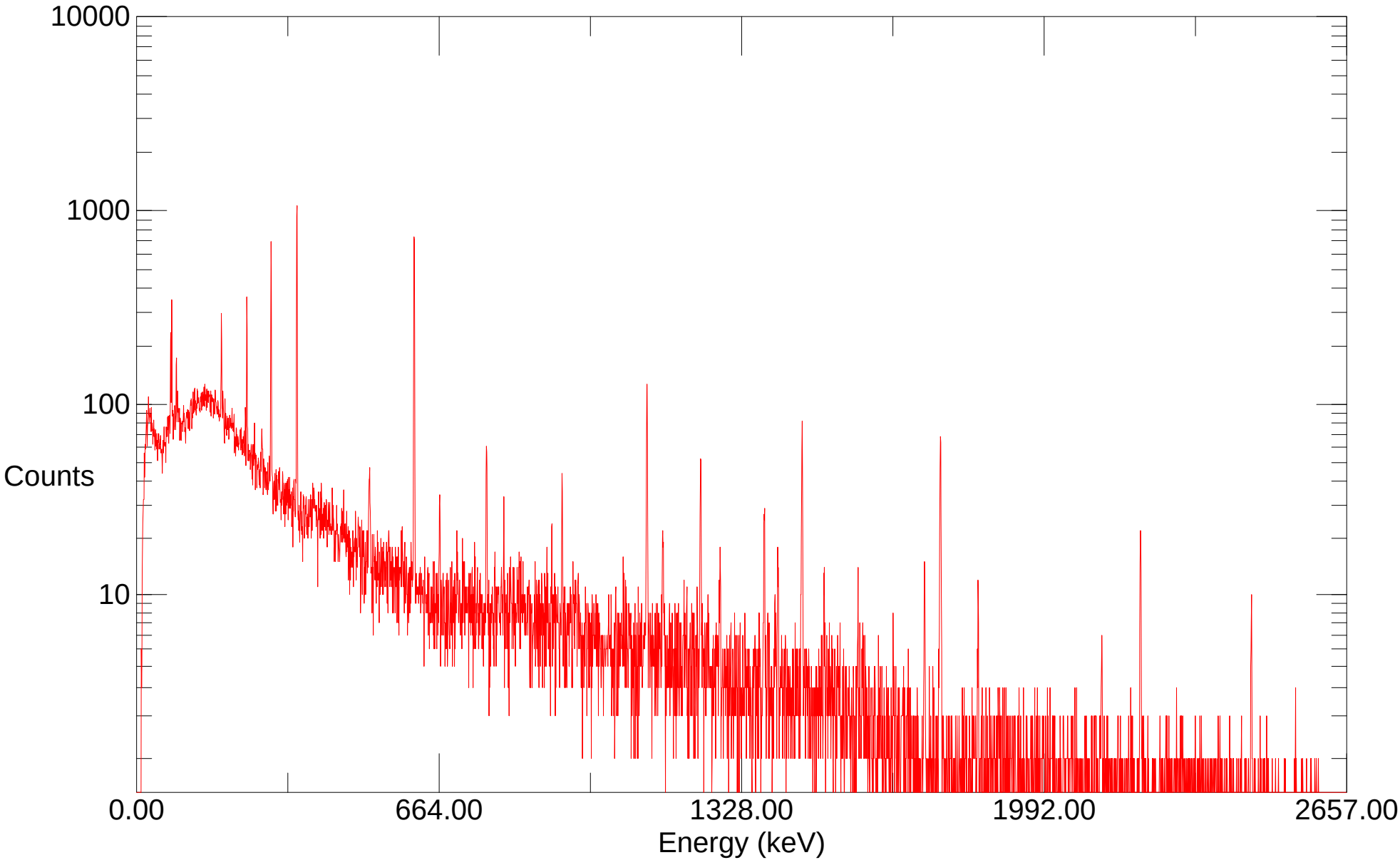
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.56	10.74	11.	2.	0.002	649.85	0.532s
Pb-210	73.34	47.53	330.	50.	0.056	222.08	1.215s
Th-234	94.89	61.49	477.	81.	0.090	192.61	1.042s
Th-234	144.80	93.83	292.	31.	0.034	291.45	0.760
Ra-226	287.14	186.06	684.	450.	0.500	41.47	1.231s
Pb-212	368.26	238.63	382.	91.	0.101	96.92	1.318D
Pb-214	373.43	241.98	364.	661.	0.735	16.91	1.321D
Pb-214	455.57	295.21	268.	1473.	1.637	9.13	1.356D
Tl-210	459.88	298.00	747.	23.	0.026	502.73	1.358D
Pb-212	463.10	300.09	288.	0.	0.000	7200.00	1.359D
Ac-228	522.77	338.76	156.	26.	0.029	294.17	0.889s
Pb-214	542.61	351.62	310.	2528.	2.809	6.98	1.477
Tl-208	788.26	510.84	203.	58.	0.065	110.95	1.509D
Tl-208	899.75	583.11	77.	28.	0.031	207.34	1.361
Bi-214	939.40	608.81	130.	2083.	2.314	7.16	1.698
Cs-137	1020.86	661.62	54.	0.	0.000	3113.00	1.626D
Bi-212	1121.95	727.16	39.	7.	0.008	389.32	1.612
Pa-234m	1182.48	766.41	98.	0.	0.000	0.00	2.407D
Tl-210	1233.83	799.70	41.	19.	0.021	156.25	1.741D
Tl-208	1326.13	859.55	66.	35.	0.039	130.84	2.675s
Ac-228	1405.10	910.76	66.	52.	0.058	89.19	1.421
Ac-228	1495.70	969.51	70.	21.	0.024	207.97	1.813
Pa-234m	1541.45	999.18	28.	11.	0.012	223.24	0.983s
Bi-214	1727.56	1119.89	87.	430.	0.478	19.46	1.932
Tl-210	2022.00	1310.89	6.	0.	0.000	900.00	0.324s
K-40	2252.28	1460.29	34.	255.	0.283	22.23	1.728
Bi-212	2497.12	1619.17	9.	13.	0.015	143.68	0.901s
Bi-214	2720.66	1764.24	11.	291.	0.324	18.72	2.466
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 075 15 Min Colim@6Det@Pos1

SMP HS 75 down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 3:08:18 PM Real Time: 908.00 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 076_15 Min Colim@6Det@Pos

Sample description
HS 076
Small Piece of Plastic in bag, Colimator at 6 inches, Detector a

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 076_15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 06-Oct-2007 13:29:07
Live time: 900
Real time: 932
Dead time: 3.42 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SME16E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 076_15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	13-Sep-2007 12:00:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1222

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.62	44.05	7211.	1793.	1.992	21.30	1.199	EU-155	D
77.55	50.49	6684.	842.	0.935	42.48	1.203	EU-155	D
81.27	52.90	7908.	630.	0.700	61.09	1.204	LU-177	D
94.56	61.44	5664.	296.	0.328	109.44	1.209	AM-241	D
115.45	74.86	5521.	1469.	1.633	22.84	1.217	BI-207	D
119.13	77.24	6050.	2419.	2.688	14.94	1.218	PB-214	D
129.39	83.82	3432.	286.	0.318	88.57	1.222	TA-182	D
134.67	87.24	3951.	1226.	1.362	23.38	1.224	BI-207	D
138.90	89.98	3253.	433.	0.481	57.76	1.226	PB-214	D
312.19	202.29	4072.	196.	0.217	184.46	1.486	U-235	
386.11	250.19	2262.	210.	0.234	128.50	1.798	XE-135	s
399.25	258.71	4690.	724.	0.804	70.40	1.644	XE-138	s
413.99	268.27	2905.	158.	0.176	218.40	1.476	AC-228	
423.60	274.49	4504.	694.	0.772	74.79	1.774	SR-91	s
470.77	305.14	2494.	75.	0.084	283.64	1.362	BA-140	D
596.36	386.45	1298.	302.	0.336	53.48	1.419	-	D
600.10	388.87	2180.	410.	0.455	50.54	1.420	RH-106M	D
626.32	405.87	2174.	280.	0.311	118.72	2.096	RH-106M	sM
660.45	427.99	1290.	147.	0.163	148.67	0.944	SB-125	M
701.45	454.57	1144.	240.	0.266	91.96	1.586	TE-131	M
712.18	461.52	1525.	281.	0.312	103.68	1.426	CS-138	sM
725.09	469.88	1024.	109.	0.121	127.62	1.479	-	D
732.08	474.41	1143.	116.	0.129	126.83	1.482	RH-106M	D
741.15	480.29	1082.	325.	0.361	46.08	1.486	W-187	D

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
751.39	486.93	1064.	331.	0.368	44.97	1.491	LA-140	D
787.82	510.58	1464.	340.	0.378	50.47	1.509	TL-208	D
823.13	533.44	738.	180.	0.201	98.38	1.962	ND-147	sM
837.07	542.48	990.	195.	0.217	120.50	0.829	-	sM
895.18	580.06	626.	256.	0.284	45.58	1.562	TL-208	D
1026.42	665.24	659.	925.	1.028	15.36	1.629	BI-214	D
1037.43	672.38	556.	67.	0.074	154.27	1.635	PA-234	D
1084.56	702.92	724.	377.	0.419	39.23	2.242	RH-106M	sM
1110.95	719.85	750.	315.	0.350	71.05	1.798	SB-126	s
1144.25	741.62	638.	198.	0.220	99.87	1.355	PA-234	s
1159.69	751.63	560.	163.	0.181	109.24	1.371	LA-140	s
1185.39	768.20	702.	2555.	2.839	7.39	1.714	BI-214	D
1212.54	785.90	637.	620.	0.689	23.28	2.268	PB-214	sM
1243.79	806.11	594.	676.	0.751	19.15	1.747	BI-214	D
1266.68	820.92	567.	117.	0.130	90.52	1.759	PA-234	D
1274.51	825.99	496.	81.	0.090	120.87	1.764	PA-234	D
1294.47	839.02	672.	272.	0.303	50.04	1.411	J-135	M
1441.02	934.05	952.	1522.	1.691	13.96	1.882	BI-214	
1487.76	964.38	525.	211.	0.235	50.39	1.887	AC-228	D
1612.96	1045.45	432.	49.	0.054	186.33	1.963	RH-106M	D
1623.15	1052.06	448.	130.	0.144	74.02	1.969	-	D
1651.29	1070.42	544.	154.	0.171	84.29	2.490	J-134	s
1748.82	1133.68	425.	141.	0.156	78.24	1.329	J-135	M
1782.02	1155.21	558.	699.	0.777	21.70	2.322	BI-214	sM
1862.55	1207.45	376.	187.	0.208	58.18	1.504	-	M
1910.03	1238.25	579.	2394.	2.660	8.60	2.064	CO-56	M
1975.97	1281.03	522.	602.	0.669	25.85	2.325	BI-214	sM
2125.35	1377.85	330.	1446.	1.607	9.52	2.298	BI-214	D
2137.26	1385.58	308.	308.	0.343	29.55	2.306	AG-110M	D
2161.98	1401.64	321.	476.	0.529	21.07	2.323	BI-214	D
2172.34	1408.36	322.	956.	1.062	12.56	2.331	EU-152	D
2328.27	1509.71	440.	714.	0.794	16.77	2.442	BI-214	D
2342.09	1518.68	267.	35.	0.039	202.88	2.452	KR-88	D
2373.78	1539.18	328.	164.	0.183	52.23	2.475	RB-89	D
2380.17	1543.33	398.	127.	0.141	71.68	2.480	-	D
2442.57	1583.77	253.	277.	0.308	34.14	2.269	AC-228	
2562.82	1661.80	209.	378.	0.420	29.20	2.612	BI-214	s
2613.24	1694.52	140.	123.	0.137	65.88	1.913	PA-234	s
2668.22	1730.21	172.	912.	1.013	13.85	2.615	BI-214	
2849.79	1848.06	108.	610.	0.678	15.72	2.573	BI-214	
2889.31	1873.71	64.	85.	0.094	58.74	2.171	-	
3268.31	2119.75	48.	336.	0.374	21.08	2.583	BI-214	
3399.81	2205.14	43.	1240.	1.377	9.28	2.822	BI-214	
3536.10	2293.65	3.	107.	0.119	30.95	2.986	-	
3775.32	2449.01	4.	391.	0.435	15.49	2.445	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 076_15 Min Colim@6Det@Pos

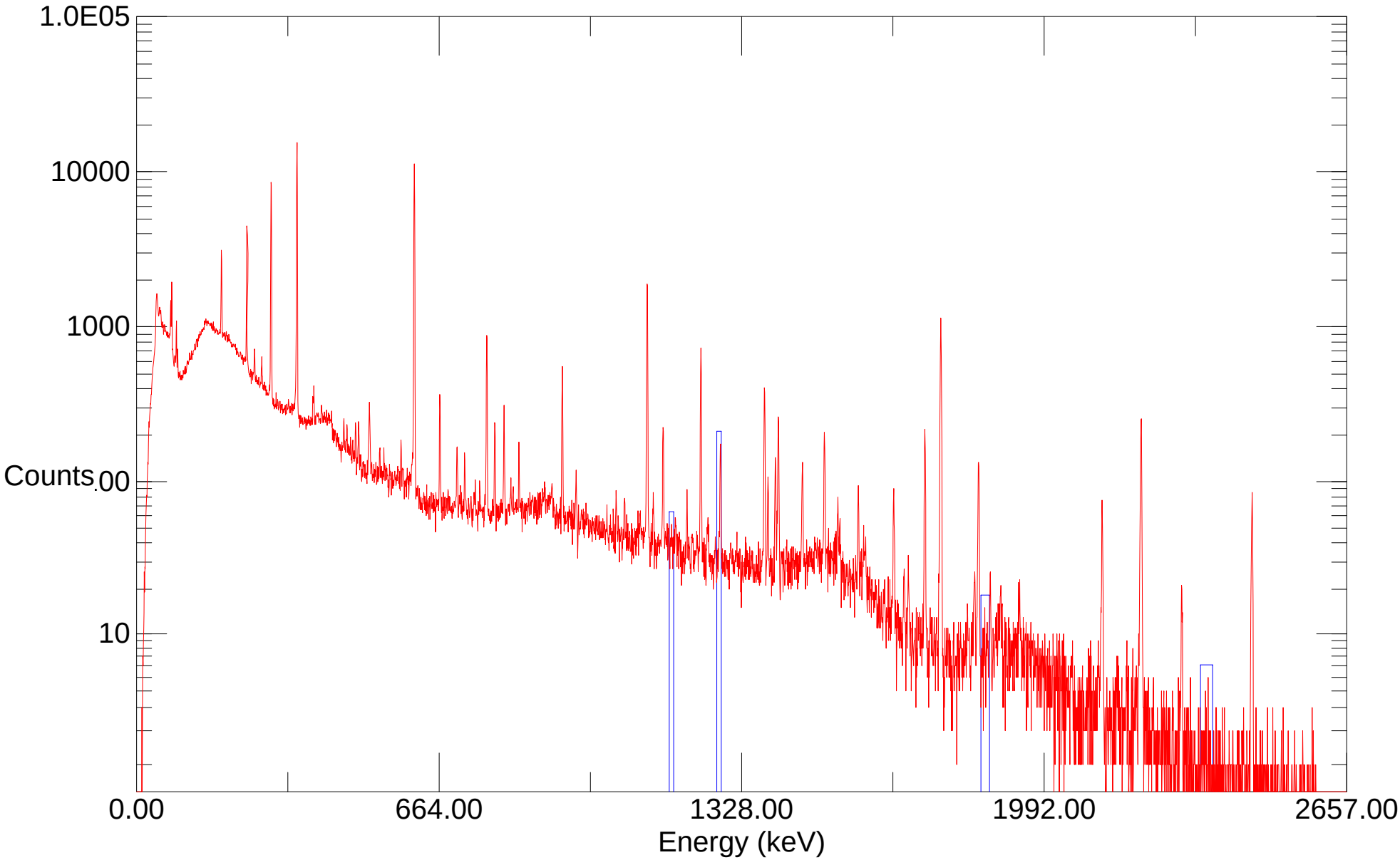
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	2.	1.	0.001	624.50	0.510s
Pb-210	71.75	46.50	8890.	1185.	1.317	34.87	1.200D
Th-234	97.66	63.29	6769.	118.	0.132	296.16	1.210D
Th-234	143.21	92.80	3494.	0.	0.000	25078.28	1.228D
Ra-226	287.17	186.08	8001.	5791.	6.434	11.56	1.516s
Pb-212	368.26	238.63	4583.	64.	0.071	448.23	1.318D
Pb-214	373.43	241.98	4541.	9704.	10.782	4.24	1.321D
Pb-214	455.57	295.21	3840.	21472.	23.857	2.39	1.356D
Tl-210	459.88	298.00	13119.	140.	0.156	348.13	1.358D
Pb-212	463.10	300.09	2744.	73.	0.081	306.82	1.359D
Ac-228	523.87	339.47	1647.	105.	0.117	233.75	0.810
Pb-214	542.81	351.75	4091.	38086.	42.318	1.78	1.570
Tl-208	788.26	510.84	1526.	278.	0.309	62.24	1.509D
Tl-208	899.80	583.14	863.	104.	0.116	123.20	1.564D
Bi-214	939.90	609.14	1563.	31231.	34.701	1.83	1.772
Cs-137	1020.86	661.62	384.	6.	0.007	1409.04	1.626D
Bi-212	1121.96	727.17	428.	0.	0.000	0.00	1.599D
Pa-234m	1182.48	766.41	2743.	139.	0.154	162.21	1.713D
Tl-210	1233.83	799.70	557.	54.	0.061	188.14	1.741D
Tl-208	1325.33	859.03	460.	81.	0.090	180.72	3.151s
Ac-228	1405.75	911.18	655.	149.	0.166	128.59	2.839s
Ac-228	1495.08	969.11	431.	41.	0.045	221.42	1.891D
Pa-234m	1544.33	1001.05	430.	36.	0.039	281.77	0.721s
Bi-214	1728.31	1120.38	770.	6580.	7.312	4.51	2.119
Tl-210	2019.67	1309.37	110.	0.	0.000	4062.02	0.462s
K-40	2253.80	1461.28	465.	448.	0.498	31.60	2.564
Bi-212	2502.16	1622.44	203.	38.	0.042	211.05	1.200s
Bi-214	2722.06	1765.15	106.	4918.	5.464	4.49	2.621
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 076_15 Min Colim@6Det@Pos1
HS 076
Small Piece of Plastic in bag, Colimator at 6 inches, Detector



Acquired: 10/6/2007 1:29:07 PM Real Time: 931.88 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 077 01_11_08.An1

Sample description
SMP HS 077 01_11_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 077 01_11_08.An1

Acquisition information
Start time: 11-Jan-2008 15:11:00
Live time: 900
Real time: 910
Dead time: 1.08 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 077 01_11_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 077 01_11_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0936

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.65	53.56	1300.	164.	0.182	149.33	1.719	LU-177	s
115.45	74.85	2018.	1267.	1.408	17.24	1.217	BI-207	D
119.18	77.27	2190.	1858.	2.064	12.75	1.218	BI-207	D
134.68	87.27	1164.	668.	0.742	24.60	1.224	PB-214	D
138.74	89.90	1659.	224.	0.249	79.78	1.226	PB-214	D
399.35	258.78	657.	184.	0.204	86.46	1.443	XE-138	
424.00	274.75	1111.	282.	0.313	92.15	1.428	SR-91	s
701.47	454.58	296.	108.	0.120	110.69	1.868	TE-131	sM
712.28	461.59	424.	116.	0.129	137.94	1.949	CS-138	sM
741.65	480.69	301.	100.	0.111	79.35	1.487	W-187	D
750.59	486.49	232.	78.	0.086	89.81	1.491	LA-140	D
788.52	511.00	366.	298.	0.331	53.84	2.537	TL-208	s
895.14	580.07	148.	90.	0.100	65.57	1.562	TL-208	D
1026.48	665.25	182.	217.	0.241	33.28	1.629	BI-214	D
1083.41	702.17	192.	136.	0.152	81.87	1.569	NB-94	s
1110.68	720.08	145.	80.	0.089	71.93	1.674	SB-126	D
1185.26	768.15	158.	642.	0.713	14.48	1.714	BI-214	D
1212.09	785.61	186.	171.	0.190	47.37	1.785	BI-212	sM
1243.70	806.19	148.	210.	0.233	32.11	1.747	BI-214	D
1265.58	820.29	135.	62.	0.069	142.89	1.328	PA-234	sM
1294.14	838.80	203.	77.	0.085	97.35	1.400	J-135	M
1440.79	933.91	166.	380.	0.422	23.39	1.692	BI-214	
1781.47	1154.86	138.	180.	0.201	42.76	2.581	BI-214	sM
1909.90	1238.16	120.	580.	0.644	16.84	2.112	BI-214	M

ORTEC Spectrum name: SMP HS 077 01_11_08.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1976.34	1281.27	91.	171.	0.190	38.21	2.002	BI-214	M
2125.45	1377.85	87.	349.	0.388	19.62	2.298	BI-214	D
2137.06	1385.38	62.	67.	0.074	61.85	2.306	AG-110M	D
2161.98	1401.55	67.	126.	0.140	38.49	2.323	BI-214	D
2172.22	1408.19	85.	195.	0.217	29.33	2.330	EU-152	D
2328.12	1509.50	81.	184.	0.205	33.07	2.145	BI-214	
2380.36	1543.40	88.	27.	0.030	182.17	2.637	-	s
2443.88	1584.61	56.	106.	0.118	53.55	2.731	AC-228	s
2562.80	1661.79	50.	88.	0.098	59.50	2.264	BI-214	s
2667.94	1730.03	35.	187.	0.208	29.22	2.437	BI-214	
2849.82	1848.07	16.	148.	0.164	29.14	3.131	BI-214	
3267.10	2118.97	9.	88.	0.098	37.96	2.711	BI-214	
3399.68	2205.06	8.	307.	0.341	18.20	2.517	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	702.	320.	0.356	52.43	1.639s
Pb-210	71.70	46.47	1352.	246.	0.273	102.08	1.076s
Th-234	99.00	64.16	1125.	26.	0.029	550.47	0.000s
Th-234	143.21	92.80	1004.	33.	0.037	408.03	1.228D
Ra-226	287.32	186.18	1556.	1287.	1.430	22.20	1.380
Pb-212	368.26	238.63	548.	0.	0.000	0.00	1.183D
Pb-214	373.34	241.92	1012.	2241.	2.490	11.44	1.334
Pb-214	455.57	295.21	649.	4944.	5.494	4.79	1.356D
Tl-210	459.88	298.00	3012.	67.	0.075	347.50	1.358D
Pb-212	463.10	300.09	707.	68.	0.075	170.66	1.359D
Ac-228	523.26	339.08	634.	70.	0.077	257.52	3.145s
Pb-214	542.86	351.78	1079.	8277.	9.197	3.92	1.357
Tl-208	788.42	510.94	521.	0.	0.000	9684.01	1.509
Tl-208	899.80	583.14	243.	30.	0.033	229.11	1.564D
Bi-214	939.83	609.09	338.	7277.	8.086	3.77	1.589
Cs-137	1020.86	661.62	167.	0.	0.000	5481.24	1.626D
Bi-212	1121.96	727.17	110.	24.	0.027	193.19	1.680D
Pa-234m	1182.48	766.41	704.	15.	0.017	738.91	1.713D
Tl-210	1233.83	799.70	156.	31.	0.034	181.67	1.741D
Tl-208	1325.78	859.32	88.	38.	0.042	166.13	2.657s
Ac-228	1405.56	911.06	196.	78.	0.087	99.26	1.629s
Ac-228	1494.64	968.82	81.	22.	0.024	253.65	0.901s
Pa-234m	1543.00	1000.19	33.	0.	0.000	2110.69	0.324s
Bi-214	1728.18	1120.29	170.	1571.	1.746	9.00	2.203
Tl-210	2020.35	1309.82	39.	10.	0.011	291.13	1.519
K-40	2253.25	1460.92	99.	276.	0.307	28.18	2.144

ORTEC Spectrum name: SMP HS 077 01_11_08.An1

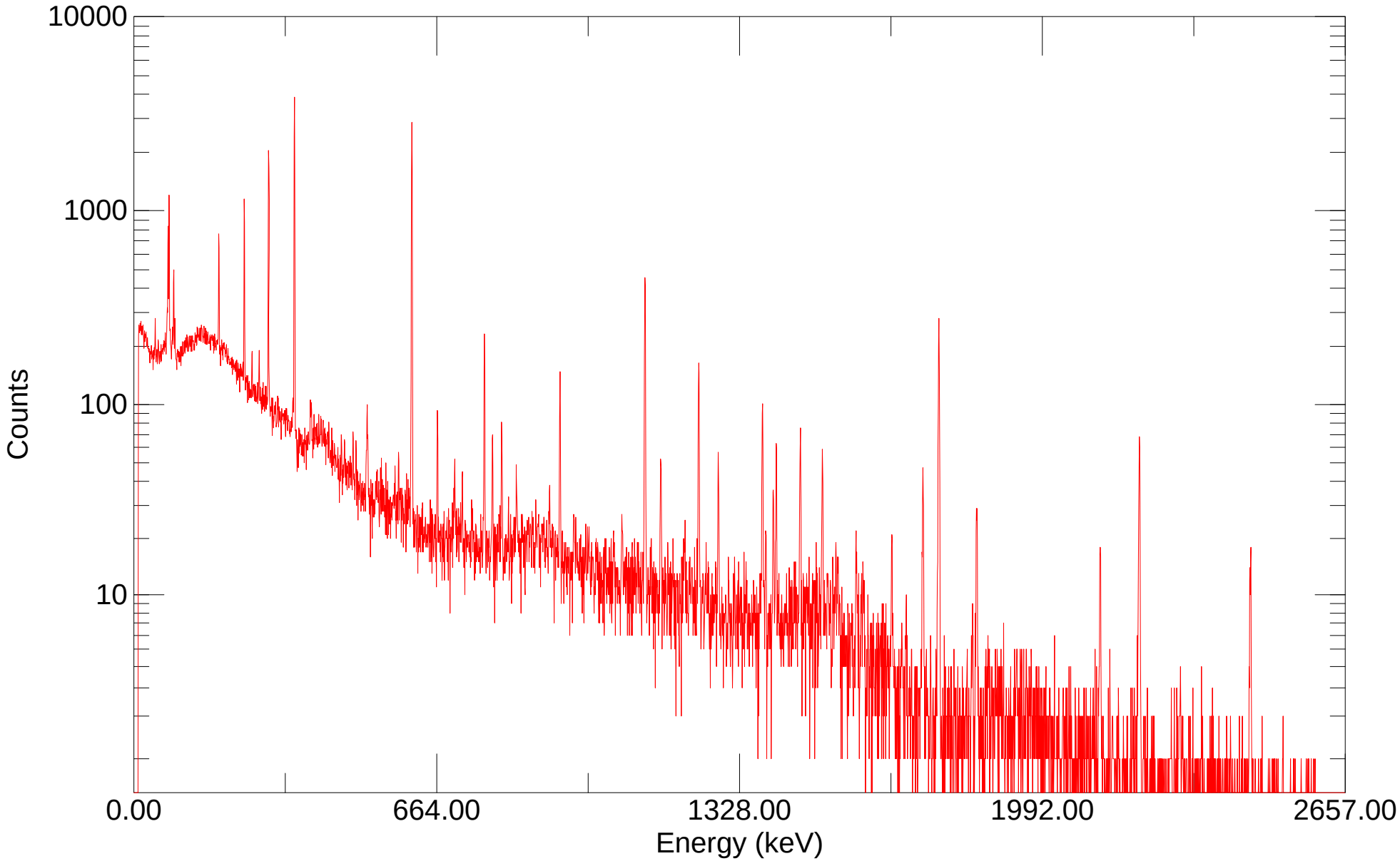
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-212	2499.45	1620.68	28.	18.	0.019	167.45	0.741s
Bi-214	2721.86	1765.02	32.	1063.	1.181	9.87	2.149
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 077 01_11_08

SMP HS 077 01_11_08



Acquired: 1/11/2008 3:11:00 PM Real Time: 909.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 078 15 Min Colim@6Det@Pos

Sample description
HS 078
Small Rock in bag, Colimator at 6 inches, Detector at Pos 1

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 078 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 06-Oct-2007 12:13:23
Live time: 900
Real time: 909
Dead time: 0.96 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM40ED~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	YES	01-Jan-2007 12:00:00
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1046

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.79	44.72	1844.	270.	0.300	69.79	1.199	EU-155	D
79.51	51.66	1913.	143.	0.159	132.38	1.203	TB-160	D
115.38	74.79	1133.	342.	0.380	44.81	1.217	BI-207	D
119.12	77.21	1115.	571.	0.634	27.80	1.218	PB-214	D
134.70	87.25	965.	230.	0.256	60.62	1.224	BI-207	D
139.44	90.32	952.	132.	0.147	102.55	1.226	PB-214	D
399.14	258.64	1084.	240.	0.267	98.26	2.575	XE-138	s
598.93	388.12	650.	155.	0.172	123.25	1.343	-	sM
712.55	461.76	228.	68.	0.076	144.74	1.652	CS-138	M
740.02	479.57	232.	116.	0.129	92.38	1.287	W-187	sM
750.90	486.62	266.	158.	0.176	76.15	2.394	LA-140	sM
787.62	510.44	405.	103.	0.114	88.03	1.509	J-133	D
1026.51	665.20	155.	237.	0.264	29.54	1.629	BI-214	D
1083.89	702.48	206.	106.	0.118	77.80	1.600	NB-94	sM
1185.21	768.18	262.	592.	0.658	19.68	1.728	BI-214	
1212.00	785.54	228.	147.	0.163	58.83	1.349	BI-212	
1243.65	806.25	144.	176.	0.195	36.76	1.746	BI-214	D
1293.49	838.38	214.	110.	0.122	76.94	2.114	J-135	sM
1440.93	933.99	185.	392.	0.436	24.67	1.683	BI-214	
1486.78	963.46	114.	54.	0.060	93.51	1.886	EU-152	D
1534.18	994.17	79.	33.	0.037	125.97	1.915	EU-154	D
1781.76	1155.04	136.	212.	0.236	37.72	1.735	BI-214	s
1910.09	1238.29	108.	509.	0.565	17.21	1.881	CO-56	
1976.17	1281.16	105.	170.	0.189	40.91	2.024	BI-214	

ORTEC Spectrum name: SMP HS 078 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2125.08	1377.66	104.	306.	0.340	22.23	2.298	BI-214	D
2137.50	1385.71	64.	88.	0.098	49.88	2.306	AG-110M	D
2162.21	1401.88	63.	127.	0.141	37.59	2.323	BI-214	D
2171.90	1408.17	85.	173.	0.192	32.12	2.330	EU-152	D
2243.43	1454.27	55.	32.	0.035	112.52	2.381	J-134	D
2328.16	1509.53	91.	191.	0.213	35.88	2.073	BI-214	
2562.15	1661.37	37.	97.	0.108	47.67	2.713	BI-214	
2668.41	1730.33	19.	230.	0.256	22.28	2.137	BI-214	
2850.48	1848.51	24.	128.	0.142	35.08	2.242	BI-214	
3399.30	2204.81	4.	314.	0.349	17.38	3.068	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

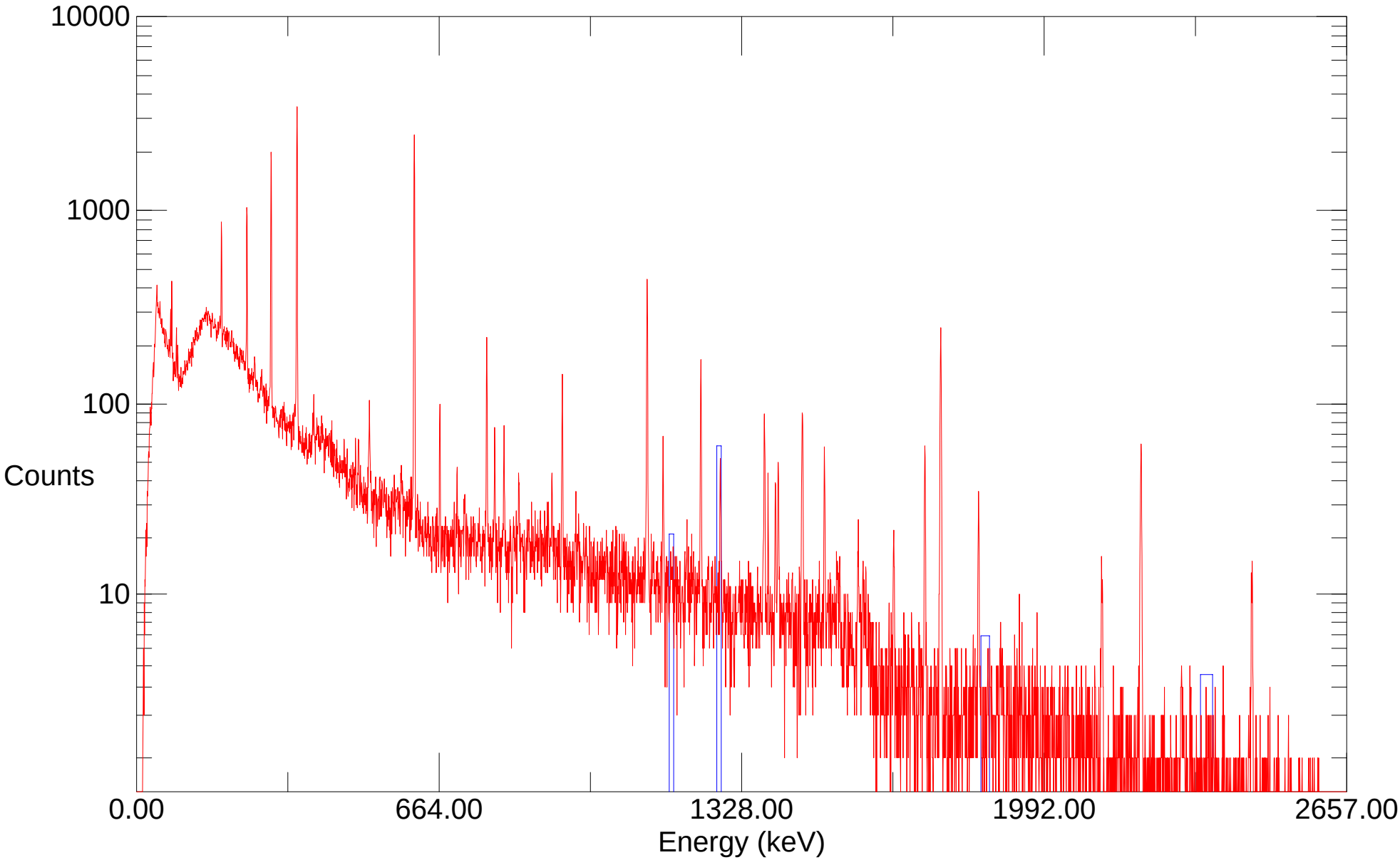
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	71.75	46.50	2262.	126.	0.140	162.49	1.200D
Th-234	99.32	64.36	1421.	142.	0.158	170.81	2.129s
Th-234	143.21	92.80	825.	8.	0.009	1553.40	1.228D
Ra-226	287.26	186.14	1554.	1552.	1.724	17.87	1.466
Pb-212	368.26	238.63	786.	0.	0.000	0.00	1.036D
Pb-214	373.25	241.86	1529.	2384.	2.649	13.97	1.572s
Pb-214	455.57	295.21	849.	4812.	5.346	5.03	1.356D
Tl-210	459.88	298.00	2908.	51.	0.056	453.45	1.358D
Pb-212	463.10	300.09	704.	31.	0.035	361.78	1.359D
Ac-228	520.47	337.27	387.	62.	0.069	194.15	0.935s
Pb-214	542.79	351.74	948.	8257.	9.174	3.83	1.505
Tl-208	788.26	510.84	421.	87.	0.096	105.65	1.509D
Tl-208	900.52	583.60	108.	22.	0.024	253.65	1.316
Bi-214	939.83	609.09	336.	6703.	7.448	3.94	1.707
Cs-137	1020.86	661.62	170.	2.	0.002	2554.77	1.626D
Bi-212	1119.18	725.36	120.	80.	0.089	106.07	1.868s
Pa-234m	1182.48	766.41	165.	0.	0.000	0.00	1.737D
Tl-210	1233.83	799.70	82.	36.	0.040	118.76	1.741D
Tl-208	1325.86	859.38	162.	88.	0.097	123.92	1.900s
Ac-228	1405.89	911.27	196.	76.	0.084	99.42	1.726
Ac-228	1495.08	969.11	132.	36.	0.040	143.38	1.892D
Pa-234m	1544.25	1001.00	113.	22.	0.025	211.68	1.921D
Bi-214	1728.14	1120.27	170.	1449.	1.610	9.49	2.060
Tl-210	2018.09	1308.35	45.	19.	0.021	186.16	1.385s
K-40	2253.07	1460.80	88.	380.	0.422	18.61	2.388D
Bi-212	2496.00	1618.44	15.	5.	0.005	381.08	0.000s
Bi-214	2721.79	1764.97	30.	1053.	1.170	9.80	2.483
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 078 15 Min Colim@6Det@Pos1
HS 078
Small Rock in bag, Colimator at 6 inches, Detector at Pos 1



Acquired: 10/6/2007 12:13:23 PM Real Time: 908.68 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 079_15 Min array down Col

Sample description
smp hs 79 array down Coli@6Det@Pos4 10_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 079_15 Min array down Colim@6Det@Pos4.An1

Acquisition information

Start time:	15-Oct-2007 11:15:58
Live time:	900
Real time:	912
Dead time:	1.28 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM6D9E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 079_15 Min array down Col

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1543

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.33	74.75	1242.	630.	0.699	26.60	1.217	BI-207	D
119.07	77.18	1154.	1023.	1.137	16.93	1.218	PB-214	D
134.37	87.62	1182.	492.	0.546	32.61	1.224	PB-214	D
385.22	249.62	561.	109.	0.121	133.51	1.289	XE-135	s
399.77	259.05	930.	265.	0.294	86.55	1.678	XE-138	s
417.69	270.85	634.	103.	0.114	108.21	1.339	AC-228	D
423.59	274.67	670.	144.	0.160	80.42	1.342	SR-91	D
741.00	480.12	210.	91.	0.102	74.19	1.486	W-187	D
750.72	486.43	278.	77.	0.086	97.36	1.491	LA-140	D
787.42	510.39	373.	112.	0.124	78.50	1.509	J-133	D
893.81	579.26	214.	114.	0.127	101.77	2.040	KR-89	s
1025.98	665.26	148.	218.	0.243	31.13	1.629	BI-214	D
1084.01	702.56	142.	77.	0.086	82.76	2.589	NB-94	s
1184.63	767.80	182.	458.	0.509	21.37	2.009	BI-214	
1211.57	785.27	150.	98.	0.109	66.58	2.064	BI-212	M
1243.09	805.87	93.	148.	0.165	37.01	1.746	BI-214	D
1294.09	838.78	145.	80.	0.089	82.88	1.990	J-135	M
1378.35	893.41	86.	56.	0.063	121.86	1.290	-	M
1440.67	933.82	170.	248.	0.275	34.59	1.715	BI-214	
1781.39	1154.80	90.	137.	0.152	44.18	2.204	BI-214	M
1861.92	1207.04	54.	36.	0.040	108.97	2.169	-	M
1909.00	1237.58	107.	382.	0.425	21.82	2.059	J-133	M
1975.04	1280.42	60.	101.	0.112	47.99	1.821	BI-214	M
2124.33	1377.28	65.	260.	0.289	25.24	2.146	BI-214	

ORTEC Spectrum name: SMP HS 079_15 Min array down Col

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2160.64	1400.81	62.	77.	0.086	55.27	2.322	BI-214	D
2171.22	1407.68	48.	152.	0.168	31.14	2.330	BI-214	D
2327.11	1508.84	82.	143.	0.159	46.34	2.321	BI-214	s
2562.60	1661.66	27.	71.	0.079	54.69	1.869	BI-214	
2666.79	1729.28	15.	164.	0.182	26.92	2.494	BI-214	
2847.98	1846.88	11.	138.	0.154	28.89	1.926	BI-214	s
3397.85	2203.87	3.	212.	0.236	21.18	2.737	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

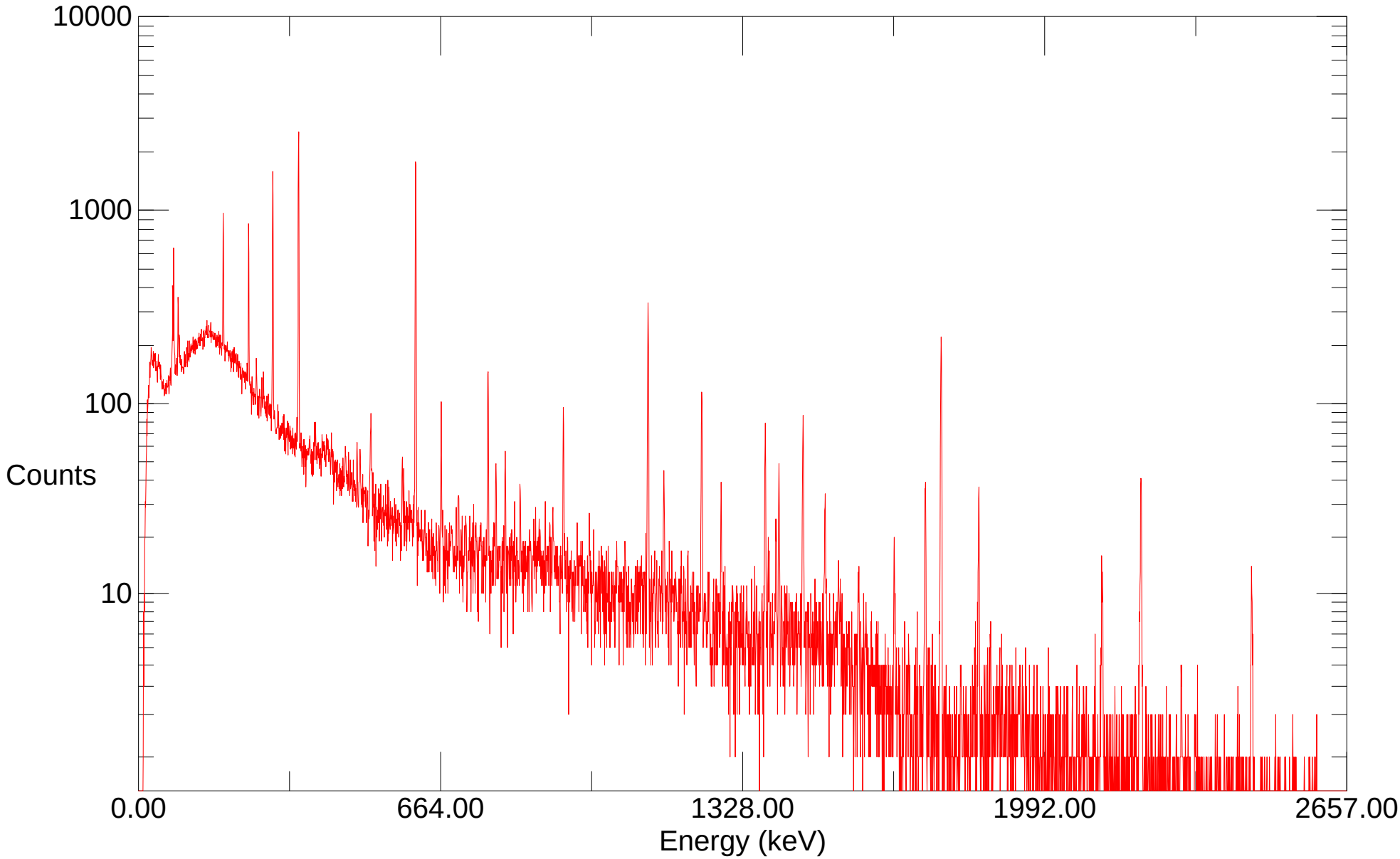
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	18.	4.	0.004	499.55	0.000s
Pb-210	71.43	46.30	852.	74.	0.082	239.22	2.032s
Th-234	99.80	64.67	1175.	52.	0.058	325.61	1.012s
Th-234	143.21	92.80	1100.	46.	0.051	310.73	1.227D
Ra-226	287.22	186.11	2070.	1903.	2.114	20.18	1.386
Pb-212	368.26	238.63	655.	0.	0.000	0.00	1.321D
Pb-214	373.20	241.83	1016.	1580.	1.756	15.50	1.347
Pb-214	455.57	295.21	566.	3534.	3.927	5.80	1.356D
Tl-210	459.88	298.00	1972.	49.	0.054	390.86	1.358D
Pb-212	463.10	300.09	541.	24.	0.027	410.47	1.359D
Ac-228	524.29	339.75	436.	55.	0.061	257.87	0.907s
Pb-214	542.63	351.63	849.	5935.	6.594	4.69	1.462
Tl-208	788.26	510.84	407.	78.	0.087	114.56	1.509D
Tl-208	899.80	583.14	84.	0.	0.000	0.00	1.163D
Bi-214	939.44	608.84	299.	5021.	5.579	4.63	1.648
Cs-137	1020.86	661.62	154.	13.	0.014	421.21	1.626D
Bi-212	1122.21	727.33	126.	73.	0.081	127.00	0.942s
Pa-234m	1182.48	766.41	412.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	87.	39.	0.043	112.64	1.741D
Tl-208	1327.87	860.68	128.	45.	0.050	135.71	3.746s
Ac-228	1405.44	910.98	145.	54.	0.060	119.37	1.667s
Ac-228	1497.28	970.54	63.	60.	0.067	100.81	4.294s
Pa-234m	1541.67	999.33	89.	51.	0.057	106.91	1.056s
Bi-214	1727.27	1119.70	136.	1104.	1.226	11.11	1.948
Tl-210	2019.92	1309.53	21.	4.	0.004	508.67	1.130s
K-40	2252.81	1460.63	65.	315.	0.350	22.64	2.194
Bi-212	2501.15	1621.78	32.	14.	0.016	224.19	0.930s
Bi-214	2720.64	1764.23	15.	869.	0.966	10.52	2.274
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 079_15 Min array down Colim@6Det@Pos4

smp hs 79 array down Coli@6Det@Pos4 10_15_07



Acquired: 10/15/2007 11:15:58 AM Real Time: 911.66 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 080 15 Min Colim@6Det@Pos

Sample description
SMP HS 080 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 080 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 19-Oct-2007 12:14:17
Live time: 900
Real time: 906
Dead time: 0.68 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4AAE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 080 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0840

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.79	76.98	459.	114.	0.127	135.17	0.869	PB-214	s
416.91	270.16	98.	40.	0.045	144.73	1.474	AC-228	
614.24	398.04	64.	37.	0.041	153.20	1.502	XE-138	sM
1184.65	767.80	42.	70.	0.078	53.22	1.714	BI-214	D
1909.34	1237.80	29.	51.	0.056	68.48	1.238	J-133	s
2666.61	1729.16	0.	23.	0.026	62.55	1.113	BI-214	s
3398.15	2204.07	3.	37.	0.041	55.16	1.977	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	16.93	10.99	3.	2.	0.002	483.74	0.535	s
Pb-210	70.61	45.76	231.	41.	0.046	227.30	2.553	s
Th-234	96.27	62.39	100.	17.	0.019	314.20	0.845	
Th-234	142.04	92.04	195.	27.	0.030	295.96	1.975	s
Ra-226	287.18	186.09	364.	250.	0.278	54.60	1.609	s
Pb-212	368.26	238.63	200.	0.	0.000	0.00	1.494	D
Pb-214	373.57	242.07	232.	274.	0.304	41.46	1.733	s
Pb-214	455.57	295.21	169.	469.	0.521	18.19	1.356	D

ORTEC Spectrum name: SMP HS 080 15 Min Colim@6Det@Pos

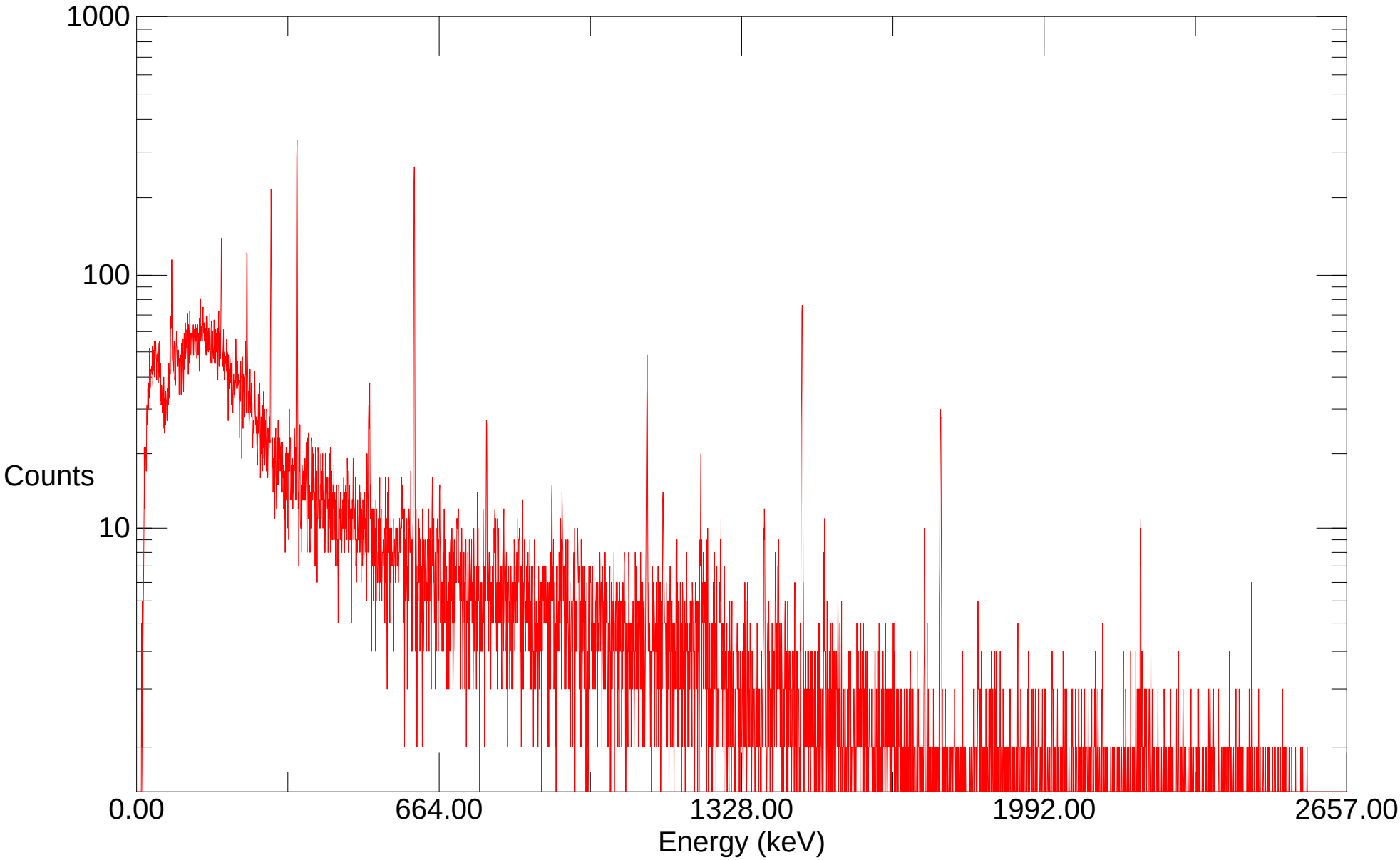
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	459.88	298.00	317.	24.	0.026	324.15	1.358D
Pb-212	463.10	300.09	130.	16.	0.018	309.04	1.359D
Ac-228	520.59	337.35	70.	4.	0.004	823.86	0.884
Pb-214	542.74	351.70	154.	896.	0.996	12.22	1.660s
Tl-208	788.26	510.84	133.	66.	0.073	83.02	1.509D
Tl-208	899.74	583.10	78.	57.	0.063	129.24	4.011s
Bi-214	939.52	608.89	70.	780.	0.867	12.10	1.817s
Cs-137	1022.00	662.36	18.	0.	0.001	1551.61	0.000s
Bi-212	1120.61	726.29	29.	14.	0.015	198.91	1.378s
Pa-234m	1182.48	766.41	105.	2.	0.003	1869.15	1.713D
Tl-210	1232.24	798.67	29.	6.	0.006	455.76	0.676s
Tl-208	1327.00	860.12	13.	0.	0.000	1324.76	0.000s
Ac-228	1406.36	911.58	35.	56.	0.062	70.39	1.701s
Ac-228	1492.66	967.54	42.	40.	0.044	104.21	2.448s
Pa-234m	1543.20	1000.32	18.	5.	0.006	384.19	0.908s
Bi-214	1727.55	1119.88	42.	172.	0.192	31.85	2.069s
Tl-210	2020.67	1310.02	5.	1.	0.001	956.56	1.135s
K-40	2252.57	1460.48	11.	332.	0.369	17.52	2.408
Bi-212	2499.44	1620.67	1.	6.	0.007	141.42	1.413s
Bi-214	2720.92	1764.41	4.	144.	0.159	26.38	2.780
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 080 15 Min Colim@6Det@Pos1

SMP HS 080 array down Coli@6Det@Pos4 10_19_07



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File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 081 15 Colim@6Det@Pos4.An

Sample description
SMP HS 081 col @6 det @ 4 11_07_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 081 15 Colim@6Det@Pos4.An1

Acquisition information
Start time:	07-Nov-2007 14:01:45
Live time:	900
Real time:	958
Dead time:	6.04 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS0~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2874

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.48	77.43	10040.	602.	0.669	112.32	0.851	PB-214	s
135.20	87.78	7151.	220.	0.244	164.45	1.225	PB-214	D
242.81	157.34	10916.	354.	0.393	188.77	0.965	TA-182	s
263.09	170.48	9273.	284.	0.316	204.22	1.311	-	
302.75	196.18	8472.	406.	0.451	136.84	1.151	KR-88	sM
400.82	259.73	9916.	986.	1.095	77.87	2.876	XE-138	s
423.96	274.72	9284.	859.	0.954	86.40	1.854	SR-91	s
508.52	329.52	4088.	255.	0.283	160.67	1.415	TH-227	sM
700.11	453.70	2905.	315.	0.350	126.87	1.482	TE-131	sM
712.76	461.90	2700.	320.	0.356	120.50	2.389	CS-138	sM
730.93	473.62	2192.	170.	0.189	118.78	1.481	RH-106M	D
740.64	479.91	1898.	267.	0.297	71.62	1.486	W-187	D
750.55	486.33	1723.	372.	0.413	49.82	1.491	LA-140	D
760.37	492.70	1865.	113.	0.126	164.11	1.495	TE-131	D
787.47	510.45	2556.	282.	0.313	78.24	1.509	J-133	D
823.06	533.39	1379.	215.	0.239	111.81	2.447	ND-147	sM
837.72	542.90	1376.	208.	0.232	115.09	2.897	J-134	sM
893.99	579.38	1652.	348.	0.386	83.84	1.874	KR-89	s
963.89	624.69	912.	129.	0.143	159.25	1.051	W-187	s
1025.87	664.73	1155.	895.	0.994	18.98	1.629	PA-234	D
1083.51	702.24	1374.	323.	0.359	92.60	1.551	NB-94	sM
1110.24	719.57	1320.	237.	0.263	123.23	1.981	SB-126	sM
1161.20	752.61	837.	174.	0.193	119.17	1.710	LA-140	sM
1184.61	767.79	1568.	3018.	3.353	9.17	2.032	BI-214	s

ORTEC Spectrum name: SMP HS 081 15 Colim@6Det@Pos4.An

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1211.87	785.46	985.	583.	0.648	29.15	2.028	BI-212	
1242.98	805.55	915.	783.	0.870	19.58	1.746	PA-234	D
1265.10	819.87	869.	124.	0.138	104.36	1.758	PA-234	D
1274.49	825.95	850.	135.	0.150	95.19	1.764	PA-234	D
1293.63	838.48	1045.	440.	0.489	57.98	1.847	J-135	sM
1440.05	933.42	1412.	1630.	1.811	14.93	1.898	BI-214	
1486.97	963.97	686.	158.	0.176	74.06	1.886	EU-152	D
1622.36	1051.66	653.	181.	0.201	72.81	2.110	CS-136	
1649.73	1069.41	642.	141.	0.157	91.36	2.503	J-134	s
1780.95	1154.52	932.	821.	0.912	24.23	1.992	BI-214	
1861.94	1207.05	476.	146.	0.163	74.83	2.134	-	
1908.94	1237.54	830.	2730.	3.034	8.64	2.159	J-133	
1975.12	1280.47	684.	739.	0.821	23.93	2.144	BI-214	
2124.17	1377.05	508.	1747.	1.941	9.03	2.297	BI-214	D
2136.24	1384.88	460.	364.	0.405	29.49	2.305	AG-110M	D
2160.77	1400.89	480.	610.	0.678	19.49	2.322	BI-214	D
2170.96	1407.51	480.	1011.	1.123	13.18	2.330	BI-214	D
2326.86	1508.68	622.	828.	0.920	18.24	2.567	BI-214	
2371.70	1537.77	427.	191.	0.212	58.84	2.120	RB-89	
2441.23	1582.90	510.	347.	0.386	42.96	2.963	AC-228	s
2465.95	1598.94	290.	117.	0.130	76.51	1.575	EU-154	s
2561.30	1660.82	264.	450.	0.501	36.19	2.421	BI-214	s
2596.13	1683.42	117.	76.	0.084	75.78	1.441	-	s
2666.85	1729.32	205.	1142.	1.269	12.13	2.522	BI-214	
2834.11	1837.89	120.	104.	0.116	53.26	2.829	RH-106M	D
2848.47	1847.21	112.	743.	0.826	12.56	2.840	BI-214	D
2887.25	1872.37	157.	105.	0.117	72.05	2.328	-	
3014.16	1954.76	132.	97.	0.108	79.99	0.895	-	s
3266.22	2118.40	58.	392.	0.436	18.62	2.167	BI-214	s
3397.74	2203.80	53.	1598.	1.775	8.20	3.002	BI-214	
3535.68	2293.37	6.	129.	0.143	28.77	2.655	-	
3772.88	2447.42	0.	439.	0.488	14.32	3.127	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	18.83	12.22	3.	1.	0.001	540.83	0.879	
Pb-210	70.24	45.52	6399.	169.	0.188	210.50	1.153	s
Th-234	95.63	61.97	14832.	291.	0.324	211.82	0.729	
Th-234	143.21	92.80	6748.	79.	0.087	444.71	1.228	D
Ra-226	287.00	185.97	11992.	4167.	4.630	18.23	1.541	s
Pb-212	368.26	238.63	3393.	0.	0.000	0.00	0.648	D
Pb-214	372.96	241.67	11759.	6725.	7.472	12.86	1.419	s

ORTEC Spectrum name: SMP HS 081 15 Colim@6Det@Pos4.An

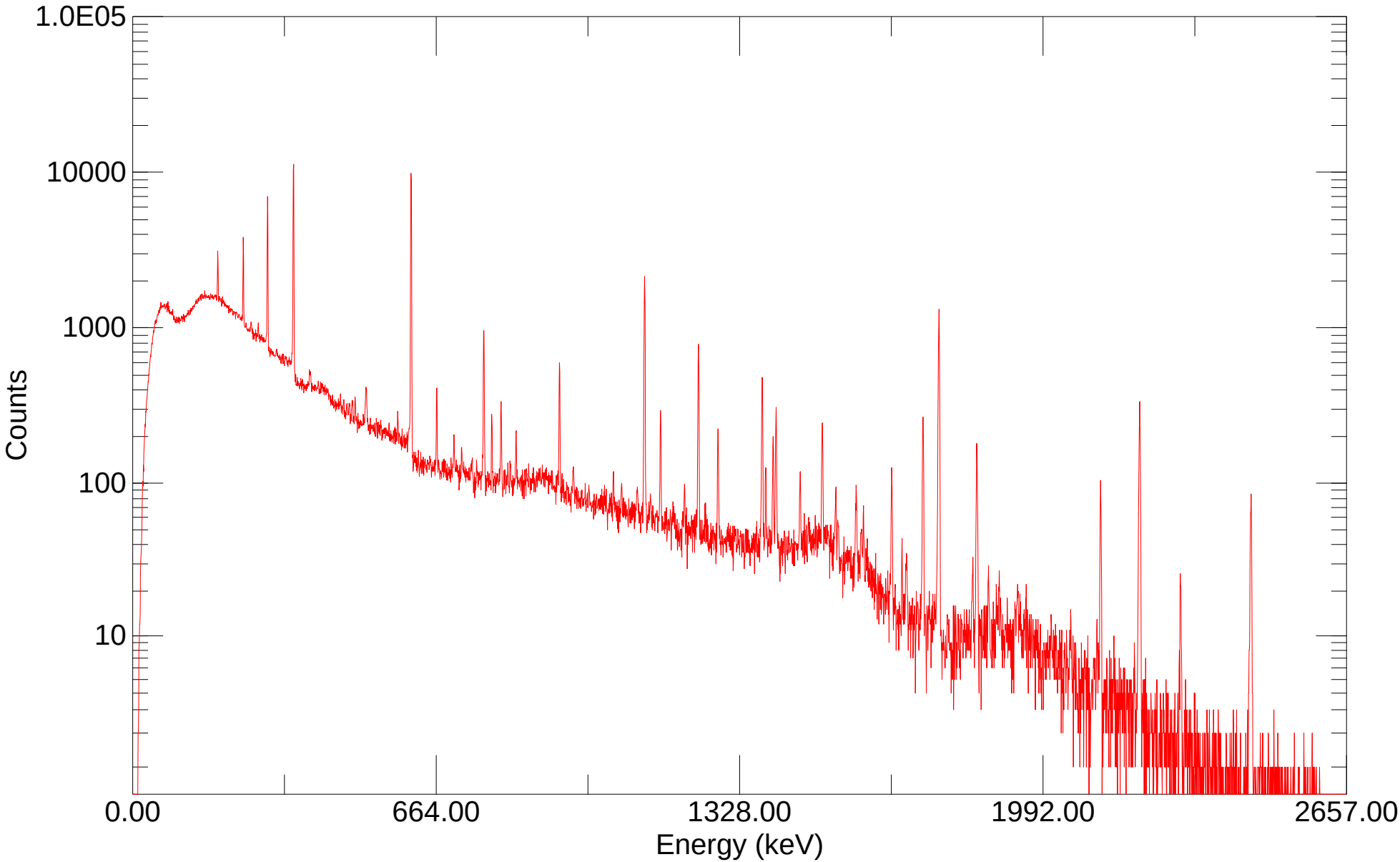
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	455.57	295.21	6175.	15115.	16.795	3.29	1.356D
Tl-210	459.88	298.00	10441.	89.	0.099	488.93	1.358D
Pb-212	463.10	300.09	4225.	0.	0.000	27577.16	1.359D
Ac-228	522.68	338.70	2286.	68.	0.076	367.16	0.933
Pb-214	542.43	351.50	7226.	29722.	33.025	2.31	1.635
Tl-208	788.26	510.84	2604.	234.	0.260	94.46	1.509D
Tl-208	899.80	583.14	1606.	0.	0.000	0.00	2.527D
Bi-214	939.30	608.75	2642.	28846.	32.052	2.03	1.773
Cs-137	1020.86	661.62	1096.	31.	0.034	463.31	1.626D
Bi-212	1122.26	727.37	422.	29.	0.032	372.27	0.830s
Pa-234m	1182.48	766.41	2934.	0.	0.000	0.00	0.325D
Tl-210	1233.83	799.70	939.	28.	0.031	470.23	1.741D
Tl-208	1328.74	861.24	465.	72.	0.080	171.77	1.297
Ac-228	1404.59	910.43	458.	50.	0.056	241.44	0.890s
Ac-228	1495.08	969.11	798.	38.	0.042	319.08	1.891D
Pa-234m	1540.09	998.30	852.	97.	0.108	159.30	2.012
Bi-214	1727.22	1119.67	925.	7425.	8.250	4.20	2.134
Tl-210	2023.45	1311.82	338.	20.	0.022	452.02	0.491s
K-40	2252.23	1460.26	646.	339.	0.377	46.96	2.543
Bi-212	2493.20	1616.62	280.	50.	0.056	188.15	0.722s
Bi-214	2720.41	1764.08	242.	5704.	6.338	4.28	2.632
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 081 15 Colim@6Det@Pos4

SMP HS 081 col @6 det @ 4 11_07_07



Acquired: 11/7/2007 2:01:45 PM Real Time: 957.82 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 082 15 Min Colim@6Det@Pos

Sample description
SMP HS 082 array down Coli@6Det@Pos4 10_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 082 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 17-Oct-2007 12:46:38
Live time: 900
Real time: 933
Dead time: 3.58 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS0~2.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 082 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1527

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.64	44.22	4103.	392.	0.435	70.98	1.199	EU-155	D
115.37	74.79	2397.	674.	0.749	32.89	1.217	BI-207	D
119.02	77.16	1994.	1233.	1.370	17.59	1.218	PB-214	D
134.52	87.13	1843.	614.	0.682	32.03	1.224	BI-207	D
138.91	89.98	1917.	258.	0.287	74.34	1.226	PB-214	D
162.05	105.01	2948.	249.	0.277	147.51	1.607	U-235	s
178.48	115.65	3122.	196.	0.218	182.68	0.955	TE-132	s
330.42	214.11	1895.	134.	0.149	184.16	0.860	TB-160	
398.96	258.52	2970.	535.	0.594	78.98	1.600	XE-138	s
700.32	453.84	910.	196.	0.218	115.11	1.564	TE-131	sM
739.85	479.46	612.	232.	0.258	77.56	1.332	W-187	sM
751.33	486.90	578.	118.	0.132	131.97	1.246	LA-140	M
786.48	509.84	884.	165.	0.183	79.97	1.508	J-133	D
836.93	542.38	484.	68.	0.076	220.06	1.558	J-134	M
894.01	579.39	513.	141.	0.157	115.81	1.831	KR-89	s
1026.29	665.11	369.	408.	0.453	24.92	1.629	BI-214	D
1052.50	682.13	240.	101.	0.112	116.60	1.247	RH-106M	s
1084.60	702.94	403.	212.	0.236	80.48	2.349	RH-106M	s
1110.21	719.55	252.	151.	0.168	74.63	1.434	SB-126	s
1184.90	767.94	315.	1167.	1.297	10.90	1.714	BI-214	D
1211.86	785.40	286.	273.	0.303	31.94	1.729	BI-212	D
1219.19	790.15	208.	72.	0.080	92.35	1.733	RH-106M	D
1243.11	805.56	283.	315.	0.350	28.29	1.746	PA-234	D
1267.38	821.46	248.	102.	0.114	111.98	1.694	PA-234	sM

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1294.14	838.81	298.	159.	0.176	58.41	1.718	J-135	M
1440.32	933.60	399.	643.	0.714	20.72	2.229	BI-214	
1486.35	963.40	236.	104.	0.116	69.05	1.886	EU-152	D
1622.41	1051.69	192.	81.	0.090	89.78	2.382	CS-136	s
1649.60	1069.32	240.	117.	0.130	79.32	1.949	J-134	s
1695.17	1098.88	100.	20.	0.022	222.49	1.037	FE-59	s
1747.79	1133.01	215.	103.	0.115	83.08	2.153	J-135	s
1781.59	1154.93	177.	319.	0.355	26.41	2.014	BI-214	
1862.15	1207.19	184.	106.	0.118	74.41	1.970	-	
1909.36	1237.81	233.	996.	1.106	12.69	2.107	BI-214	
1975.45	1280.69	249.	280.	0.311	38.27	2.281	BI-214	s
2124.70	1377.40	119.	696.	0.773	13.17	2.297	BI-214	D
2137.07	1385.42	150.	141.	0.157	44.59	2.306	AG-110M	D
2160.92	1400.95	141.	240.	0.267	28.51	2.323	BI-214	D
2171.65	1407.92	131.	389.	0.432	19.69	2.330	BI-214	D
2215.37	1436.34	69.	23.	0.026	169.98	1.023	SB-124	s
2327.43	1509.05	154.	336.	0.373	26.02	2.476	BI-214	s
2441.43	1583.03	86.	139.	0.154	43.00	2.175	-	
2561.44	1660.91	86.	152.	0.168	44.62	2.570	BI-214	s
2610.50	1692.75	54.	52.	0.058	92.47	2.043	KR-89	s
2666.95	1729.38	48.	391.	0.434	18.41	2.458	BI-214	
2848.83	1847.43	42.	269.	0.299	23.31	2.236	BI-214	s
3267.21	2119.04	8.	153.	0.170	27.00	2.321	BI-214	
3398.48	2204.27	8.	575.	0.639	12.97	2.887	BI-214	
3774.20	2448.28	3.	179.	0.199	23.16	3.045	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	18.	4.	0.004	511.30	0.000s
Pb-210	71.75	46.50	4039.	292.	0.325	93.91	1.200D
Th-234	96.29	62.40	1986.	70.	0.078	383.66	2.280s
Th-234	143.21	92.80	2250.	60.	0.066	340.01	1.228D
Ra-226	287.14	186.06	4825.	2616.	2.907	20.37	1.369s
Pb-212	368.26	238.63	2149.	25.	0.027	802.21	1.318D
Pb-214	373.43	241.98	2251.	3880.	4.311	7.08	1.321D
Pb-214	455.57	295.21	1470.	8547.	9.496	3.76	1.356D
Tl-210	459.88	298.00	4977.	91.	0.101	331.32	1.358D
Pb-212	463.10	300.09	1217.	54.	0.060	278.71	1.359D
Ac-228	524.01	339.56	1494.	98.	0.109	279.14	0.793s
Pb-214	542.66	351.65	2184.	14416.	16.018	3.04	1.444
Tl-208	788.26	510.84	879.	156.	0.173	84.09	1.509D
Tl-208	899.80	583.14	222.	0.	0.000	0.00	1.067D

ORTEC Spectrum name: SMP HS 082 15 Min Colim@6Det@Pos

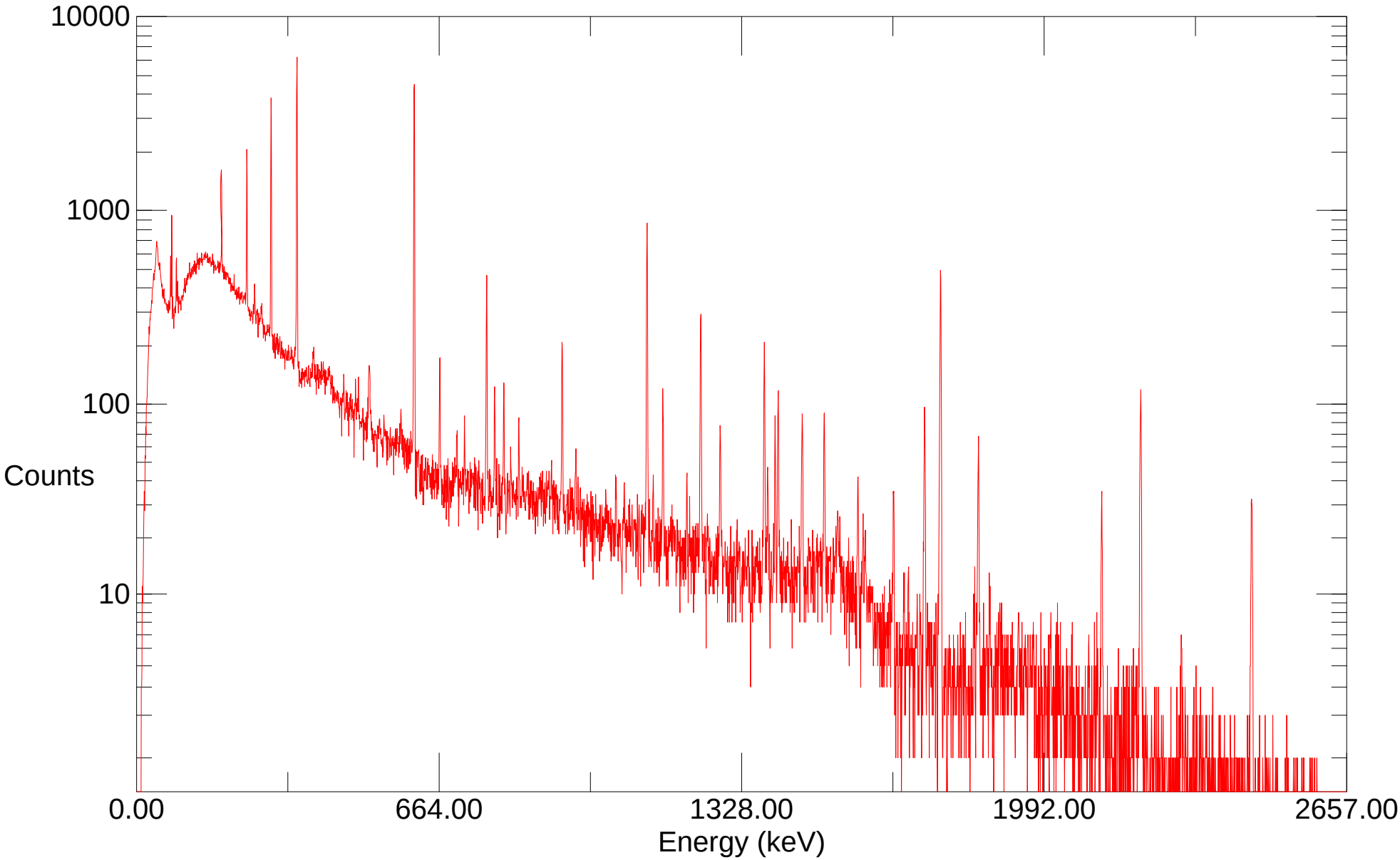
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	939.53	608.90	732.	12572.	13.968	2.94	1.679
Cs-137	1020.86	661.62	359.	13.	0.015	612.54	1.626D
Bi-212	1120.00	725.90	360.	98.	0.109	156.63	0.981s
Pa-234m	1182.48	766.41	1370.	33.	0.037	473.51	1.713D
Tl-210	1233.83	799.70	180.	3.	0.004	1635.03	1.741D
Tl-208	1327.00	860.12	82.	18.	0.019	256.43	0.648s
Ac-228	1404.11	910.12	276.	147.	0.163	93.05	2.078s
Ac-228	1495.08	969.11	210.	35.	0.039	183.87	1.891D
Pa-234m	1541.20	999.02	250.	35.	0.039	240.15	0.902s
Bi-214	1727.64	1119.94	298.	2710.	3.011	6.78	1.927
Tl-210	2021.83	1310.78	122.	40.	0.044	151.12	2.373
K-40	2252.80	1460.63	160.	337.	0.374	26.66	2.669s
Bi-212	2497.87	1619.65	52.	10.	0.011	353.33	0.955s
Bi-214	2720.96	1764.44	25.	2027.	2.252	6.84	2.371
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 082 15 Min Colim@6Det@Pos4

SMP HS 082 array down Coli@6Det@Pos4 10_17_07



Acquired: 10/17/2007 12:46:38 PM Real Time: 933.44 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 083 15 Min Colim@6Det@Pos

Sample description
SMP HS 083 array down Coli@6Det@Pos4 10_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 083 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	19-Oct-2007 10:53:14
Live time:	900
Real time:	907
Dead time:	0.81 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS0~3.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 083 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1755

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.07	74.59	341.	170.	0.189	51.56	1.217	BI-207	D
119.07	77.18	454.	351.	0.390	30.35	1.218	PB-214	D
134.46	87.13	539.	114.	0.127	132.61	1.695	BI-207	s
358.18	232.10	318.	56.	0.062	195.22	1.261	CE-143	
399.44	258.83	490.	120.	0.133	144.24	1.206	XE-138	s
787.78	510.58	192.	53.	0.059	118.78	1.509	TL-208	D
899.60	583.01	80.	57.	0.063	112.51	1.921	TL-208	s
988.82	640.85	36.	24.	0.026	127.25	1.807	SB-126	
1025.79	664.82	70.	71.	0.079	67.83	1.493	PA-234	s
1083.78	702.41	32.	30.	0.033	121.72	1.068	NB-94	M
1184.87	767.96	91.	181.	0.201	36.48	1.764	BI-214	s
1211.81	785.42	63.	47.	0.052	91.28	1.496	BI-212	M
1440.02	933.40	92.	96.	0.107	63.73	1.658	BI-214	s
1909.21	1237.72	42.	162.	0.180	31.43	2.005	J-133	M
1949.96	1264.16	15.	16.	0.018	132.22	0.997	-	sM
2124.56	1377.42	28.	114.	0.127	37.89	2.120	BI-214	
2171.53	1407.90	37.	85.	0.094	52.74	2.442	BI-214	
2327.03	1508.79	40.	55.	0.061	85.53	2.024	BI-214	
2667.13	1729.50	15.	62.	0.069	55.04	1.449	BI-214	s
3398.50	2204.29	0.	109.	0.121	28.73	2.709	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 083 15 Min Colim@6Det@Pos

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.86	11.58	12.	2.	0.003	626.21	1.188
Pb-210	70.12	45.44	536.	76.	0.084	207.23	1.317s
Th-234	96.83	62.75	336.	56.	0.062	212.13	1.540s
Th-234	143.00	92.67	188.	18.	0.019	378.02	0.648
Ra-226	287.00	185.97	825.	451.	0.501	50.72	1.334s
Pb-212	368.26	238.63	367.	40.	0.044	209.42	1.318D
Pb-214	373.43	241.98	405.	632.	0.702	18.02	1.321D
Pb-214	455.57	295.21	217.	1367.	1.519	9.32	1.356D
Tl-210	459.88	298.00	783.	21.	0.024	563.46	1.358D
Pb-212	463.10	300.09	195.	11.	0.012	549.10	1.359D
Ac-228	520.55	337.32	212.	38.	0.042	261.60	1.987s
Pb-214	542.64	351.64	324.	2352.	2.614	7.29	1.499
Tl-208	788.26	510.84	204.	41.	0.045	156.34	1.509D
Tl-208	899.69	583.07	128.	0.	0.000	4800.00	1.564
Bi-214	939.43	608.83	115.	1968.	2.187	7.36	1.676
Cs-137	1020.82	661.60	43.	0.	0.000	2782.09	1.626
Bi-212	1121.74	727.02	36.	19.	0.021	201.59	1.312
Pa-234m	1182.48	766.41	75.	0.	0.000	0.00	1.727D
Tl-210	1230.00	797.22	72.	10.	0.012	417.07	0.000s
Tl-208	1324.78	858.68	65.	37.	0.041	126.35	1.454s
Ac-228	1405.99	911.34	79.	60.	0.066	90.52	3.037s
Ac-228	1493.59	968.14	57.	17.	0.019	222.87	0.845s
Pa-234m	1538.00	996.95	68.	22.	0.025	211.49	0.232s
Bi-214	1727.38	1119.77	65.	445.	0.494	17.48	1.983
Tl-210	2020.00	1309.59	7.	0.	0.000	972.11	0.000s
K-40	2252.35	1460.33	27.	275.	0.306	21.35	2.458s
Bi-212	2499.00	1620.39	3.	0.	0.000	636.40	0.000s
Bi-214	2720.77	1764.31	9.	308.	0.342	18.07	2.418
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

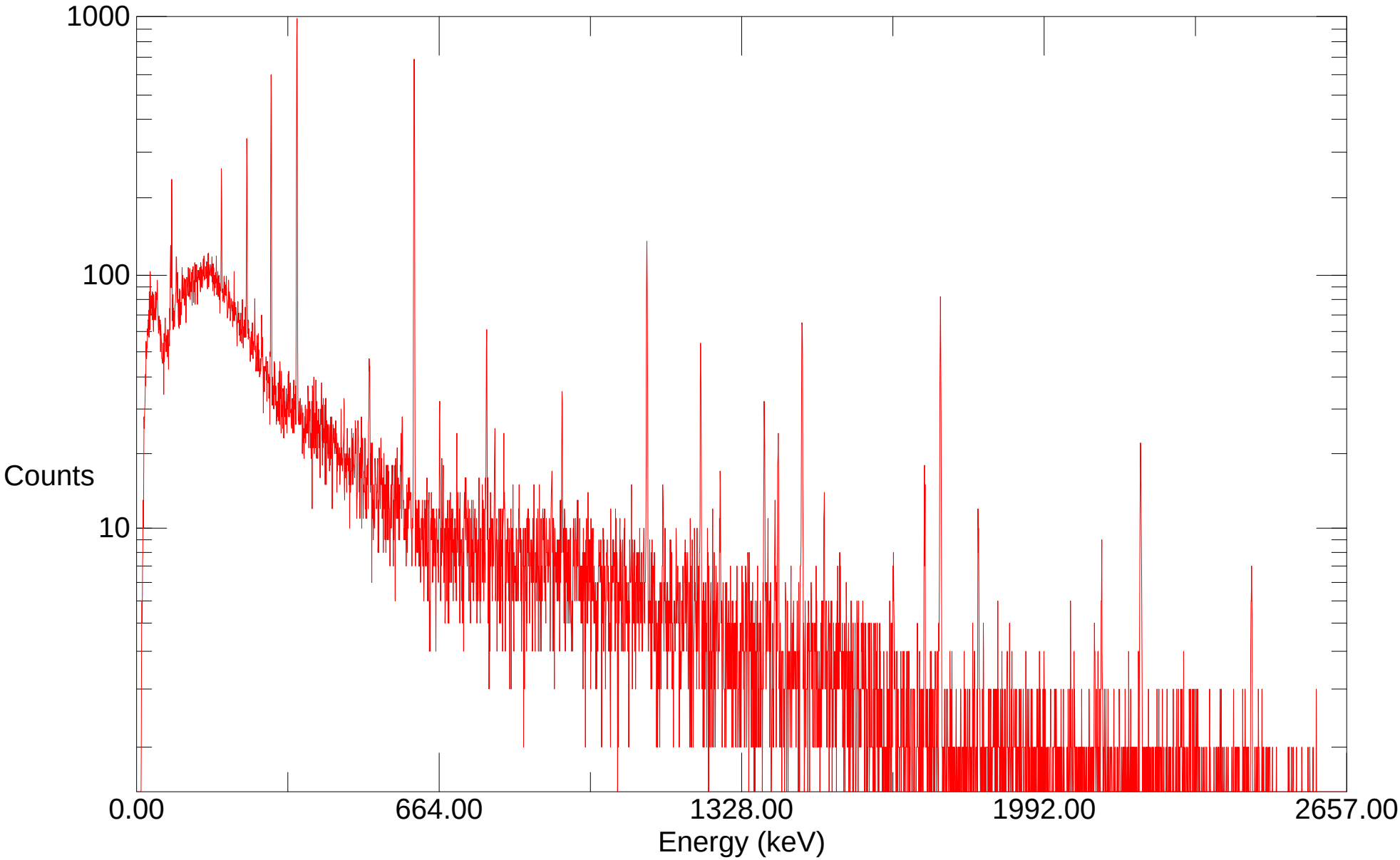
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 083 15 Min Colim@6Det@Pos4

SMP HS 083 array down Coli@6Det@Pos4 10_19_07



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File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 084 15 Min Colim@6Det@Pos

Sample description
smp hs 084 array down Coli@6Det@Pos4 10_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 084 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 20-Oct-2007 08:42:33
Live time: 900
Real time: 927
Dead time: 2.90 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4DAE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 084 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2125

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
81.33	52.71	4172.	216.	0.239	211.85	0.859	LU-177	sM
91.16	59.28	3760.	189.	0.210	139.09	1.208	TA-182	D
98.05	63.74	4283.	120.	0.133	233.65	1.210	PA-234	D
115.38	74.79	6263.	2825.	3.139	13.16	1.217	BI-207	D
118.98	77.13	5176.	4879.	5.421	7.59	1.218	PB-214	D
134.57	87.21	3851.	1779.	1.977	16.42	1.224	BI-207	D
138.87	90.00	3902.	596.	0.662	46.15	1.226	PB-214	D
261.98	169.76	5198.	376.	0.417	123.16	2.365	KR-88	s
399.54	258.90	3753.	658.	0.731	66.54	1.516	XE-138	s
423.55	274.46	3820.	566.	0.629	81.23	2.088	SR-91	s
598.54	387.87	2194.	560.	0.623	65.17	1.831	RH-106M	sM
624.65	404.79	1704.	124.	0.138	224.93	0.952	J-134	sM
701.21	454.30	1152.	237.	0.264	63.73	1.467	TE-131	D
711.48	460.96	1158.	126.	0.140	117.64	1.472	CS-138	D
723.25	468.70	1008.	177.	0.197	122.42	1.573	-	sM
740.73	480.03	1166.	210.	0.233	116.51	1.344	W-187	M
751.24	486.84	1150.	322.	0.358	79.18	1.941	LA-140	sM
787.31	510.41	1278.	301.	0.334	53.33	1.508	J-133	D
838.57	543.45	783.	100.	0.111	199.14	1.508	J-134	M
883.03	572.27	567.	124.	0.138	125.14	1.646	PA-234	sM
894.30	579.56	587.	229.	0.255	49.04	1.561	KR-89	D
1025.88	664.99	452.	660.	0.734	17.97	1.629	PA-234	D
1084.66	702.99	588.	240.	0.266	79.86	2.103	RH-106M	s
1109.76	719.26	360.	251.	0.279	54.13	1.646	SB-126	s

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1160.55	752.19	255.	103.	0.114	97.61	2.203	LA-140	sM
1184.54	767.75	622.	1956.	2.173	9.48	1.718	BI-214	
1211.64	785.32	517.	412.	0.458	31.55	2.065	BI-212	s
1242.98	805.49	399.	519.	0.576	21.00	1.746	PA-234	D
1293.30	838.26	462.	213.	0.237	53.45	1.134	J-135	M
1433.04	928.89	373.	53.	0.059	158.62	1.855	PA-234	D
1440.17	933.52	421.	1060.	1.178	12.34	1.859	BI-214	D
1486.45	963.58	291.	142.	0.158	56.85	1.886	EU-152	D
1747.65	1132.92	344.	94.	0.105	109.30	1.415	J-135	
1781.28	1154.73	467.	461.	0.513	30.31	1.677	BI-214	
1862.58	1207.47	314.	188.	0.208	59.72	1.641	-	s
1908.89	1237.51	396.	1573.	1.748	10.83	1.862	J-133	
1975.28	1280.58	307.	390.	0.434	29.91	1.754	BI-214	
2124.15	1377.10	244.	1006.	1.117	11.53	2.297	BI-214	D
2136.02	1384.81	239.	200.	0.223	39.02	2.305	AG-110M	D
2145.82	1391.16	235.	33.	0.037	203.67	2.312	PA-234	D
2160.89	1400.94	229.	334.	0.372	25.24	2.322	BI-214	D
2170.88	1407.42	224.	582.	0.647	16.55	2.329	BI-214	D
2326.86	1508.68	258.	580.	0.645	20.48	2.086	BI-214	
2394.83	1552.79	96.	25.	0.028	180.61	1.057	-	s
2440.35	1582.33	190.	195.	0.217	42.52	2.873	AC-228	s
2461.42	1596.00	218.	162.	0.179	60.82	2.244	LA-140	s
2560.79	1660.49	133.	251.	0.279	29.87	2.692	BI-214	
2596.43	1683.61	62.	40.	0.044	111.22	0.903	-	s
2666.53	1729.11	76.	618.	0.686	14.66	2.402	BI-214	
2833.02	1837.21	60.	68.	0.075	60.74	2.828	RH-106M	D
2848.41	1847.20	45.	425.	0.472	16.04	2.840	BI-214	D
3266.27	2118.43	39.	196.	0.218	28.72	2.659	BI-214	
3397.87	2203.88	34.	853.	0.948	11.40	2.613	BI-214	
3534.77	2292.78	9.	52.	0.058	51.20	2.370	-	s
3773.18	2447.61	0.	279.	0.310	17.96	2.783	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

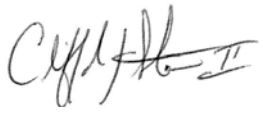
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	17.62	11.43	432.	130.	0.145	93.22	1.894	s
Pb-210	71.73	46.49	2038.	248.	0.275	104.12	1.504	s
Th-234	97.66	63.29	4210.	132.	0.146	210.47	1.210	D
Th-234	143.21	92.80	3040.	0.	0.000	23392.31	1.228	D
Ra-226	287.03	185.99	7760.	3552.	3.946	19.63	1.164	
Pb-212	368.26	238.63	3631.	260.	0.289	100.09	1.318	D
Pb-214	373.43	241.98	3323.	6410.	7.122	5.35	1.321	D
Pb-214	455.57	295.21	2455.	14143.	15.715	2.93	1.356	D

ORTEC Spectrum name: SMP HS 084 15 Min Colim@6Det@Pos

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	459.88	298.00	7090.	40.	0.045	884.19	1.358D
Pb-212	463.10	300.09	2230.	4.	0.004	5586.11	1.359D
Ac-228	520.30	337.16	2706.	187.	0.208	213.89	1.145s
Pb-214	542.54	351.57	3038.	22487.	24.986	2.37	1.454
Tl-208	788.26	510.84	1379.	200.	0.222	81.73	1.509D
Tl-208	899.80	583.14	691.	62.	0.069	183.64	1.564D
Bi-214	939.29	608.74	1027.	19777.	21.974	2.30	1.560
Cs-137	1020.86	661.62	459.	14.	0.016	643.89	1.626D
Bi-212	1121.44	726.83	168.	39.	0.043	179.25	1.216
Pa-234m	1182.48	766.41	1779.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	301.	45.	0.050	169.84	1.741D
Tl-208	1329.91	862.00	246.	57.	0.063	169.81	1.019s
Ac-228	1404.94	910.65	242.	128.	0.142	81.99	2.870s
Ac-228	1495.08	969.11	378.	41.	0.046	206.32	1.891D
Pa-234m	1546.17	1002.24	253.	32.	0.035	236.42	2.334s
Bi-214	1727.19	1119.65	501.	4286.	4.762	5.55	1.929
Tl-210	2019.23	1309.09	143.	26.	0.029	215.92	1.276s
K-40	2251.59	1459.84	269.	322.	0.357	33.75	2.319
Bi-212	2498.10	1619.80	58.	7.	0.008	475.31	1.117s
Bi-214	2720.36	1764.05	90.	3270.	3.633	5.55	2.448
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

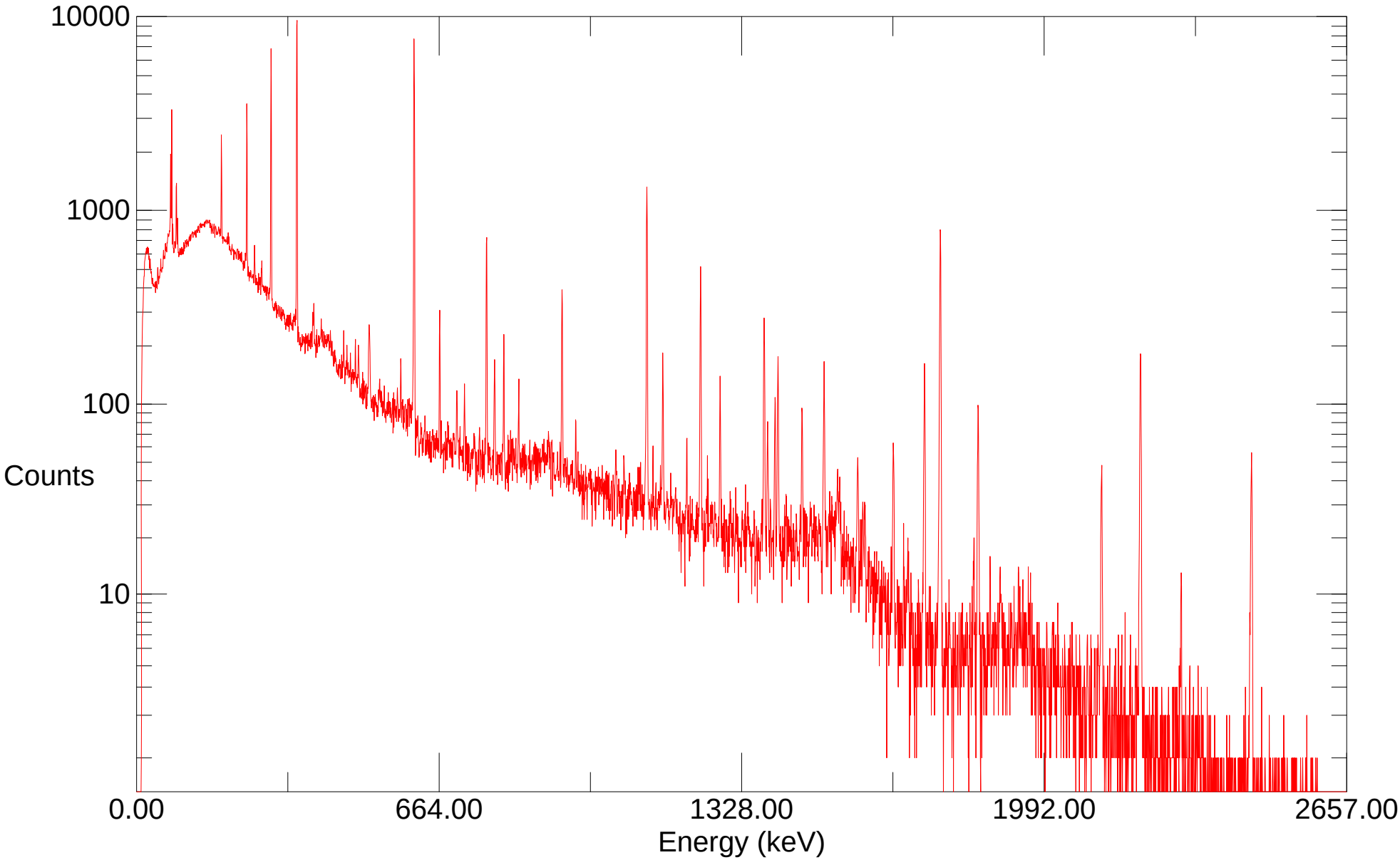
s - Peak fails shape tests.
D - Peak area deconvoluted.



Reviewed by: _____
Supervisor

SMP HS 084 15 Min Colim@6Det@Pos4

smp hs 084 array down Coli@6Det@Pos4 10_20_07



Acquired: 10/20/2007 8:42:33 AM Real Time: 926.84 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 085 15 Min Colim@6Det@Pos

Sample description
SMP HS085_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/25/2007

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 085 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 08-Oct-2007 13:50:02
Live time: 900
Real time: 913
Dead time: 1.42 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM00AE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 085 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1744

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.68	77.56	2696.	321.	0.357	109.79	1.399	PB-214	s
137.81	88.66	2476.	170.	0.189	125.97	1.226	PB-214	D
398.77	258.40	1526.	228.	0.254	121.89	2.993	XE-138	s
422.79	273.97	1661.	375.	0.417	84.56	3.354	CS-136	s
701.52	454.61	520.	214.	0.238	80.95	1.151	TE-131	sM
740.57	479.93	326.	128.	0.142	93.89	1.702	W-187	sM
751.08	486.74	462.	193.	0.214	87.88	1.760	LA-140	sM
787.92	510.60	586.	113.	0.125	95.44	1.509	TL-208	D
1026.29	665.21	258.	295.	0.327	29.00	1.629	BI-214	D
1084.86	703.11	258.	128.	0.142	100.04	2.075	RH-106M	sM
1110.58	719.63	176.	122.	0.136	53.39	1.674	SB-126	D
1185.35	768.14	320.	779.	0.866	14.50	1.714	BI-214	D
1212.30	785.74	258.	174.	0.194	51.77	2.397	PB-214	sM
1243.50	806.12	187.	190.	0.211	37.48	1.746	BI-214	D
1294.08	838.77	258.	147.	0.164	63.28	2.162	J-135	sM
1405.10	910.76	291.	31.	0.035	239.17	1.838	AC-228	D
1441.17	934.15	303.	466.	0.517	24.76	1.802	BI-214	s
1487.44	964.00	170.	91.	0.101	68.61	1.887	EU-152	D
1781.99	1155.19	189.	228.	0.253	38.54	2.817	BI-214	sM
1862.34	1207.31	160.	104.	0.116	75.81	2.258	-	sM
1910.17	1238.34	180.	731.	0.812	15.14	2.361	CO-56	sM
1975.13	1280.48	144.	157.	0.174	50.01	2.107	BI-214	sM
2125.47	1377.90	126.	450.	0.500	17.65	2.298	BI-214	D
2137.55	1385.74	105.	86.	0.095	60.15	2.306	AG-110M	D

ORTEC Spectrum name: SMP HS 085 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2162.02	1401.66	105.	174.	0.193	33.85	2.323	BI-214	D
2172.44	1408.42	111.	265.	0.294	25.00	2.331	EU-152	D
2328.41	1509.69	165.	233.	0.259	38.48	2.876	BI-214	s
2527.50	1638.88	26.	35.	0.039	91.12	0.837	-	s
2562.61	1661.67	57.	152.	0.169	38.95	2.795	BI-214	s
2668.28	1730.25	35.	314.	0.349	20.05	2.359	BI-214	
2849.85	1848.10	34.	188.	0.209	28.47	2.958	BI-214	
3268.07	2119.60	18.	102.	0.113	40.38	2.296	BI-214	
3399.80	2205.13	16.	390.	0.433	16.68	2.500	BI-214	
3774.89	2448.73	0.	114.	0.127	28.10	2.024	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

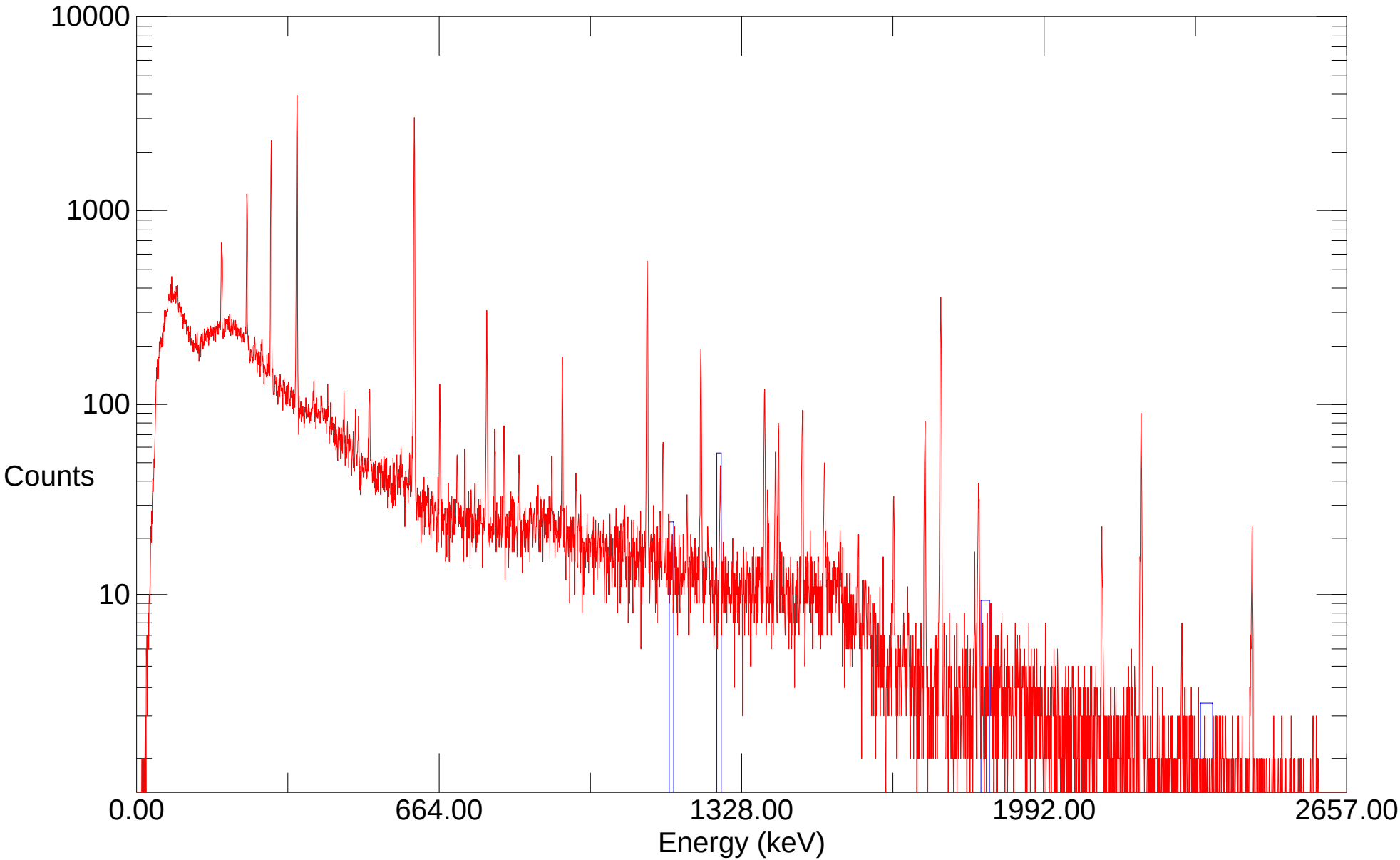
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.00	11.68	0.	1.	0.001	300.00	0.648
Pb-210	70.43	45.65	1072.	126.	0.140	176.35	1.929s
Th-234	94.05	60.95	1880.	54.	0.059	360.18	0.499s
Th-234	143.21	92.80	2183.	96.	0.107	207.73	1.228D
Ra-226	287.24	186.13	2124.	1328.	1.476	25.77	1.682s
Pb-212	368.26	238.63	1326.	0.	0.000	0.00	1.643D
Pb-214	373.30	241.90	2120.	2820.	3.133	13.26	1.680s
Pb-214	455.57	295.21	1915.	5851.	6.502	5.04	1.356D
Tl-210	459.88	298.00	4075.	112.	0.124	244.14	1.358D
Pb-212	463.10	300.09	789.	1.	0.001	9231.25	1.359D
Ac-228	523.86	339.47	868.	126.	0.141	166.06	2.086s
Pb-214	542.68	351.66	1290.	11620.	12.911	3.21	1.854s
Tl-208	788.26	510.84	572.	127.	0.141	84.54	1.509D
Tl-208	900.45	583.56	225.	29.	0.032	315.31	1.605
Bi-214	939.77	609.05	630.	9371.	10.412	3.44	1.910s
Cs-137	1020.86	661.62	204.	41.	0.046	153.86	1.626D
Bi-212	1121.96	727.17	180.	17.	0.019	335.92	1.680D
Pa-234m	1182.48	766.41	863.	91.	0.101	141.16	1.713D
Tl-210	1233.83	799.70	115.	2.	0.002	2445.86	1.741D
Tl-208	1327.06	860.16	160.	53.	0.059	180.16	1.492s
Ac-228	1405.58	911.07	244.	45.	0.050	153.52	1.839D
Ac-228	1495.08	969.11	184.	37.	0.041	163.15	1.892D
Pa-234m	1544.93	1001.44	88.	10.	0.011	411.64	0.597s
Bi-214	1728.27	1120.35	232.	1965.	2.183	8.10	2.237
Tl-210	2020.67	1310.02	32.	2.	0.002	1115.80	0.374s
K-40	2253.19	1460.88	147.	444.	0.494	22.19	2.923s
Bi-212	2491.70	1615.65	50.	31.	0.034	130.20	2.418
Bi-214	2721.97	1765.09	47.	1520.	1.689	8.19	2.537
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 085 15 Min Colim@6Det@Pos1
SMP HS085_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/25/2007



Acquired: 10/8/2007 1:50:02 PM Real Time: 912.96 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 086 15 Min Colim@6Det@Pos

Sample description
SMP HS086_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/25/2007

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 086 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 08-Oct-2007 13:02:09
Live time: 900
Real time: 917
Dead time: 1.85 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMC1AE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 086 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0908

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.43	44.35	1467.	291.	0.324	58.48	1.199	EU-155	D
78.02	50.57	1556.	69.	0.076	246.24	1.203	EU-155	D
119.18	77.23	2928.	371.	0.412	88.89	1.320	PB-214	
134.78	87.61	2801.	220.	0.245	103.99	1.224	PB-214	D
304.14	197.08	2359.	154.	0.171	202.16	1.384	TB-160	sM
399.05	258.58	1498.	392.	0.436	64.64	2.019	XE-138	s
423.35	274.33	1895.	394.	0.438	82.59	2.152	SR-91	s
626.00	405.67	760.	148.	0.164	121.44	1.516	J-134	sM
712.04	461.43	365.	101.	0.112	110.28	1.739	CS-138	M
751.71	487.15	513.	198.	0.220	83.26	2.408	LA-140	sM
787.71	510.51	764.	161.	0.179	76.61	1.509	J-133	D
803.97	521.02	308.	89.	0.099	129.46	0.973	PA-234	sM
895.35	580.26	498.	268.	0.298	68.59	2.135	TL-208	s
1026.49	665.32	328.	414.	0.460	23.68	1.629	BI-214	D
1085.41	703.47	330.	168.	0.187	82.76	2.470	RH-106M	sM
1110.27	719.59	312.	172.	0.191	84.66	1.722	SB-126	s
1185.31	768.09	442.	1190.	1.322	11.48	1.714	BI-214	D
1212.21	785.68	372.	286.	0.318	39.28	1.731	BI-212	sM
1243.62	806.06	274.	295.	0.327	29.56	1.746	BI-214	D
1266.02	820.40	221.	77.	0.086	88.64	1.759	PA-234	D
1275.16	826.33	248.	94.	0.104	77.67	1.764	PA-234	D
1294.75	839.20	334.	187.	0.208	53.90	2.191	J-135	sM
1440.87	933.96	300.	664.	0.738	17.29	2.011	BI-214	
1487.21	963.95	249.	109.	0.121	68.04	1.887	EU-152	D

ORTEC Spectrum name: SMP HS 086 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1622.27	1051.60	280.	110.	0.122	88.09	2.109	CS-136	s
1781.77	1155.05	334.	311.	0.345	38.53	2.320	BI-214	M
1824.13	1182.53	160.	70.	0.077	98.57	1.950	KR-88	M
1863.00	1207.74	152.	118.	0.131	59.65	2.317	-	sM
1909.93	1238.18	182.	1147.	1.274	10.86	2.439	BI-214	M
1976.23	1281.20	252.	236.	0.262	42.62	2.481	BI-214	sM
2125.29	1377.82	177.	689.	0.766	14.06	2.298	BI-214	D
2136.53	1385.11	148.	142.	0.158	44.26	2.306	AG-110M	D
2162.16	1401.84	191.	216.	0.240	33.89	2.323	BI-214	D
2172.07	1408.27	181.	415.	0.461	20.14	2.330	EU-152	D
2328.01	1509.43	271.	372.	0.413	29.34	2.672	BI-214	s
2373.14	1538.55	126.	83.	0.092	66.03	2.474	RB-89	D
2381.32	1543.86	155.	87.	0.097	68.73	2.481	-	D
2442.13	1583.48	150.	162.	0.180	52.77	2.665	AC-228	
2562.71	1661.73	67.	146.	0.162	38.95	2.551	BI-214	s
2668.40	1730.32	63.	411.	0.457	18.79	2.953	BI-214	
2850.13	1848.28	40.	321.	0.357	20.78	2.943	BI-214	s
3267.85	2119.46	19.	131.	0.146	32.29	3.201	BI-214	
3399.66	2205.05	14.	571.	0.634	13.14	2.729	BI-214	
3774.79	2448.66	0.	178.	0.198	22.49	4.059	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	17.33	11.25	1.	0.	0.000	360.56	0.510	s
Pb-210	71.75	46.50	1715.	99.	0.110	180.65	1.200	D
Th-234	98.77	64.01	1918.	104.	0.115	239.28	1.625	s
Th-234	143.21	92.80	2132.	95.	0.106	208.17	1.227	D
Ra-226	287.28	186.15	3430.	2264.	2.516	20.03	1.690	s
Pb-212	368.26	238.63	1072.	0.	0.000	0.00	1.360	D
Pb-214	373.20	241.83	2725.	4599.	5.110	9.44	1.747	s
Pb-214	455.57	295.21	2655.	8709.	9.677	4.08	1.356	D
Tl-210	459.88	298.00	5587.	103.	0.114	310.62	1.358	D
Pb-212	463.10	300.09	1193.	83.	0.093	178.97	1.359	D
Ac-228	528.00	342.15	1141.	25.	0.027	630.53	0.000	s
Pb-214	542.65	351.64	1961.	17494.	19.438	2.64	1.823	s
Tl-208	788.26	510.84	783.	142.	0.158	87.11	1.509	D
Tl-208	899.80	583.14	238.	0.	0.000	0.00	0.982	D
Bi-214	939.73	609.02	852.	14046.	15.606	2.79	1.942	s
Cs-137	1020.86	661.62	273.	36.	0.040	199.70	1.626	D
Bi-212	1121.96	727.17	295.	0.	0.000	0.00	0.799	D
Pa-234m	1182.48	766.41	1316.	134.	0.149	117.52	1.713	D
Tl-210	1233.83	799.70	132.	29.	0.032	177.13	1.741	D

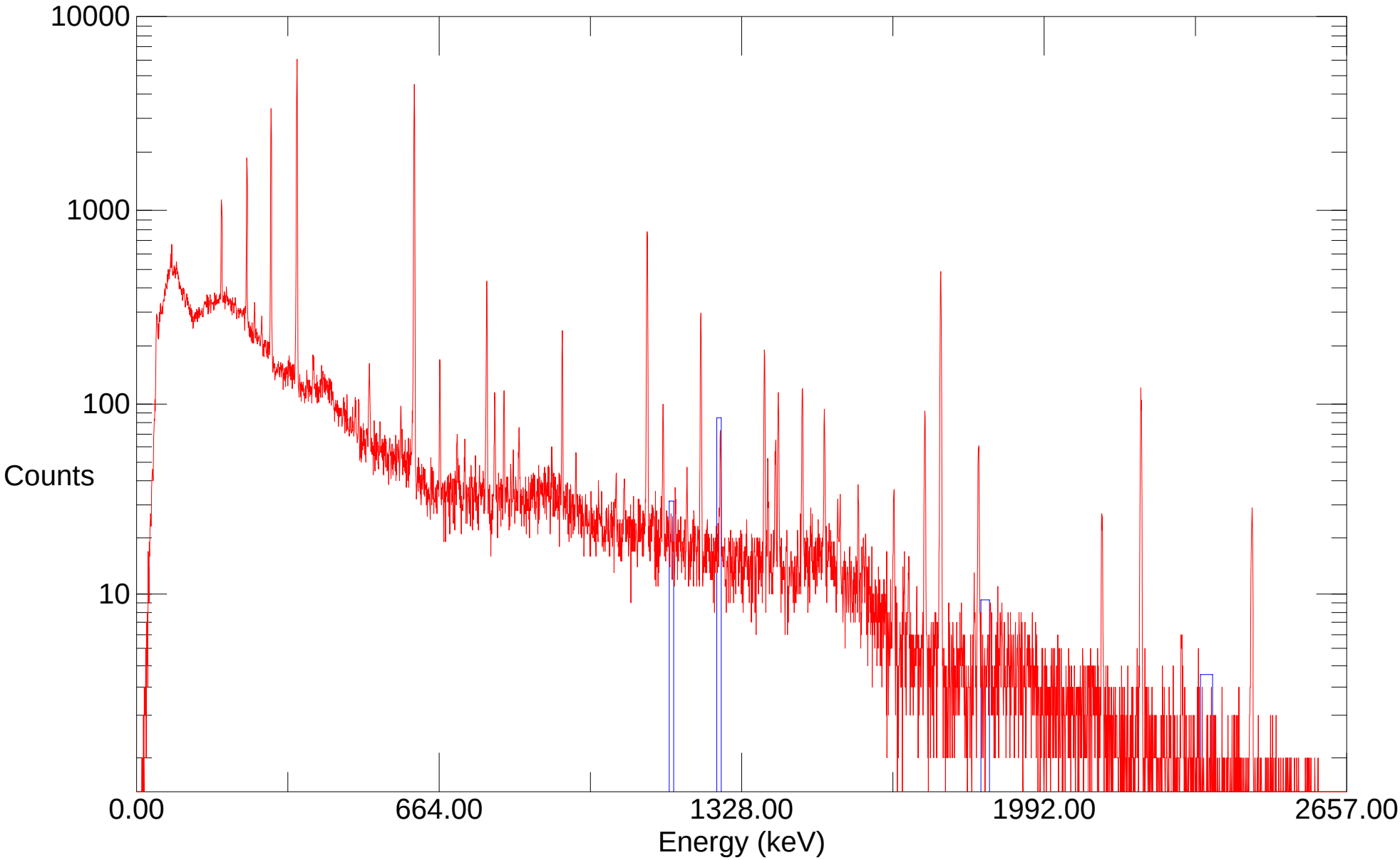
ORTEC Spectrum name: SMP HS 086 15 Min Colim@6Det@Pos

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	1324.32	858.38	246.	110.	0.122	116.73	1.188s
Ac-228	1405.40	910.95	258.	176.	0.196	73.24	0.947s
Ac-228	1495.08	969.11	179.	12.	0.014	462.38	1.891D
Pa-234m	1539.48	997.91	202.	37.	0.041	192.71	0.620s
Bi-214	1728.10	1120.24	336.	3021.	3.357	6.48	2.389
Tl-210	2021.41	1310.50	49.	4.	0.005	639.94	0.495s
K-40	2253.30	1460.95	234.	465.	0.517	24.15	2.508
Bi-212	2501.81	1622.21	62.	20.	0.023	200.56	1.525s
Bi-214	2721.81	1764.99	80.	2212.	2.457	6.88	2.813
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 086 15 Min Colim@6Det@Pos1
SMP HS086_15_Min,Colim@6, Detector @Pos1
Sample Collected 9/25/2007



Acquired: 10/8/2007 1:02:09 PM Real Time: 916.94 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 087 15 Min Colim@6Det@Pos

Sample description
smp hs 087 array down col @ 6 det pos 4 10_22_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 087 15 Min Colim@6Det@Pos1.An1

Acquisition information

Start time:	22-Oct-2007 12:40:24
Live time:	900
Real time:	924
Dead time:	2.59 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM81AE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 087 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1267

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
66.85	43.34	2031.	487.	0.541	13.84	1.199	EU-155	D
70.13	45.46	2482.	391.	0.435	18.70	1.200	EU-152	D
115.69	74.87	1711.	343.	0.381	17.90	1.217	BI-207	D
119.02	77.03	1648.	531.	0.589	11.66	1.218	PB-214	D
134.35	86.97	1312.	360.	0.400	15.16	1.224	BI-207	D
139.08	90.04	1110.	172.	0.191	28.46	1.226	PB-214	D
177.18	114.81	1632.	99.	0.110	91.80	1.085	PA-234	
212.52	137.71	1562.	94.	0.104	79.77	0.813	CS-138	
398.14	257.99	1936.	426.	0.473	26.77	1.608	XE-138	s
423.27	274.28	1695.	235.	0.261	43.41	2.197	SR-91	s
467.97	303.46	898.	90.	0.100	48.37	1.361	SE-75	D
598.62	387.92	890.	279.	0.310	26.87	3.825	RH-106M	sM
700.60	454.02	531.	205.	0.228	27.27	1.736	TE-131	sM
740.74	480.04	530.	184.	0.204	31.52	2.392	W-187	sM
751.46	486.98	350.	124.	0.138	33.24	1.659	LA-140	M
787.85	510.55	629.	110.	0.122	33.72	1.509	J-133	D
894.86	579.94	342.	139.	0.154	32.33	2.010	KR-89	s
1026.20	665.01	233.	339.	0.376	8.38	1.629	PA-234	D
1084.16	702.66	196.	107.	0.119	30.81	1.676	NB-94	
1103.23	714.75	117.	67.	0.074	26.06	1.670	SB-124	D
1109.94	719.10	235.	86.	0.095	27.45	1.673	SB-126	D
1184.85	767.89	260.	886.	0.984	4.23	1.714	BI-214	D
1212.24	785.70	272.	187.	0.208	16.94	1.602	PB-214	
1243.35	805.97	237.	222.	0.247	11.89	1.746	BI-214	D

ORTEC Spectrum name: SMP HS 087 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1294.01	838.73	206.	104.	0.116	23.79	2.111	J-135	M
1440.35	933.62	266.	566.	0.629	6.73	2.406	BI-214	s
1486.70	963.92	154.	87.	0.097	22.75	1.886	EU-152	D
1622.62	1051.83	215.	107.	0.119	27.40	1.080	-	s
1781.17	1154.66	132.	269.	0.299	9.59	1.816	BI-214	s
1862.19	1207.22	128.	80.	0.089	27.47	1.901	-	
1909.33	1237.79	216.	755.	0.839	5.33	2.365	J-133	
1975.16	1280.50	163.	180.	0.200	15.46	2.120	BI-214	s
2124.61	1377.41	107.	537.	0.597	5.10	2.297	BI-214	D
2137.07	1385.49	114.	105.	0.116	17.44	2.306	AG-110M	D
2161.36	1401.32	103.	169.	0.188	11.45	2.323	BI-214	D
2171.38	1407.82	98.	282.	0.313	7.75	2.330	BI-214	D
2290.93	1485.37	90.	31.	0.034	53.10	1.340	-	s
2326.35	1508.35	100.	336.	0.373	7.99	2.847	BI-214	s
2442.80	1583.91	89.	116.	0.129	18.95	2.433	AC-228	s
2467.07	1599.67	63.	40.	0.044	36.41	1.762	EU-154	s
2561.12	1660.70	59.	142.	0.158	14.33	2.653	BI-214	s
2667.41	1729.68	30.	269.	0.299	7.04	2.897	BI-214	
2848.91	1847.49	25.	184.	0.204	9.26	2.484	BI-214	
3266.79	2118.77	12.	108.	0.120	11.56	2.303	BI-214	
3398.65	2204.39	10.	454.	0.504	4.91	2.774	BI-214	
3773.88	2448.07	0.	122.	0.136	9.05	3.427	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	17.33	11.25	1.	0.	0.000	120.19	0.510s
Pb-210	71.75	46.50	2697.	65.	0.073	113.09	1.200D
Th-234	99.48	64.47	2216.	140.	0.155	72.08	2.164s
Th-234	143.21	92.80	1257.	36.	0.040	139.51	1.228D
Ra-226	286.93	185.93	3010.	1848.	2.053	7.34	1.441s
Pb-212	368.26	238.63	1470.	165.	0.184	33.72	1.318D
Pb-214	373.43	241.98	1597.	3015.	3.350	2.61	1.321D
Pb-214	455.57	295.21	1402.	6662.	7.402	1.46	1.356D
Tl-210	459.88	298.00	3716.	103.	0.114	84.50	1.358D
Pb-212	463.10	300.09	1093.	80.	0.089	59.67	1.359D
Ac-228	522.04	338.29	904.	108.	0.119	66.32	1.141s
Pb-214	542.60	351.61	1488.	12116.	13.462	1.06	1.554
Tl-208	788.26	510.84	624.	115.	0.127	32.20	1.509D
Tl-208	899.80	583.14	207.	0.	0.000	0.00	1.349D
Bi-214	939.54	608.90	466.	10154.	11.282	1.06	1.754
Cs-137	1020.86	661.62	215.	13.	0.015	157.33	1.626D
Bi-212	1123.00	727.84	60.	0.	0.000	948.68	0.000s

ORTEC Spectrum name: SMP HS 087 15 Min Colim@6Det@Pos

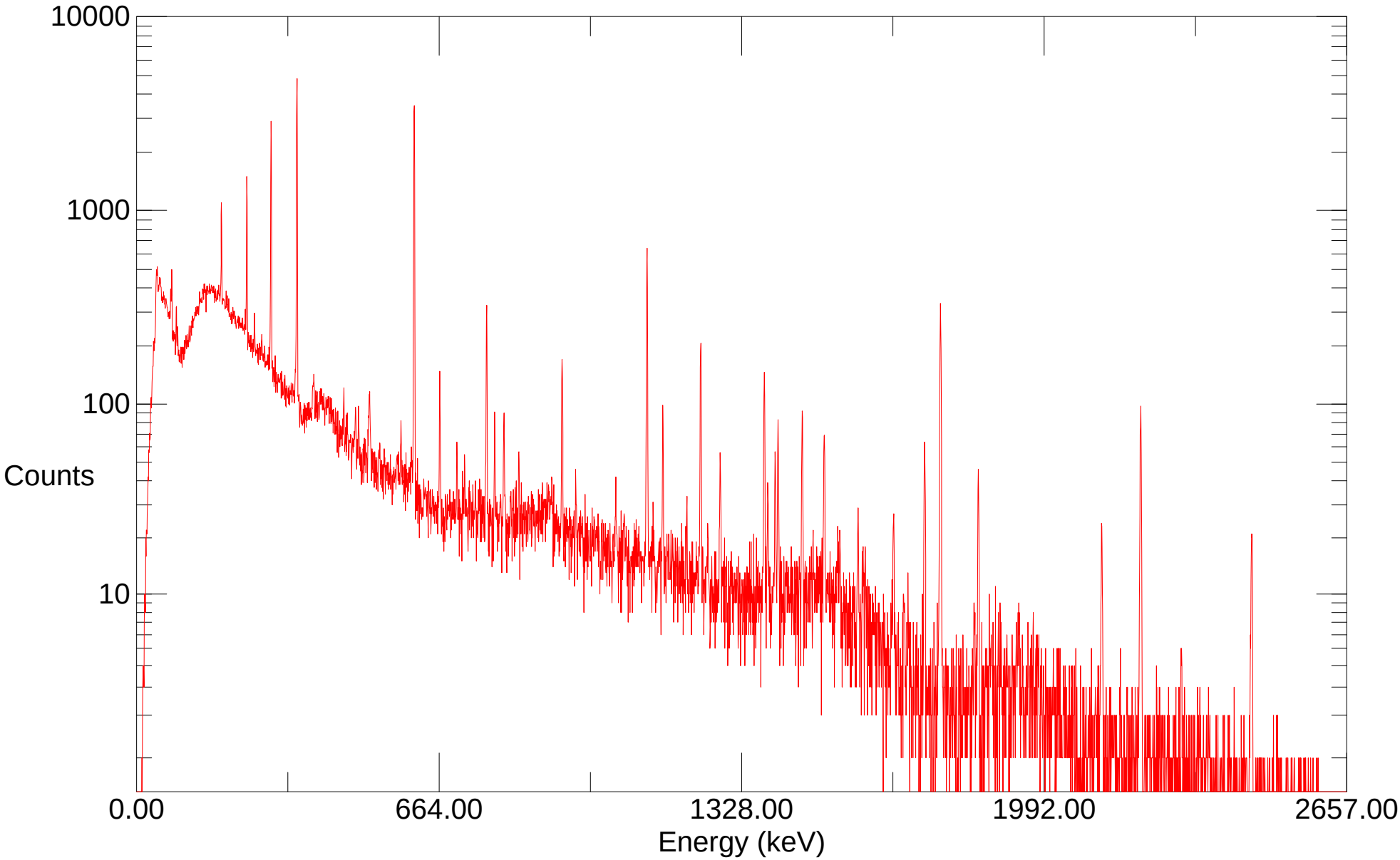
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pa-234m	1182.48	766.41	1031.	58.	0.064	79.38	1.713D
Tl-210	1233.83	799.70	211.	32.	0.036	66.69	1.741D
Tl-208	1327.49	860.43	180.	43.	0.048	74.74	2.524s
Ac-228	1405.83	911.23	236.	104.	0.116	38.77	2.402s
Ac-228	1495.08	969.11	180.	28.	0.031	71.03	1.891D
Pa-234m	1542.40	999.80	140.	24.	0.027	78.03	1.008s
Bi-214	1727.65	1119.95	228.	2094.	2.326	2.57	1.967
Tl-210	2021.00	1310.24	25.	1.	0.001	620.48	0.000s
K-40	2252.90	1460.69	100.	310.	0.344	7.97	2.242
Bi-212	2500.98	1621.67	26.	4.	0.005	172.28	0.659s
Bi-214	2721.06	1764.50	51.	1461.	1.624	2.80	2.709
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 087 15 Min Colim@6Det@Pos1

smp hs 087 array down col @ 6 det pos 4 10_22_07



Acquired: 10/22/2007 12:40:24 PM Real Time: 923.90 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 088 15 Min Colim@6Det@Pos

Sample description
smp hs 088 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 088 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	30-Oct-2007 08:40:31
Live time:	900
Real time:	908
Dead time:	0.91 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM4CAE~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 088 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2627

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.36	74.72	1081.	194.	0.216	74.98	1.217	BI-207	D
119.18	77.20	1064.	226.	0.251	64.47	1.218	PB-214	D
134.59	87.22	1088.	166.	0.184	135.31	1.094	PB-214	s
597.79	387.38	470.	138.	0.153	118.23	2.109	RH-106M	sM
711.58	461.13	192.	90.	0.099	103.63	2.331	CS-138	sM
751.39	486.94	270.	106.	0.118	117.58	2.160	LA-140	sM
787.10	510.20	359.	109.	0.121	79.16	1.508	J-133	D
809.58	524.66	126.	52.	0.058	136.04	1.046	J-135	M
1025.68	664.87	129.	167.	0.186	37.04	1.629	PA-234	D
1184.52	767.73	210.	454.	0.504	22.45	1.975	BI-214	s
1211.65	785.32	147.	121.	0.134	60.25	3.113	BI-212	s
1242.47	805.42	135.	108.	0.120	53.83	1.746	PA-234	D
1439.71	933.20	205.	253.	0.281	37.65	2.236	BI-214	s
1781.11	1154.62	98.	130.	0.144	47.52	1.333	BI-214	
1908.80	1237.45	86.	390.	0.433	20.04	2.452	J-133	
2123.45	1376.70	58.	270.	0.301	24.09	2.742	BI-214	s
2160.09	1400.45	59.	87.	0.097	49.37	2.322	BI-214	D
2170.88	1407.45	56.	106.	0.118	41.78	2.329	BI-214	D
2325.32	1507.68	63.	158.	0.176	38.45	3.277	BI-214	s
2666.39	1729.02	24.	133.	0.148	33.53	2.275	BI-214	
2848.24	1847.05	24.	95.	0.106	43.64	2.823	BI-214	
3396.88	2203.24	7.	197.	0.219	23.18	3.563	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

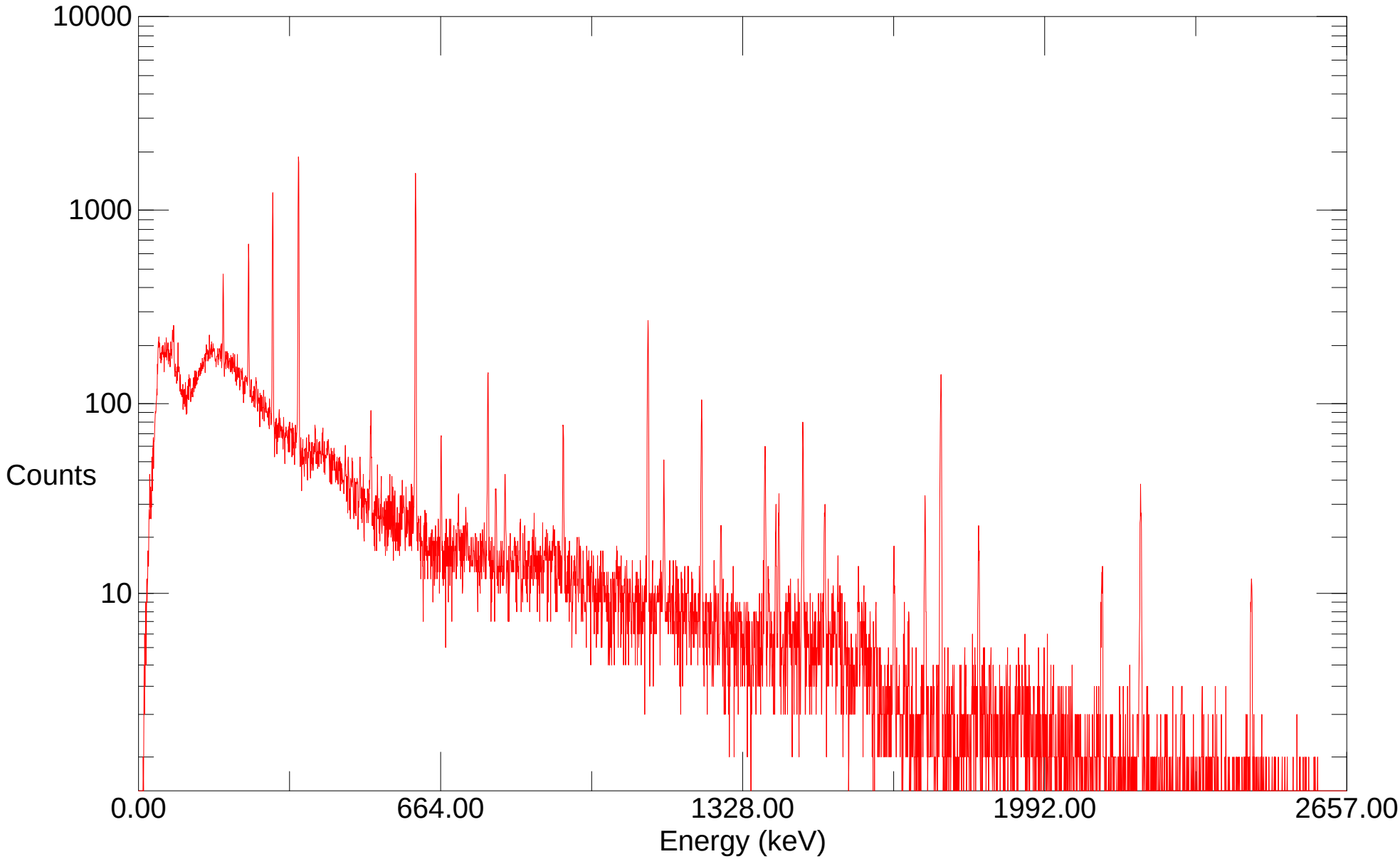
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	5.	2.	0.003	408.83	0.000s
Pb-210	70.38	45.61	1107.	87.	0.097	231.70	0.802s
Th-234	98.83	64.05	990.	116.	0.129	165.11	1.967s
Th-234	141.78	91.87	1008.	49.	0.054	457.88	0.778
Ra-226	286.83	185.86	1455.	958.	1.064	30.82	1.768s
Pb-212	368.26	238.63	1080.	0.	0.000	0.00	2.083D
Pb-214	372.96	241.67	1165.	1491.	1.657	18.53	1.671s
Pb-214	455.57	295.21	866.	2870.	3.189	7.09	1.356D
Tl-210	459.88	298.00	1573.	60.	0.067	283.72	1.357D
Pb-212	463.10	300.09	527.	42.	0.046	238.48	1.359D
Ac-228	521.58	337.99	268.	48.	0.054	194.11	1.217
Pb-214	542.30	351.42	771.	5629.	6.254	4.79	1.830s
Tl-208	788.26	510.84	380.	84.	0.094	103.19	1.509D
Tl-208	900.30	583.46	176.	37.	0.041	245.53	2.959s
Bi-214	939.11	608.62	282.	4679.	5.199	4.79	1.893s
Cs-137	1020.86	661.62	96.	3.	0.003	1511.53	1.626D
Bi-212	1121.12	726.63	70.	8.	0.009	596.47	1.297
Pa-234m	1182.48	766.41	389.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	112.	15.	0.017	306.51	1.741D
Tl-208	1327.00	860.12	32.	0.	0.000	2078.46	0.000s
Ac-228	1406.56	911.70	173.	44.	0.049	167.24	1.556s
Ac-228	1496.04	969.74	121.	54.	0.060	116.98	1.581s
Pa-234m	1541.73	999.37	53.	10.	0.011	323.11	1.190s
Bi-214	1726.93	1119.48	133.	1028.	1.142	11.37	2.328s
Tl-210	2020.00	1309.59	12.	0.	0.000	1272.79	0.000s
K-40	2251.90	1460.04	63.	326.	0.362	22.12	2.639s
Bi-212	2498.39	1619.99	28.	50.	0.055	78.61	2.125s
Bi-214	2719.86	1763.72	28.	710.	0.789	12.22	3.156
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 088 15 Min Colim@6Det@Pos4

smp hs 088 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 8:40:31 AM Real Time: 908.30 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 089 15 Min Colim@6Det@Pos

Sample description
smp hs 089 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 089 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 30-Oct-2007 12:28:25
Live time: 900
Real time: 912
Dead time: 1.32 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM0B0E~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 089 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1997

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.24	74.63	1712.	317.	0.353	57.84	1.217	BI-207	D
119.09	77.13	2088.	483.	0.536	42.44	1.218	PB-214	D
134.03	86.85	2048.	317.	0.352	97.24	1.501	BI-207	s
398.91	258.49	1765.	231.	0.257	135.10	1.807	XE-138	s
423.55	274.46	1413.	306.	0.340	88.11	2.635	SR-91	s
506.70	328.06	574.	70.	0.078	148.91	1.378	AC-228	D
514.48	333.11	876.	94.	0.104	137.10	1.382	AU-196	D
684.18	443.37	456.	97.	0.108	150.79	1.872	EU-152	sM
712.45	461.70	406.	116.	0.129	114.00	2.138	CS-138	sM
724.11	469.26	285.	90.	0.100	116.90	1.706	-	M
750.98	486.67	400.	124.	0.138	111.50	1.480	LA-140	sM
787.77	510.55	562.	170.	0.189	63.30	1.509	J-133	D
895.52	580.37	310.	122.	0.135	105.60	1.838	TL-208	s
1025.83	664.91	257.	266.	0.296	31.45	1.629	PA-234	D
1084.27	702.73	240.	132.	0.147	90.11	3.107	NB-94	sM
1108.67	718.55	235.	112.	0.124	104.50	1.819	RH-106M	sM
1160.11	751.90	182.	94.	0.105	113.32	1.939	LA-140	sM
1184.43	767.67	351.	926.	1.029	14.62	2.293	BI-214	s
1211.47	785.20	262.	158.	0.175	57.04	1.799	BI-212	M
1242.89	805.56	227.	220.	0.244	35.48	1.746	PA-234	D
1285.97	833.48	175.	36.	0.040	164.48	1.770	MN-54	D
1293.66	838.47	216.	98.	0.108	70.81	1.774	J-135	D
1439.87	933.31	275.	515.	0.572	22.06	2.272	BI-214	s
1569.86	1017.61	152.	37.	0.041	168.90	1.889	RH-106M	

ORTEC Spectrum name: SMP HS 089 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1620.48	1050.44	186.	62.	0.069	120.48	1.328	CS-136	
1746.55	1132.21	148.	56.	0.062	119.79	1.618	J-135	M
1780.59	1154.28	142.	244.	0.271	31.83	2.602	BI-214	sM
1908.61	1237.33	210.	732.	0.814	16.06	2.091	J-133	M
1974.99	1280.39	162.	216.	0.239	41.49	1.989	BI-214	M
2123.88	1377.00	125.	462.	0.513	17.32	2.297	BI-214	D
2135.81	1384.73	112.	87.	0.097	60.64	2.305	AG-110M	D
2160.36	1400.69	91.	187.	0.207	30.91	2.322	BI-214	D
2171.00	1407.59	104.	255.	0.283	25.30	2.330	BI-214	D
2326.96	1508.75	175.	274.	0.304	32.65	2.507	BI-214	
2440.14	1582.19	122.	112.	0.124	69.27	1.173	-	s
2460.08	1595.13	133.	82.	0.091	94.33	1.821	LA-140	
2560.84	1660.52	70.	141.	0.157	45.84	2.819	BI-214	
2666.20	1728.90	65.	283.	0.314	25.93	2.560	BI-214	
2847.83	1846.78	48.	186.	0.207	31.36	2.632	BI-214	
3266.06	2118.30	10.	118.	0.131	32.00	2.455	BI-214	
3397.19	2203.44	18.	446.	0.496	15.40	2.955	BI-214	
3772.24	2447.01	0.	121.	0.134	27.27	2.536	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	72.33	46.88	1168.	73.	0.081	245.79	0.959
Th-234	99.84	64.70	2629.	94.	0.104	252.78	1.008
Th-234	142.95	92.63	1564.	68.	0.076	369.26	2.665s
Ra-226	287.15	186.07	2637.	1704.	1.893	22.41	1.490s
Pb-212	368.26	238.63	1777.	50.	0.056	359.53	1.318D
Pb-214	373.43	241.98	1791.	2656.	2.951	8.92	1.320D
Pb-214	455.57	295.21	1830.	6303.	7.004	4.75	1.356D
Tl-210	459.88	298.00	3417.	73.	0.081	340.77	1.357D
Pb-212	463.10	300.09	954.	88.	0.098	152.18	1.359D
Ac-228	522.09	338.32	758.	55.	0.061	218.04	1.385D
Pb-214	542.33	351.44	1426.	11958.	13.287	3.22	1.827s
Tl-208	788.26	510.84	607.	125.	0.139	87.88	1.509D
Tl-208	899.80	583.14	114.	0.	0.000	0.00	0.648D
Bi-214	939.20	608.68	572.	9932.	11.036	3.30	1.924s
Cs-137	1020.86	661.62	280.	18.	0.020	392.68	1.626D
Bi-212	1120.85	726.45	108.	24.	0.026	255.24	1.748
Pa-234m	1182.48	766.41	288.	0.	0.000	0.00	2.302D
Tl-210	1233.83	799.70	151.	32.	0.035	171.94	1.741D
Tl-208	1326.16	859.57	204.	54.	0.059	208.03	2.164s
Ac-228	1405.65	911.11	160.	65.	0.072	135.74	1.450s

ORTEC Spectrum name: SMP HS 089 15 Min Colim@6Det@Pos

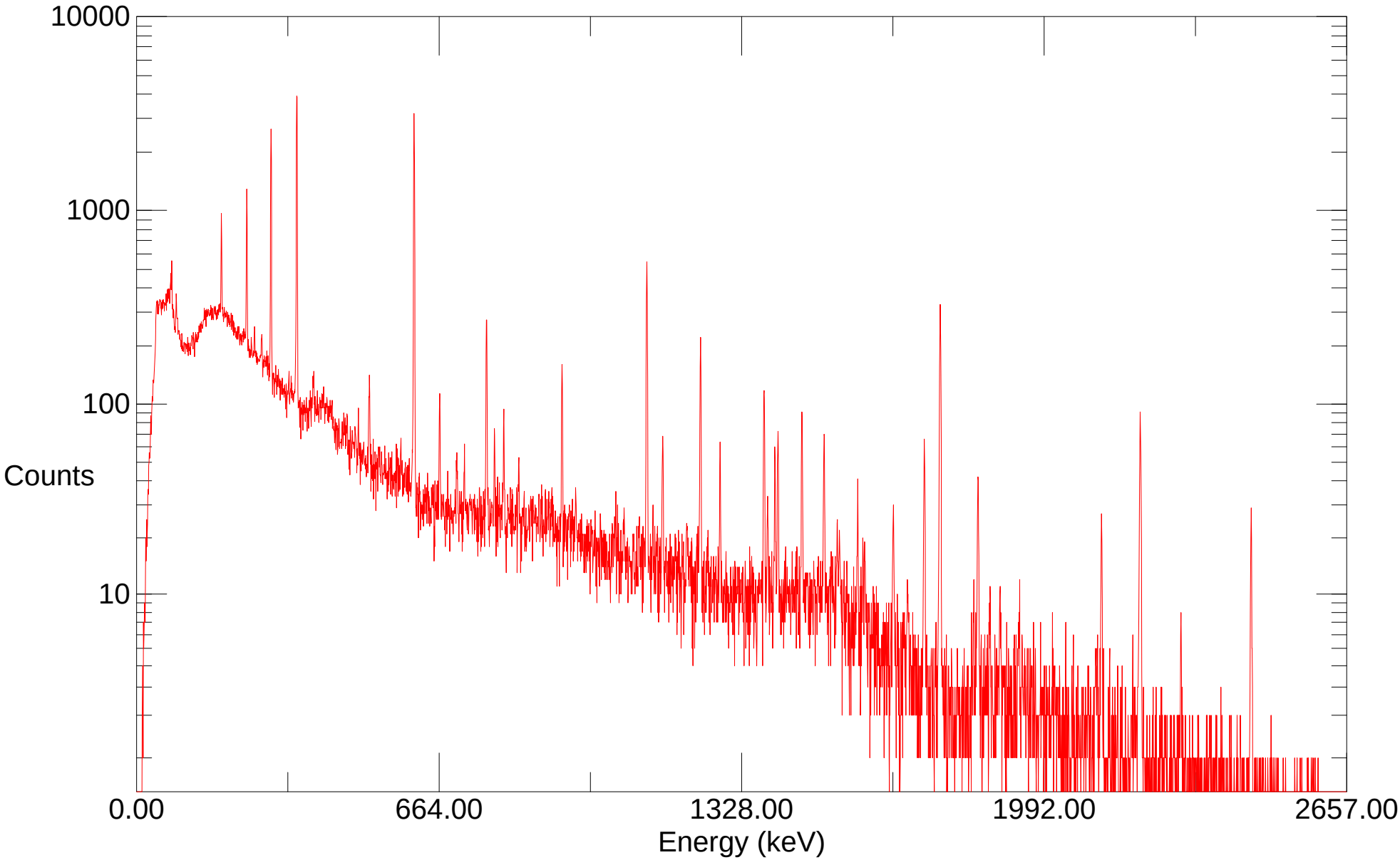
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1502.00	973.60	205.	21.	0.023	356.29	0.000s
Pa-234m	1539.64	998.01	141.	63.	0.070	102.71	1.541s
Bi-214	1727.13	1119.61	243.	2079.	2.310	7.86	2.357
Tl-210	2019.24	1309.10	65.	16.	0.017	248.28	1.403s
K-40	2252.03	1460.12	138.	359.	0.399	25.22	2.420s
Bi-212	2492.56	1616.21	82.	22.	0.024	252.17	1.011s
Bi-214	2720.08	1763.87	52.	1534.	1.704	8.28	2.780
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 089 15 Min Colim@6Det@Pos4

smp hs 089 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 12:28:25 PM Real Time: 912.08 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 090 12_21_07.An1

Sample description
SMP HS 090 12_21_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 090 12_21_07.An1

Acquisition information
Start time: 21-Dec-2007 11:49:58
Live time: 900
Real time: 912
Dead time: 1.35 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 090 12_21_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 090 12_21_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1570

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
114.78	74.42	310.	89.	0.099	89.25	1.217	BI-207	D
119.40	77.42	338.	152.	0.169	56.89	1.218	PB-214	D
134.38	87.08	207.	98.	0.109	93.15	1.682	BI-207	s
899.27	582.86	71.	42.	0.047	96.27	1.564	TL-208	D
1185.53	768.38	76.	127.	0.141	44.51	1.691	BI-214	
1441.32	934.25	39.	58.	0.065	62.68	1.264	BI-214	
1487.37	964.15	27.	23.	0.026	113.45	1.887	EU-152	D
1910.62	1238.63	45.	149.	0.166	36.52	2.499	CO-56	s
2125.78	1378.41	28.	63.	0.070	52.01	2.298	BI-214	D
2138.07	1386.38	13.	36.	0.040	64.90	2.307	AG-110M	D
2172.98	1408.84	30.	43.	0.048	84.88	1.003	EU-152	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.14	11.77	8.	8.	0.009	193.50	1.749s
Pb-210	71.80	46.53	536.	83.	0.092	189.99	1.015s
Th-234	99.62	64.56	318.	48.	0.053	227.07	1.782s
Th-234	144.00	93.31	126.	11.	0.012	492.42	0.648
Ra-226	287.09	186.03	490.	458.	0.509	38.18	1.599s

ORTEC Spectrum name: SMP HS 090 12_21_07.An1

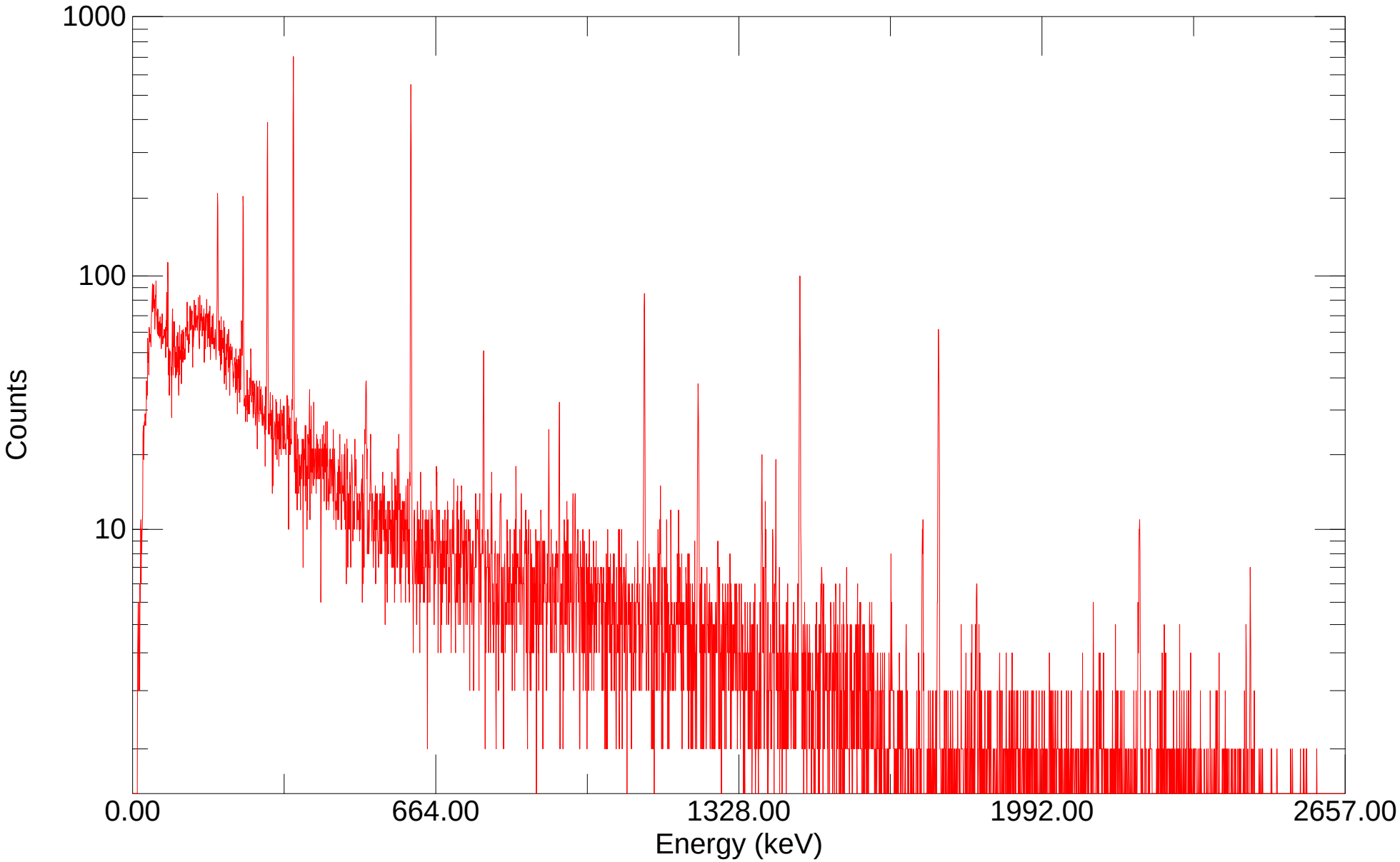
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	368.26	238.63	255.	0.	0.000	0.00	1.076D
Pb-214	373.40	241.96	320.	399.	0.443	33.62	1.460s
Pb-214	455.57	295.21	187.	889.	0.988	11.99	1.356D
Tl-210	459.88	298.00	671.	12.	0.013	934.09	1.358D
Pb-212	463.10	300.09	207.	14.	0.015	452.76	1.359D
Ac-228	523.11	338.98	150.	94.	0.104	100.62	1.585s
Pb-214	542.88	351.79	282.	1512.	1.680	9.63	1.369
Tl-208	788.26	510.84	149.	79.	0.088	73.79	1.509D
Tl-208	899.80	583.14	108.	4.	0.005	1009.79	1.564D
Bi-214	940.05	609.23	91.	1351.	1.501	9.03	1.473
Cs-137	1021.83	662.25	35.	2.	0.002	1272.79	1.087
Bi-212	1119.18	725.37	60.	18.	0.020	222.36	0.508s
Pa-234m	1182.48	766.41	61.	0.	0.000	0.00	0.766D
Tl-210	1231.95	798.48	27.	13.	0.015	195.58	1.159s
Tl-208	1327.71	860.57	52.	37.	0.041	115.14	1.999s
Ac-228	1405.34	910.91	50.	50.	0.055	83.48	1.146
Ac-228	1495.08	969.11	41.	32.	0.035	101.15	1.891D
Pa-234m	1541.94	999.50	40.	19.	0.021	185.31	0.833s
Bi-214	1728.61	1120.57	51.	284.	0.316	23.13	1.984
Tl-210	2021.67	1310.67	16.	3.	0.003	694.00	0.447s
K-40	2253.99	1461.40	33.	332.	0.369	19.46	1.878s
Bi-212	2500.00	1621.03	5.	0.	0.000	821.58	0.000s
Bi-214	2722.42	1765.39	0.	253.	0.281	18.86	2.475
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiD

SMP HS 090 12_21_07



Acquired: 12/21/2007 11:49:58 AM Real Time: 912.28 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 091 15 Min Colim@6Det@Pos

Sample description
SMP HS 91 15 min down Coli@6Det@Pos4 10_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 091 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Oct-2007 08:53:43
Live time: 900
Real time: 912
Dead time: 1.30 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM016D~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2210

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.26	74.72	1608.	402.	0.446	44.93	1.217	BI-207	D
119.01	77.15	1666.	705.	0.783	27.04	1.218	PB-214	D
134.53	87.18	1998.	400.	0.444	72.78	1.406	BI-207	s
204.06	132.23	1632.	186.	0.207	123.56	1.662	HF-181	s
380.30	246.60	1439.	124.	0.137	132.89	1.324	EU-154	D
399.72	259.01	2134.	376.	0.418	95.23	1.614	XE-138	s
424.49	275.07	1606.	368.	0.409	78.10	1.776	ND-147	s
598.78	388.03	1122.	246.	0.273	105.89	2.526	RH-106M	sM
666.80	432.11	702.	89.	0.099	211.85	0.961	LA-140	sM
750.66	486.46	524.	151.	0.168	104.58	1.455	LA-140	sM
787.55	510.69	630.	327.	0.364	36.52	1.509	TL-208	D
1025.93	664.91	273.	350.	0.389	25.69	1.629	PA-234	D
1084.12	702.63	302.	138.	0.153	100.07	2.583	NB-94	s
1110.11	719.48	290.	116.	0.129	111.42	1.236	SB-126	s
1144.35	741.69	147.	57.	0.063	133.67	0.881	PA-234	s
1184.50	767.69	303.	918.	1.020	12.76	1.714	BI-214	D
1211.67	785.34	364.	222.	0.247	48.99	2.045	BI-212	s
1242.95	805.45	272.	247.	0.274	34.23	1.746	PA-234	D
1293.25	838.23	301.	139.	0.155	67.79	2.005	J-135	sM
1439.97	933.37	392.	570.	0.633	23.58	1.800	BI-214	
1516.50	983.00	174.	56.	0.062	118.71	1.858	PA-234	
1781.01	1154.56	215.	261.	0.290	35.88	2.024	BI-214	
1861.26	1206.61	140.	74.	0.082	90.11	1.547	-	
1908.88	1237.51	244.	890.	0.989	14.71	1.974	J-133	s

ORTEC Spectrum name: SMP HS 091 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1975.18	1280.51	184.	233.	0.259	38.79	2.169	BI-214	s
2124.07	1377.06	128.	527.	0.586	15.92	2.297	BI-214	D
2135.94	1384.75	128.	118.	0.131	49.18	2.305	AG-110M	D
2160.49	1400.76	90.	186.	0.207	30.88	2.322	BI-214	D
2171.02	1407.60	109.	366.	0.406	19.84	2.330	BI-214	D
2327.08	1508.83	142.	302.	0.336	28.85	2.393	BI-214	s
2440.79	1582.61	84.	88.	0.097	61.84	1.506	-	s
2561.84	1661.17	88.	168.	0.186	42.43	2.160	BI-214	s
2666.69	1729.21	37.	372.	0.414	18.26	2.491	BI-214	
2848.04	1846.92	38.	213.	0.237	27.14	2.336	BI-214	
3265.67	2118.04	8.	118.	0.131	31.28	2.452	BI-214	
3397.93	2203.92	11.	482.	0.536	14.37	2.516	BI-214	
3772.76	2447.34	0.	155.	0.172	24.10	4.416	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	18.70	12.13	44.	9.	0.010	321.85	0.817	
Pb-210	74.57	48.33	1360.	121.	0.134	206.26	0.801	s
Th-234	99.76	64.65	1584.	111.	0.123	253.87	1.711	s
Th-234	141.63	91.78	1046.	30.	0.033	562.85	0.810	
Ra-226	287.18	186.09	3310.	2062.	2.291	21.54	1.418	
Pb-212	368.26	238.63	1500.	0.	0.000	0.00	1.062	D
Pb-214	373.43	241.98	1636.	2837.	3.152	8.27	1.321	D
Pb-214	455.57	295.21	1301.	6323.	7.025	4.48	1.356	D
Tl-210	459.88	298.00	3559.	77.	0.085	332.32	1.358	D
Pb-212	463.10	300.09	1286.	64.	0.071	242.03	1.359	D
Ac-228	522.08	338.31	652.	42.	0.047	340.46	0.629	s
Pb-214	542.53	351.56	1625.	11430.	12.700	3.38	1.594	
Tl-208	788.26	510.84	955.	2.	0.003	5763.00	1.509	D
Tl-208	899.72	583.09	267.	79.	0.088	128.61	2.115	s
Bi-214	939.28	608.74	538.	10228.	11.364	3.19	1.726	
Cs-137	1020.86	661.62	257.	9.	0.010	754.11	1.626	D
Bi-212	1119.91	725.84	135.	23.	0.026	290.35	0.973	s
Pa-234m	1182.48	766.41	1163.	27.	0.030	543.52	1.713	D
Tl-210	1233.83	799.70	249.	13.	0.014	536.50	1.741	D
Tl-208	1331.58	863.09	232.	34.	0.038	215.78	1.027	s
Ac-228	1406.31	911.55	253.	96.	0.107	130.37	1.328	s
Ac-228	1494.64	968.83	158.	74.	0.083	123.51	1.556	s
Pa-234m	1543.49	1000.50	231.	33.	0.037	238.37	2.496	s
Bi-214	1727.27	1119.70	280.	2332.	2.591	7.51	2.085	
Tl-210	2022.48	1311.20	56.	9.	0.010	366.67	0.894	s
K-40	2251.51	1459.79	170.	326.	0.362	28.77	1.717	

ORTEC Spectrum name: SMP HS 091 15 Min Colim@6Det@Pos

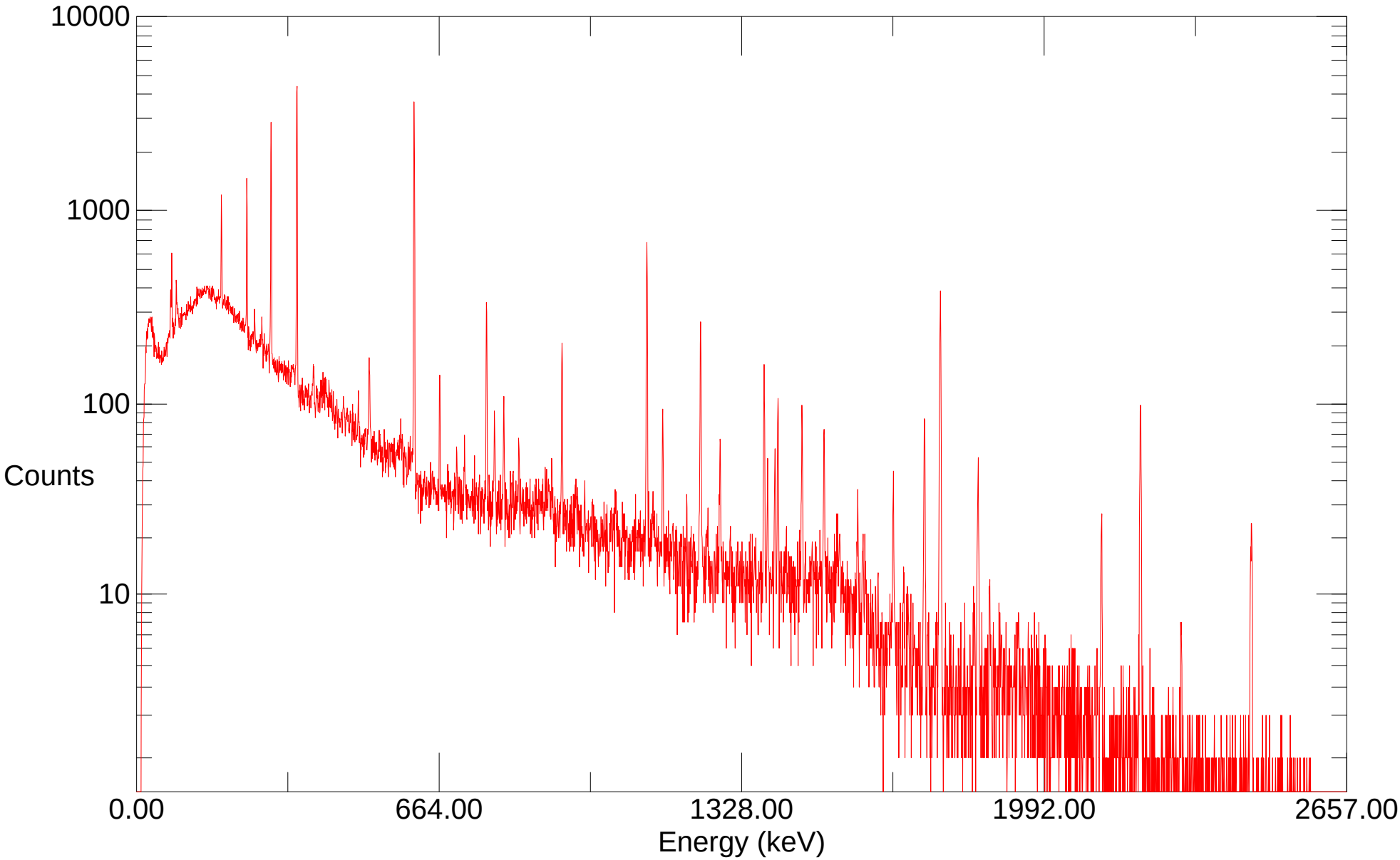
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-212	2500.89	1621.62	32.	19.	0.021	152.81	1.922
Bi-214	2720.35	1764.04	35.	1714.	1.904	7.57	2.623
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: ___ _____
Supervisor

SMP HS 091 15 Min Colim@6Det@Pos1

SMP HS 91 15 min down Coli@6Det@Pos4 10_16_07



Acquired: 10/16/2007 8:53:43 AM Real Time: 911.86 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 092 12_21_07.An1

Sample description
SMP HS 092 12_21_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 092 12_21_07.An1

Acquisition information
Start time:	21-Dec-2007 12:14:07
Live time:	900
Real time:	924
Dead time:	2.64 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 092 12_21_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 092 12_21_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1297

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.52	44.52	3001.	366.	0.407	65.43	1.199	EU-155	D
114.97	74.49	1674.	460.	0.511	40.25	1.217	BI-207	D
119.17	77.21	1651.	816.	0.907	23.59	1.218	PB-214	D
134.60	87.17	1186.	427.	0.475	37.12	1.224	BI-207	D
138.95	89.99	1251.	187.	0.207	83.37	1.226	PB-214	D
399.29	258.74	1755.	401.	0.446	78.22	1.611	XE-138	s
424.07	274.79	1404.	320.	0.356	84.07	1.611	SR-91	s
598.47	387.82	974.	356.	0.396	68.80	3.756	RH-106M	sM
700.63	454.03	590.	152.	0.169	114.62	1.983	TE-131	sM
711.50	461.08	585.	164.	0.182	110.88	1.427	CS-138	sM
741.34	480.64	365.	152.	0.169	58.70	1.486	W-187	D
751.27	487.07	437.	179.	0.199	54.24	1.491	LA-140	D
788.63	511.07	655.	124.	0.138	91.73	1.509	TL-208	D
894.91	579.97	312.	118.	0.131	99.52	2.405	KR-89	s
1014.22	657.18	213.	49.	0.054	134.48	1.623	AS-76	D
1026.85	665.37	291.	345.	0.384	26.46	1.629	BI-214	D
1084.69	703.01	270.	182.	0.202	75.03	2.657	RH-106M	sM
1110.82	720.06	194.	127.	0.141	53.59	1.674	SB-126	D
1185.52	768.32	275.	957.	1.063	12.18	1.714	BI-214	D
1212.23	785.70	304.	215.	0.239	46.84	1.730	PB-214	sM
1243.99	806.11	238.	235.	0.261	34.00	1.747	BI-214	D
1294.75	839.20	192.	123.	0.137	58.28	1.777	J-135	M
1441.27	934.22	249.	491.	0.545	21.15	2.135	BI-214	
1487.63	964.19	182.	102.	0.113	63.44	1.887	EU-152	D

ORTEC Spectrum name: SMP HS 092 12_21_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1782.51	1155.53	224.	260.	0.289	36.61	1.626	BI-214	M
1863.71	1208.20	175.	113.	0.126	71.51	2.110	-	sM
1910.44	1238.52	190.	914.	1.016	13.56	2.020	CO-56	M
1976.18	1281.16	130.	245.	0.272	30.86	2.400	BI-214	M
2125.76	1378.09	91.	571.	0.634	14.43	2.298	BI-214	D
2137.29	1385.57	115.	136.	0.151	42.33	2.306	AG-110M	D
2162.13	1401.71	122.	218.	0.243	29.54	2.323	BI-214	D
2172.79	1408.63	112.	330.	0.366	21.42	2.331	EU-152	D
2329.04	1510.10	177.	298.	0.331	32.45	1.861	BI-214	
2373.64	1539.01	132.	78.	0.087	71.16	2.475	RB-89	D
2381.56	1544.15	120.	65.	0.072	80.80	2.481	-	D
2442.17	1583.50	90.	110.	0.122	56.22	2.678	AC-228	
2468.02	1600.28	95.	40.	0.044	139.77	1.777	EU-154	
2563.64	1662.33	68.	110.	0.122	50.94	2.234	BI-214	
2612.32	1693.93	52.	60.	0.067	85.42	1.145	PA-234	s
2668.86	1730.62	30.	307.	0.341	19.47	2.765	BI-214	
2850.20	1848.32	38.	188.	0.209	28.46	2.239	BI-214	
3268.67	2119.99	11.	111.	0.124	33.05	2.680	BI-214	
3400.50	2205.59	15.	435.	0.483	15.34	2.547	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.83	12.22	3.	1.	0.001	540.83	0.879
Pb-210	71.75	46.50	3225.	146.	0.162	166.96	1.200D
Th-234	98.00	63.51	906.	13.	0.014	1101.42	0.648
Th-234	143.21	92.80	1368.	5.	0.005	3320.46	1.228D
Ra-226	287.27	186.14	2786.	2152.	2.392	18.42	1.537
Pb-212	368.26	238.63	1353.	95.	0.106	166.75	1.318D
Pb-214	373.43	241.98	1531.	3319.	3.688	7.22	1.321D
Pb-214	455.57	295.21	1354.	7317.	8.130	4.10	1.356D
Tl-210	459.88	298.00	4976.	84.	0.094	356.09	1.358D
Pb-212	463.10	300.09	1132.	64.	0.071	224.97	1.359D
Ac-228	521.31	337.82	343.	0.	0.000	6804.78	0.594s
Pb-214	542.92	351.82	1466.	12812.	14.236	3.07	1.444
Tl-208	788.26	510.84	634.	138.	0.153	81.57	1.509D
Tl-208	899.80	583.14	315.	0.	0.000	0.00	1.320D
Bi-214	940.03	609.22	567.	10818.	12.020	3.13	1.728
Cs-137	1020.86	661.62	230.	17.	0.019	382.52	1.626D
Bi-212	1121.96	727.17	193.	68.	0.076	93.80	1.680D
Pa-234m	1182.48	766.41	1035.	18.	0.020	743.64	1.713D
Tl-210	1233.83	799.70	194.	24.	0.026	255.63	1.741D
Tl-208	1323.67	857.95	260.	63.	0.070	213.65	0.954s

ORTEC Spectrum name: SMP HS 092 12_21_07.An1

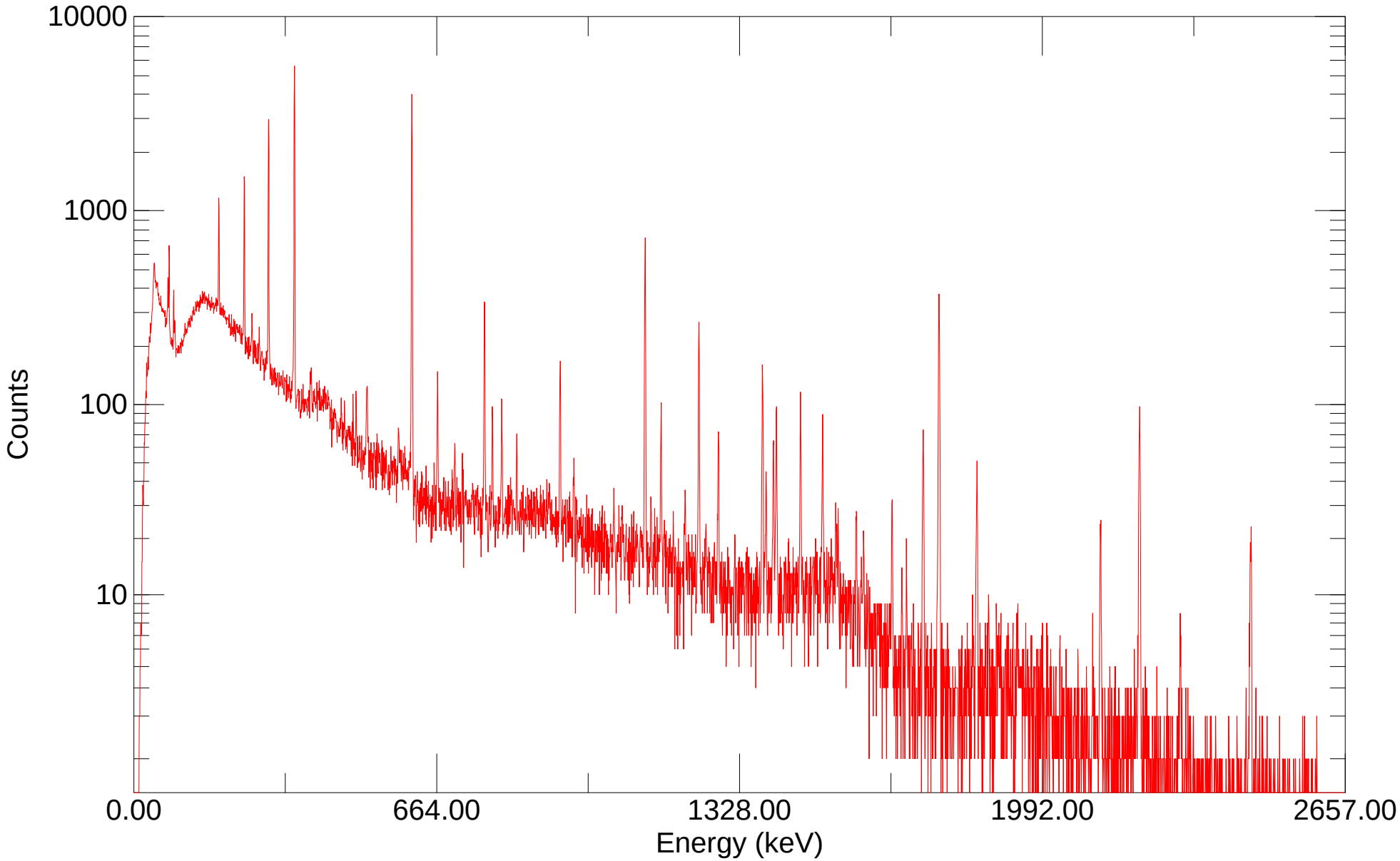
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1405.20	910.82	270.	70.	0.078	181.65	1.939s
Ac-228	1495.08	969.11	196.	38.	0.042	163.35	1.891D
Pa-234m	1544.40	1001.10	107.	10.	0.011	449.00	1.082s
Bi-214	1728.58	1120.55	245.	2350.	2.611	7.28	1.956
Tl-210	2024.90	1312.77	69.	10.	0.011	406.36	3.383s
K-40	2254.52	1461.74	149.	340.	0.377	26.31	1.722
Bi-212	2499.00	1620.39	17.	2.	0.002	994.99	0.000s
Bi-214	2722.53	1765.46	42.	1663.	1.848	7.72	2.622
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiD

SMP HS 092 12_21_07



Acquired: 12/21/2007 12:14:07 PM Real Time: 924.38 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 093 12_01_07.An1

Sample description
SMP HS 093 12_01_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 093 12_01_07.An1

Acquisition information
Start time:	01-Dec-2007 15:34:30
Live time:	900
Real time:	931
Dead time:	3.33 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 093 12_01_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 093 12_01_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1026

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
16.06	10.38	2630.	671.	0.746	34.41	1.180	HG-203	D
115.36	74.74	4753.	721.	0.801	42.07	1.217	BI-207	D
119.11	77.17	4244.	1097.	1.219	26.78	1.218	PB-214	D
134.52	87.15	4215.	425.	0.473	66.37	1.224	BI-207	D
138.65	89.82	5100.	332.	0.369	92.72	1.226	PB-214	D
230.19	149.16	4725.	167.	0.186	232.18	1.223	TE-131	
399.43	258.83	4356.	516.	0.573	90.95	2.005	XE-138	s
424.80	275.27	4944.	494.	0.549	109.59	1.234	ND-147	s
596.61	386.64	1558.	256.	0.284	68.14	1.419	-	D
600.15	388.93	2174.	287.	0.318	71.27	1.420	RH-106M	D
702.16	455.03	1412.	262.	0.291	97.98	1.534	TE-131	sM
713.22	462.20	1580.	346.	0.384	85.95	3.362	CS-138	sM
739.86	479.47	1382.	288.	0.321	92.35	1.365	W-187	sM
751.24	486.84	1595.	285.	0.317	104.50	1.749	LA-140	sM
788.02	510.66	1729.	198.	0.220	91.70	1.509	TL-208	D
895.11	580.10	732.	222.	0.247	75.84	1.536	TL-208	
1026.23	665.25	644.	741.	0.824	18.23	1.629	BI-214	D
1084.58	702.93	624.	266.	0.296	65.63	1.978	RH-106M	sM
1110.49	719.73	792.	351.	0.390	65.62	1.855	SB-126	s
1145.20	742.24	657.	143.	0.159	128.58	1.502	PA-234	s
1185.04	768.06	1064.	2069.	2.299	10.87	1.656	BI-214	
1212.53	785.89	832.	540.	0.600	31.30	1.953	PB-214	s
1243.37	805.75	652.	527.	0.585	24.36	1.746	PA-234	D
1267.04	821.61	532.	136.	0.151	76.57	1.760	PA-234	D

ORTEC Spectrum name: SMP HS 093 12_01_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1273.83	826.00	520.	129.	0.143	79.78	1.763	PA-234	D
1294.25	838.88	710.	290.	0.323	72.31	2.009	J-135	sM
1352.38	876.57	464.	93.	0.103	158.46	1.243	PA-234	
1440.66	933.82	878.	1216.	1.351	15.60	1.987	BI-214	
1487.20	963.85	614.	161.	0.179	69.55	1.887	EU-152	D
1622.44	1051.71	517.	123.	0.137	94.24	2.014	CS-136	s
1650.92	1070.18	460.	142.	0.158	78.16	2.085	J-134	
1687.15	1093.68	447.	65.	0.073	162.76	1.973	EU-152	
1747.38	1132.75	490.	127.	0.141	94.40	1.370	J-135	s
1781.65	1154.97	430.	508.	0.564	24.02	1.853	BI-214	
1808.82	1172.05	382.	44.	0.049	192.47	2.086	J-132	D
1823.23	1181.40	410.	63.	0.070	141.33	2.095	KR-88	D
1862.85	1207.65	298.	172.	0.192	52.71	2.362	-	
1891.26	1226.07	231.	36.	0.040	193.02	1.242	-	s
1909.61	1237.97	518.	1934.	2.149	9.49	2.251	BI-214	
1975.97	1281.02	517.	492.	0.546	29.82	2.052	BI-214	
2124.86	1377.48	309.	1304.	1.449	10.09	2.297	BI-214	D
2136.93	1385.31	337.	242.	0.269	37.49	2.306	AG-110M	D
2161.54	1401.35	265.	480.	0.533	19.85	2.323	BI-214	D
2171.82	1408.02	299.	824.	0.916	13.73	2.330	BI-214	D
2327.47	1509.08	616.	682.	0.758	24.65	2.437	BI-214	
2372.13	1537.68	372.	122.	0.136	72.32	2.474	RB-89	D
2381.18	1543.55	327.	110.	0.122	75.21	2.480	-	D
2442.18	1583.69	207.	235.	0.261	32.51	2.525	AC-228	D
2458.02	1593.97	249.	83.	0.093	86.60	2.537	LA-140	D
2562.25	1661.43	153.	340.	0.378	24.89	2.496	BI-214	
2590.72	1679.91	46.	17.	0.019	184.24	1.201	J-135	s
2667.63	1729.82	151.	870.	0.967	13.07	2.518	BI-214	s
2835.01	1838.24	89.	91.	0.101	54.07	2.829	RH-106M	D
2849.33	1847.53	90.	553.	0.614	14.70	2.841	BI-214	D
3267.49	2119.23	31.	298.	0.331	21.25	2.521	BI-214	
3398.98	2204.60	51.	1226.	1.362	9.53	2.836	BI-214	
3536.55	2293.93	4.	115.	0.128	30.51	2.921	-	
3774.68	2448.59	9.	362.	0.403	16.74	2.714	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	3110.	1113.	1.237	23.07	1.180D
Pb-210	70.80	45.89	2845.	82.	0.091	366.58	1.200
Th-234	96.00	62.21	2355.	48.	0.053	396.72	0.211s
Th-234	143.21	92.80	4245.	99.	0.111	279.56	1.228D
Ra-226	287.31	186.17	6744.	2125.	2.361	26.73	1.250

ORTEC Spectrum name: SMP HS 093 12_01_07.An1

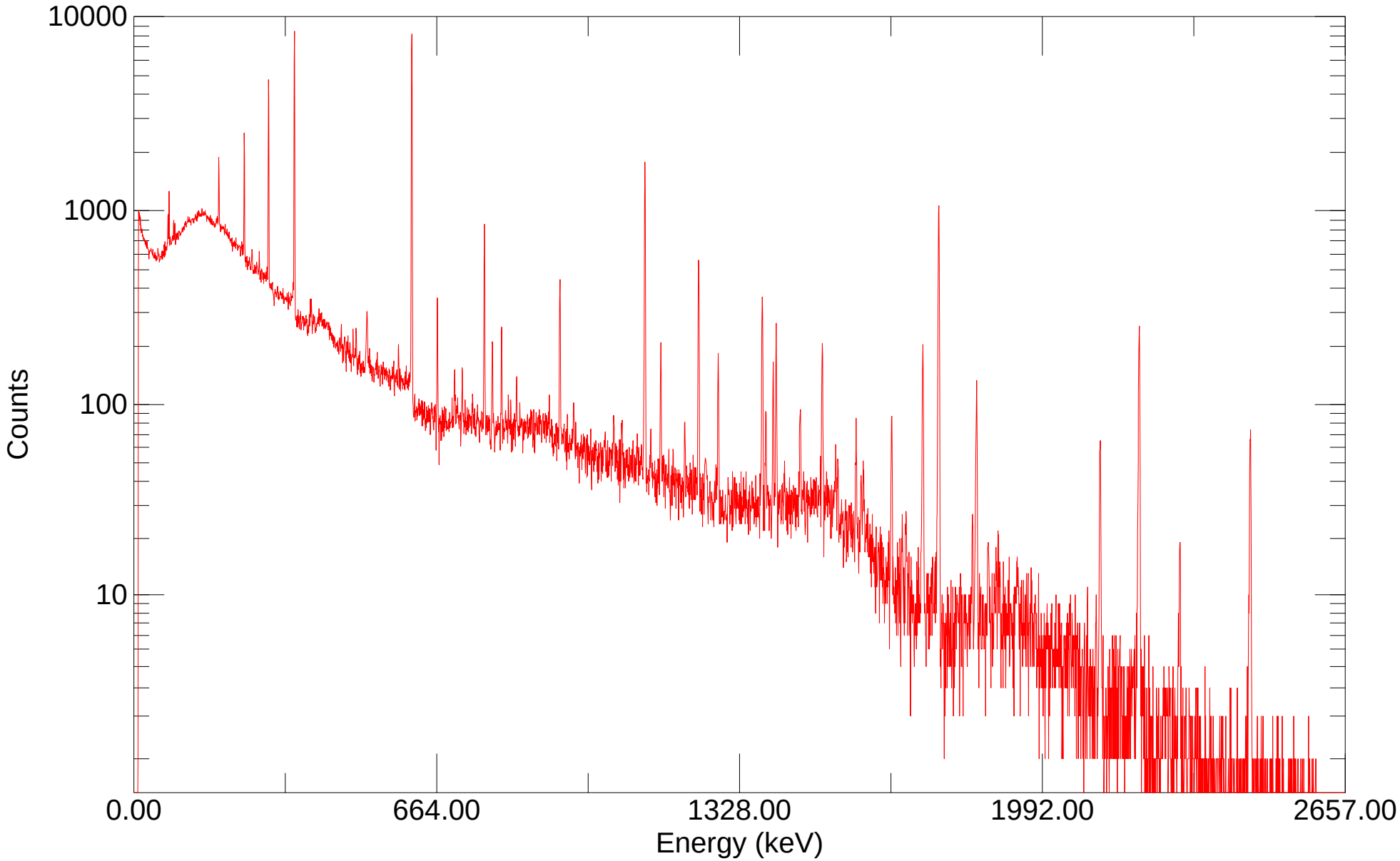
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	368.26	238.63	2989.	139.	0.154	169.28	1.318D
Pb-214	373.43	241.98	3889.	4364.	4.848	7.58	1.321D
Pb-214	455.57	295.21	3044.	10172.	11.302	3.76	1.356D
Tl-210	459.88	298.00	7384.	18.	0.020	2018.66	1.358D
Pb-212	463.10	300.09	3254.	37.	0.041	663.67	1.359D
Ac-228	524.46	339.85	2230.	178.	0.198	169.83	0.762s
Pb-214	542.71	351.68	3966.	17389.	19.321	2.95	1.328
Tl-208	788.26	510.84	1692.	235.	0.261	76.89	1.509D
Tl-208	899.80	583.14	595.	0.	0.000	0.00	1.680D
Bi-214	939.65	608.97	1450.	20636.	22.928	2.31	1.558
Cs-137	1020.86	661.62	665.	50.	0.056	223.02	1.626D
Bi-212	1121.96	727.17	564.	0.	0.000	0.00	0.825D
Pa-234m	1182.51	766.43	2579.	0.	0.000	21545.76	1.713
Tl-210	1233.83	799.70	677.	20.	0.022	555.33	1.741D
Tl-208	1329.82	861.95	414.	57.	0.063	217.83	1.509
Ac-228	1402.99	909.39	598.	138.	0.153	127.77	0.781s
Ac-228	1495.08	969.11	407.	30.	0.033	294.14	1.892D
Pa-234m	1544.31	1001.04	331.	60.	0.066	140.20	1.030s
Bi-214	1727.88	1120.10	661.	5374.	5.971	4.93	1.869
Tl-210	2019.83	1309.48	190.	21.	0.023	299.60	1.265s
K-40	2252.97	1460.74	366.	287.	0.319	39.78	2.565
Bi-212	2497.19	1619.21	186.	26.	0.029	278.84	0.842s
Bi-214	2721.43	1764.74	180.	4277.	4.752	5.09	2.431
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 093 12_01_07

SMP HS 093 12_01_07



Acquired: 12/1/2007 3:34:30 PM Real Time: 930.98 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 094 15 Min Colim@6Det@Pos

Sample description
smp hs 094 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 094 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 30-Oct-2007 08:04:47
Live time: 900
Real time: 910
Dead time: 1.12 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM4D6D~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3029

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.92	44.67	1715.	216.	0.240	83.99	1.199	EU-155	D
114.36	74.40	1937.	223.	0.248	85.93	1.217	BI-207	D
119.17	77.52	1848.	414.	0.460	46.44	1.218	PB-214	D
134.34	87.27	1247.	141.	0.157	109.00	1.224	PB-214	D
399.53	258.89	1450.	250.	0.278	113.53	1.372	XE-138	s
423.33	274.31	837.	181.	0.201	98.46	1.891	SR-91	s
657.33	425.97	585.	85.	0.094	202.83	1.562	AU-196	sM
719.75	466.43	220.	53.	0.059	162.38	1.274	-	M
750.82	486.57	332.	136.	0.151	93.48	1.471	LA-140	sM
787.00	510.31	514.	121.	0.135	83.99	1.508	J-133	D
1025.61	664.66	253.	283.	0.314	29.77	1.629	PA-234	D
1108.79	718.63	180.	92.	0.102	111.63	2.526	RH-106M	sM
1184.24	767.55	292.	727.	0.808	17.00	2.293	BI-214	s
1211.59	785.28	234.	169.	0.188	53.55	1.919	BI-212	s
1242.89	805.41	190.	173.	0.193	40.70	1.746	PA-234	D
1293.53	838.41	124.	99.	0.110	81.26	2.280	J-135	sM
1425.77	924.17	127.	45.	0.050	122.18	0.875	PA-234	s
1440.11	933.46	250.	414.	0.460	25.56	1.788	BI-214	s
1780.71	1154.37	162.	190.	0.211	45.02	1.574	BI-214	
1908.32	1237.14	153.	664.	0.738	15.98	2.285	J-133	s
1975.53	1280.74	147.	192.	0.213	43.64	3.022	BI-214	s
2123.66	1376.82	96.	370.	0.411	19.24	2.297	BI-214	D
2136.07	1384.87	106.	84.	0.093	61.34	2.305	AG-110M	D
2160.26	1400.93	122.	104.	0.115	53.96	2.322	BI-214	D

ORTEC Spectrum name: SMP HS 094 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2170.46	1407.55	117.	216.	0.240	29.47	2.329	BI-214	D
2326.43	1508.40	170.	214.	0.238	39.28	2.419	BI-214	
2440.20	1582.23	85.	99.	0.110	62.46	1.911	-	s
2560.96	1660.59	70.	120.	0.134	52.62	3.098	BI-214	s
2666.45	1729.06	57.	213.	0.237	29.58	2.671	BI-214	
2848.01	1846.90	28.	182.	0.203	27.45	2.908	BI-214	
3265.29	2117.80	6.	105.	0.116	32.81	2.432	BI-214	
3396.93	2203.27	3.	348.	0.387	16.36	2.997	BI-214	
3772.32	2447.05	0.	120.	0.133	27.39	3.653	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

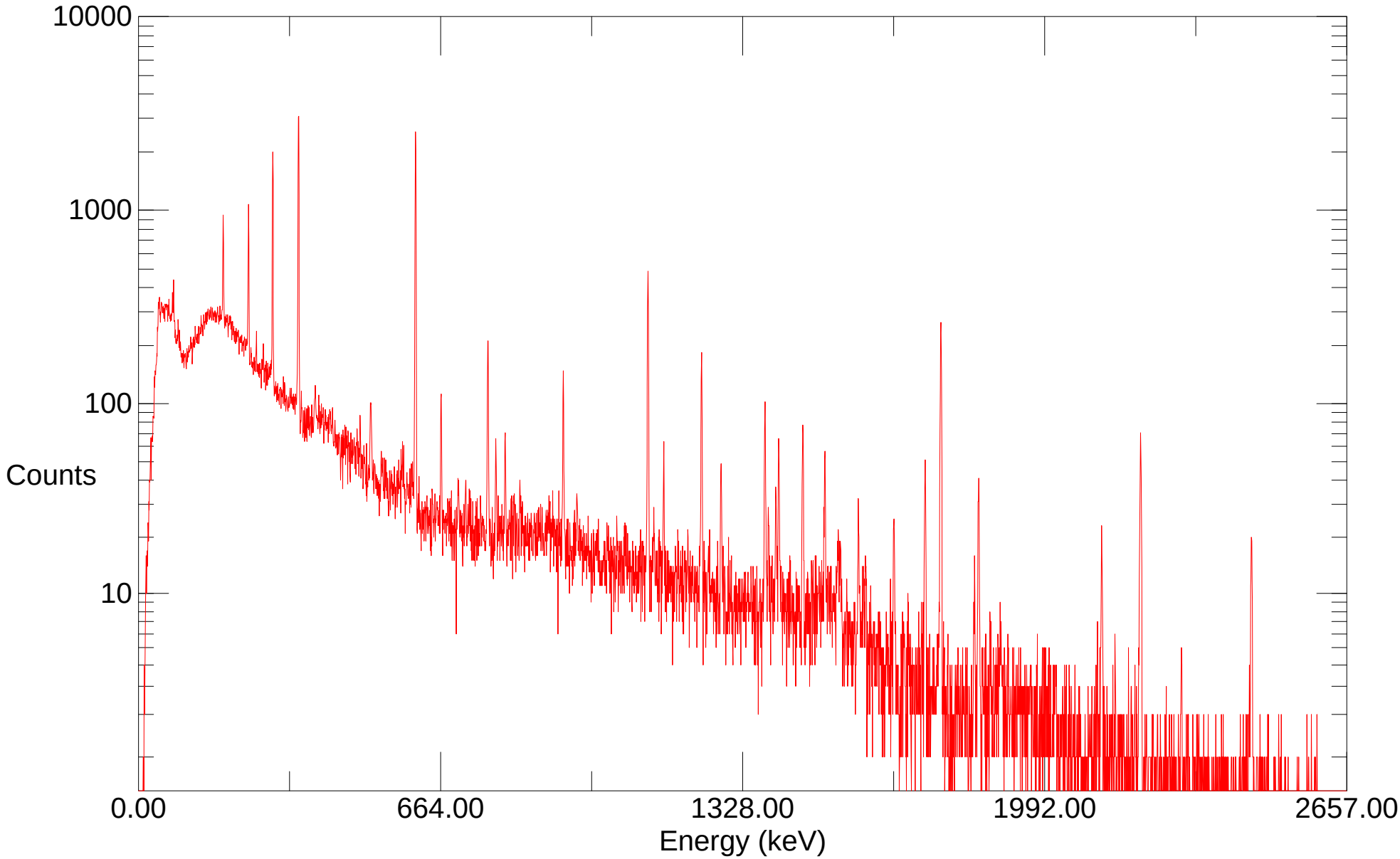
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.83	10.92	1.	1.	0.001	509.90	0.879
Pb-210	71.75	46.50	2042.	149.	0.165	131.43	1.200D
Th-234	100.00	64.80	1189.	41.	0.045	331.79	0.000s
Th-234	143.21	92.80	1274.	51.	0.057	300.14	1.228D
Ra-226	287.00	185.97	2976.	1838.	2.043	23.75	1.594s
Pb-212	368.26	238.63	1636.	82.	0.091	212.50	1.318D
Pb-214	373.43	241.98	1559.	2126.	2.362	10.22	1.320D
Pb-214	455.57	295.21	1492.	4658.	5.175	5.63	1.356D
Tl-210	459.88	298.00	2575.	46.	0.051	473.12	1.357D
Pb-212	463.10	300.09	906.	33.	0.036	394.88	1.359D
Ac-228	525.35	340.43	576.	27.	0.030	536.45	0.641s
Pb-214	542.33	351.43	1200.	9247.	10.274	3.71	1.795s
Tl-208	788.26	510.84	558.	96.	0.107	108.24	1.509D
Tl-208	900.01	583.28	261.	83.	0.092	140.85	0.963s
Bi-214	939.09	608.61	413.	7845.	8.717	3.67	1.913s
Cs-137	1020.86	661.62	248.	13.	0.014	528.56	1.626D
Bi-212	1123.74	728.32	190.	70.	0.078	149.08	0.793s
Pa-234m	1182.48	766.41	302.	0.	0.000	0.00	2.296D
Tl-210	1233.83	799.70	156.	11.	0.013	477.75	1.741D
Tl-208	1329.62	861.81	128.	47.	0.052	167.30	1.981s
Ac-228	1406.00	911.34	51.	9.	0.010	389.44	0.648s
Ac-228	1495.11	969.13	78.	24.	0.026	219.17	1.834
Pa-234m	1542.39	999.79	114.	21.	0.023	249.90	0.964s
Bi-214	1726.94	1119.49	177.	1759.	1.954	8.27	2.255
Tl-210	2023.27	1311.71	95.	35.	0.039	164.32	1.153s
K-40	2251.80	1459.98	91.	344.	0.383	22.92	2.733s
Bi-212	2505.98	1624.91	50.	9.	0.010	420.32	0.852s
Bi-214	2719.99	1763.80	45.	1239.	1.376	9.10	2.769
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 094 15 Min Colim@6Det@Pos4

smp hs 094 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 8:04:47 AM Real Time: 910.18 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 095 15 Colim@6Det@Pos4.An

Sample description
SMP HS 095 col @6 det @ 4 11_07_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 095 15 Colim@6Det@Pos4.An1

Acquisition information
Start time:	07-Nov-2007 14:28:45
Live time:	900
Real time:	920
Dead time:	2.18 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM40E8~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 095 15 Colim@6Det@Pos4.An

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2043

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
515.08	333.12	137.	49.	0.055	109.86	1.382	AU-196	D
701.65	454.70	48.	57.	0.063	90.70	1.675	TE-131	sM
787.44	510.57	175.	60.	0.066	102.07	1.509	TL-208	D
899.31	582.83	58.	64.	0.071	92.73	2.265	TL-208	s
1184.71	767.53	61.	62.	0.069	65.46	1.714	BI-214	D
1908.97	1237.56	32.	59.	0.066	63.30	2.326	J-133	s
2123.64	1376.83	20.	56.	0.062	57.70	2.047	BI-214	
3398.66	2204.39	2.	36.	0.040	54.01	0.919	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	17.00	11.03	0.	0.	0.001	335.41	0.000	s
Pb-210	73.08	47.37	232.	8.	0.009	994.99	1.527	s
Th-234	99.44	64.44	472.	94.	0.104	158.10	1.277	s
Th-234	141.88	91.94	352.	52.	0.058	245.58	0.934	s
Ra-226	286.31	185.52	405.	312.	0.347	50.35	1.934	s
Pb-212	368.26	238.63	262.	79.	0.088	92.72	1.318	D
Pb-214	373.43	241.98	233.	199.	0.221	38.85	1.321	D

ORTEC Spectrum name: SMP HS 095 15 Colim@6Det@Pos4.An

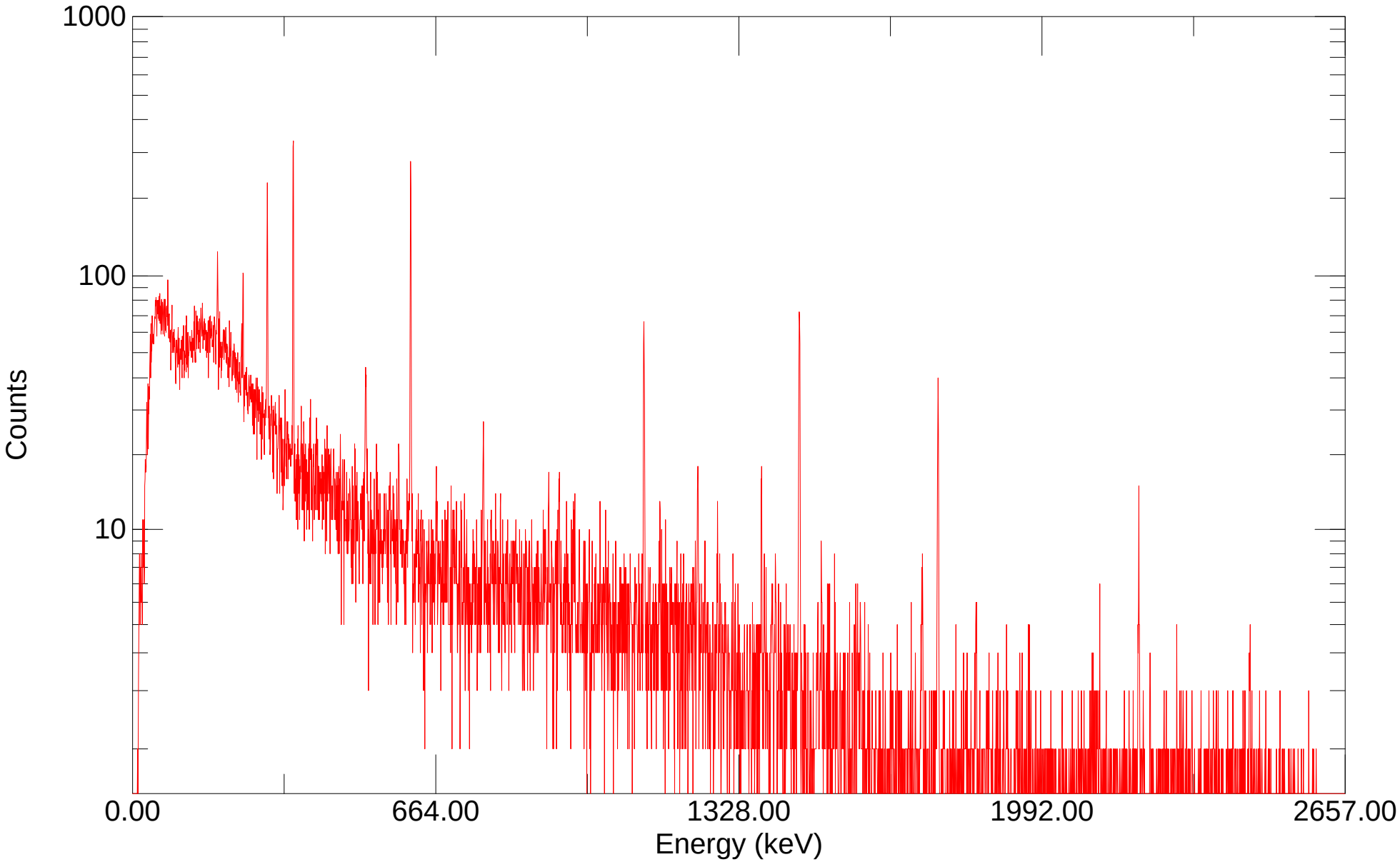
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	455.57	295.21	218.	466.	0.517	19.35	1.356D
Tl-210	459.88	298.00	354.	20.	0.022	405.95	1.357D
Pb-212	463.10	300.09	139.	16.	0.017	330.37	1.359D
Ac-228	522.09	338.32	152.	20.	0.023	265.65	1.385D
Pb-214	542.50	351.55	234.	832.	0.924	14.12	1.592
Tl-208	788.26	510.84	201.	34.	0.038	185.32	1.509D
Tl-208	899.48	582.94	114.	0.	0.000	4529.90	1.564
Bi-214	939.22	608.70	132.	742.	0.825	14.03	1.607
Cs-137	1022.00	662.36	23.	1.	0.001	1886.80	0.000s
Bi-212	1120.11	725.97	31.	21.	0.024	135.53	1.084
Pa-234m	1182.48	766.41	102.	14.	0.016	309.37	1.713D
Tl-210	1233.28	799.35	35.	10.	0.011	277.94	1.742
Tl-208	1327.80	860.64	40.	34.	0.038	109.50	2.982s
Ac-228	1405.35	910.92	54.	45.	0.050	98.43	1.941
Ac-228	1492.78	967.62	53.	38.	0.042	108.86	1.070s
Pa-234m	1541.38	999.14	24.	35.	0.039	88.66	1.954s
Bi-214	1727.41	1119.79	33.	230.	0.256	23.46	2.200
Tl-210	2018.35	1308.52	9.	2.	0.002	670.82	2.027
K-40	2252.26	1460.28	19.	299.	0.333	19.22	2.587
Bi-212	2500.00	1621.03	3.	5.	0.006	212.13	0.859s
Bi-214	2720.60	1764.21	8.	141.	0.157	27.77	2.129
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 095 15 Colim@6Det@Pos4

SMP HS 095 col @6 det @ 4 11_07_07



Acquired: 11/7/2007 2:28:45 PM Real Time: 920.02 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 096 Colim@6Det@Pos4.An1

Sample description
SMP HS 096 11_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 096 Colim@6Det@Pos4.An1

Acquisition information
Start time:	17-Nov-2007 11:31:16
Live time:	900
Real time:	919
Dead time:	2.09 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 096 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 096 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2178

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.48	76.54	2249.	181.	0.201	113.46	1.218	PB-214	D
124.62	80.52	2159.	173.	0.192	116.10	1.220	J-131	D
134.91	87.48	1964.	236.	0.262	82.10	1.224	PB-214	D
467.45	303.11	1125.	147.	0.163	100.12	1.361	SE-75	D
740.58	479.93	390.	67.	0.074	180.61	0.750	W-187	sM
787.58	510.39	705.	105.	0.117	111.12	1.509	J-133	D
850.56	551.22	356.	96.	0.107	135.35	2.074	W-187	sM
1026.17	665.16	249.	213.	0.237	37.53	1.629	BI-214	D
1084.53	702.90	225.	118.	0.131	93.60	1.073	RH-106M	sM
1109.45	719.06	312.	135.	0.150	110.55	2.440	SB-126	sM
1184.79	767.89	268.	549.	0.610	17.99	1.714	BI-214	D
1211.74	785.38	260.	144.	0.160	60.28	1.318	BI-212	sM
1242.84	805.81	236.	137.	0.152	54.22	1.746	PA-234	D
1293.93	838.67	153.	73.	0.081	82.44	1.716	J-135	M
1395.28	904.39	229.	57.	0.063	120.15	1.833	KR-89	D
1439.85	933.30	269.	366.	0.407	28.57	2.045	BI-214	s
1780.92	1154.50	230.	175.	0.194	53.67	1.655	BI-214	M
1873.99	1214.87	110.	29.	0.032	185.73	1.077	SB-126	sM
1909.04	1237.61	132.	598.	0.664	15.64	1.978	J-133	M
1975.06	1280.44	162.	174.	0.193	49.43	2.552	BI-214	M
2124.24	1377.08	97.	427.	0.474	17.53	2.297	BI-214	D
2136.94	1385.32	104.	90.	0.100	57.58	2.306	AG-110M	D
2160.24	1400.80	101.	143.	0.159	38.82	2.322	BI-214	D
2171.32	1407.99	104.	218.	0.242	28.37	2.330	BI-214	D

ORTEC Spectrum name: SMP HS 096 Colim@6Det@Pos4.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2326.80	1508.64	119.	204.	0.226	35.48	1.608	BI-214	s
2441.38	1582.99	57.	78.	0.087	58.01	2.401	-	
2561.23	1660.77	51.	124.	0.138	43.24	2.702	BI-214	
2666.78	1729.28	52.	240.	0.266	27.32	3.076	BI-214	
2848.70	1847.35	32.	186.	0.207	28.72	2.686	BI-214	
3266.95	2118.87	18.	110.	0.122	37.59	2.714	BI-214	s
3397.95	2203.93	4.	338.	0.376	16.68	2.515	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

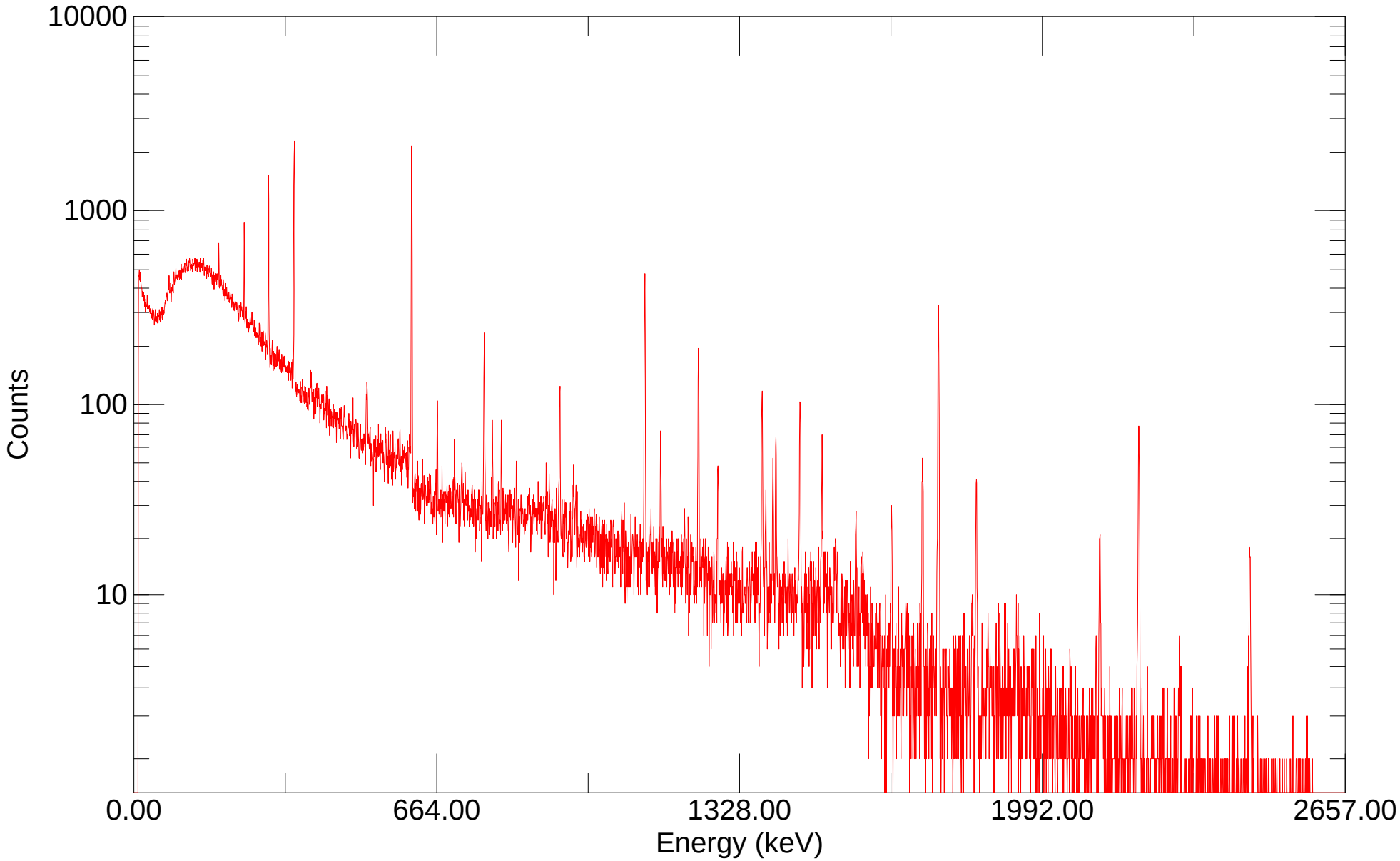
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.59	11.41	1953.	1492.	1.658	22.24	3.289s
Pb-210	71.40	46.28	1320.	72.	0.080	285.41	0.868
Th-234	98.45	63.80	1430.	47.	0.052	453.69	1.088
Th-234	143.21	92.80	3180.	97.	0.108	247.53	1.228D
Ra-226	287.09	186.03	2005.	505.	0.561	51.52	1.055
Pb-212	368.26	238.63	1432.	60.	0.067	270.65	1.318D
Pb-214	373.43	241.98	1871.	1238.	1.376	17.10	1.321D
Pb-214	455.57	295.21	1239.	2969.	3.299	7.46	1.356D
Tl-210	459.88	298.00	2394.	30.	0.033	696.62	1.358D
Pb-212	463.10	300.09	1323.	58.	0.064	270.41	1.359D
Ac-228	521.66	338.04	558.	48.	0.053	259.36	0.992
Pb-214	542.57	351.59	1742.	4951.	5.501	6.20	1.405
Tl-208	788.26	510.84	686.	124.	0.138	93.37	1.509D
Tl-208	899.80	583.14	267.	76.	0.085	97.05	1.564D
Bi-214	939.39	608.81	462.	5472.	6.080	4.49	1.539
Cs-137	1020.86	661.62	191.	50.	0.055	125.21	1.626D
Bi-212	1120.21	726.03	159.	38.	0.042	204.96	1.160
Pa-234m	1182.48	766.41	726.	22.	0.025	515.17	1.713D
Tl-210	1233.83	799.70	171.	37.	0.041	159.10	1.741D
Tl-208	1323.67	857.95	213.	14.	0.016	500.94	1.154
Ac-228	1405.58	911.07	175.	48.	0.053	124.30	1.839D
Ac-228	1494.67	968.84	154.	35.	0.039	164.58	1.319
Pa-234m	1543.86	1000.75	94.	14.	0.015	296.14	0.548s
Bi-214	1727.42	1119.80	261.	1538.	1.709	9.91	1.913
Tl-210	2019.70	1309.39	105.	14.	0.016	367.42	0.665s
K-40	2252.28	1460.29	141.	409.	0.454	22.88	2.405
Bi-212	2499.00	1620.39	23.	1.	0.001	1977.37	0.000s
Bi-214	2720.55	1764.17	42.	1240.	1.378	9.08	2.416
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 096 Colim@6Det@Pos4

SMP HS 096 11_17_07



Acquired: 11/17/2007 11:31:16 AM Real Time: 919.24 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 097 6 ft pipe 45 Colim@6

Sample description
smp hs 97 array 45 Coli@6Det@Pos4 10_13_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 097 6 ft pipe 45 Colim@6Det@Pos1_Recount.An1

Acquisition information
Start time: 13-Oct-2007 09:10:08
Live time: 63
Real time: 67
Dead time: 6.22 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM27CB~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2142

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
16.13	10.55	459.	99.	1.568	96.82	1.180	SE-75	D
27.99	18.15	575.	90.	1.428	152.84	1.600	MO-99	s
119.11	77.18	624.	103.	1.634	148.49	0.810	PB-214	
599.90	388.75	170.	48.	0.762	158.48	1.296	RH-106M	M
750.67	486.47	180.	72.	1.136	87.18	1.491	LA-140	D
758.90	491.81	128.	49.	0.783	106.18	1.495	TE-131	D
895.58	580.41	162.	84.	1.333	124.64	1.441	TL-208	s
1026.25	664.87	83.	100.	1.579	49.21	1.629	PA-234	D
1037.83	672.62	54.	52.	0.825	107.78	1.871	PA-234	sM
1085.57	703.58	95.	57.	0.899	95.70	0.989	RH-106M	sM
1184.96	768.02	152.	266.	4.226	31.29	1.626	BI-214	
1212.51	785.88	100.	91.	1.439	68.22	1.182	PB-214	sM
1243.32	805.96	74.	93.	1.480	49.91	1.746	BI-214	D
1293.43	838.35	67.	36.	0.577	114.38	0.888	J-135	sM
1386.95	898.99	54.	19.	0.307	180.70	1.269	PA-234	s
1440.42	933.66	80.	184.	2.920	32.50	1.881	BI-214	
1523.67	987.65	50.	32.	0.516	121.32	1.096	SB-126	s
1781.92	1155.15	38.	97.	1.539	44.93	1.920	BI-214	M
1909.62	1237.98	44.	263.	4.173	22.46	2.321	BI-214	M
1975.89	1280.97	31.	42.	0.672	75.63	1.255	BI-214	sM
2124.72	1377.53	40.	192.	3.047	28.47	2.351	BI-214	
2161.62	1401.54	32.	51.	0.813	62.75	2.323	BI-214	D
2171.58	1408.00	45.	106.	1.685	39.54	2.330	BI-214	D
2327.72	1509.24	56.	121.	1.920	44.79	2.433	BI-214	

ORTEC Spectrum name: SMP HS 097 6 ft pipe 45 Colim@6

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2561.75	1661.11	14.	59.	0.934	54.24	1.849	BI-214	
2667.69	1729.86	13.	106.	1.677	35.30	2.089	BI-214	
3399.20	2204.75	4.	144.	2.290	26.41	2.860	BI-214	
3774.69	2448.59	0.	54.	0.857	40.82	2.165	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

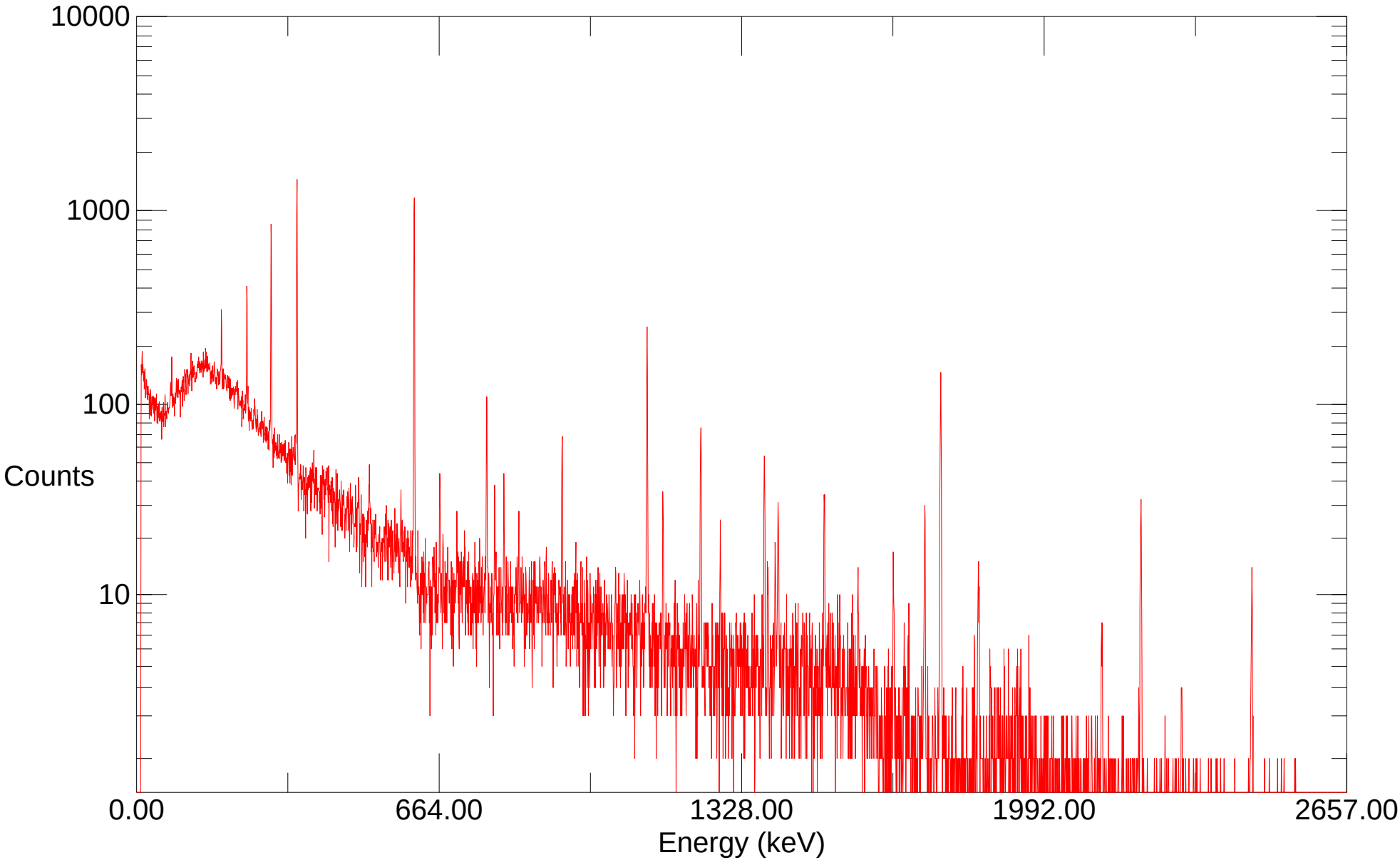
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	543.	204.	3.233	52.90	1.180D
Pb-210	77.00	49.90	801.	33.	0.524	410.15	0.000s
Th-234	95.61	61.96	539.	101.	1.603	149.30	1.402s
Th-234	144.82	93.84	758.	14.	0.217	893.48	3.071s
Ra-226	286.81	185.85	1116.	451.	7.156	54.00	1.276s
Pb-212	368.26	238.63	657.	42.	0.662	264.88	1.318D
Pb-214	373.43	241.98	594.	739.	11.725	17.82	1.321D
Pb-214	455.57	295.21	468.	1819.	28.859	8.66	1.356D
Tl-210	459.88	298.00	1204.	21.	0.336	698.41	1.358D
Pb-212	463.10	300.09	348.	13.	0.212	596.45	1.359D
Ac-228	521.08	337.66	192.	44.	0.706	180.68	0.796
Pb-214	542.72	351.69	510.	2993.	47.493	6.74	1.310
Tl-208	787.30	510.22	207.	79.	1.254	132.50	1.866s
Tl-208	899.80	583.14	96.	0.	0.000	0.00	0.682D
Bi-214	939.66	608.98	228.	2906.	46.120	6.28	1.527
Cs-137	1020.86	661.62	79.	3.	0.050	1196.88	1.626D
Bi-212	1122.00	727.19	27.	0.	0.000	1909.19	0.000s
Pa-234m	1182.48	766.41	158.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	61.	15.	0.233	239.07	1.741D
Tl-208	1328.25	860.93	36.	16.	0.254	237.17	0.958s
Ac-228	1405.05	910.73	84.	31.	0.492	162.80	1.848
Ac-228	1495.47	969.36	22.	4.	0.063	478.28	0.529s
Pa-234m	1545.77	1001.98	41.	19.	0.296	172.43	1.446
Bi-214	1727.86	1120.08	96.	752.	11.927	13.36	1.800
Tl-210	2022.00	1310.89	14.	1.	0.016	1615.55	0.000s
K-40	2255.61	1462.45	40.	35.	0.555	115.53	2.562s
Bi-212	2498.00	1619.74	5.	0.	0.000	821.58	0.108s
Bi-214	2721.48	1764.77	13.	556.	8.828	13.31	2.150
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____ _____
Supervisor

SMP HS 097 6 ft pipe 45 Colim@6Det@Pos1_Recount



Acquired: 10/13/2007 9:10:08 AM Real Time: 67.20 s. Live Time: 63.02 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP Hs 098 88 in pipe 45 Colim@

Sample description
smp hs 98 pipe array 88 in 45 Coli@6Det@Pos4 10_13_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP Hs 098 88 in pipe 45 Colim@6Det@Pos1_Recount.An1

Acquisition information
Start time:	13-Oct-2007 09:41:53
Live time:	900
Real time:	946
Dead time:	4.85 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMCF75~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1207

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.03	77.14	5038.	452.	0.503	89.16	1.170	PB-214	
134.54	87.18	6504.	406.	0.451	120.11	1.302	BI-207	s
186.70	120.98	10084.	368.	0.408	174.59	1.426	SE-75	s
261.85	169.67	10146.	368.	0.408	175.13	1.760	-	s
399.16	258.65	8400.	698.	0.776	97.16	1.360	XE-138	s
423.94	274.71	5422.	688.	0.765	69.01	2.014	SR-91	s
598.93	388.12	4582.	582.	0.647	89.74	3.519	RH-106M	sM
625.44	405.30	3096.	378.	0.420	99.94	2.811	J-134	sM
701.07	454.32	2614.	440.	0.488	83.10	1.956	TE-131	sM
731.38	473.79	2278.	214.	0.237	96.94	1.482	RH-106M	D
740.91	479.96	1975.	223.	0.248	86.74	1.486	W-187	D
751.08	486.74	2044.	411.	0.457	75.26	1.588	LA-140	sM
788.01	510.76	2590.	373.	0.414	59.98	1.509	TL-208	D
822.48	533.02	2235.	310.	0.344	113.35	1.643	ND-147	sM
894.71	579.89	1292.	267.	0.297	60.00	1.562	KR-89	D
1005.75	651.83	741.	106.	0.118	156.81	1.071	SR-91	
1026.27	665.16	1166.	1181.	1.312	15.06	1.629	BI-214	D
1084.40	702.82	1058.	458.	0.508	51.94	1.847	RH-106M	sM
1109.83	719.30	996.	309.	0.343	70.61	1.466	SB-126	M
1163.03	753.79	1276.	190.	0.211	145.43	0.970	PA-234	sM
1184.99	768.03	1790.	3310.	3.678	8.87	1.677	BI-214	
1212.16	785.65	1349.	679.	0.754	29.66	1.474	BI-212	M
1243.29	805.88	989.	883.	0.982	18.17	1.746	BI-214	D
1266.30	820.76	648.	158.	0.176	99.57	1.919	PA-234	M

ORTEC Spectrum name: SMP Hs 098 88 in pipe 45 Colim@

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1294.25	838.88	1110.	448.	0.498	56.46	1.986	J-135	M
1440.66	933.82	1643.	1955.	2.173	13.70	1.691	BI-214	
1487.26	963.77	992.	258.	0.287	55.05	1.887	EU-152	D
1501.63	973.09	884.	90.	0.100	143.25	1.895	J-135	D
1525.73	988.99	465.	86.	0.096	153.88	1.176	SB-126	s
1622.21	1051.56	849.	205.	0.228	74.71	1.966	CS-136	s
1650.45	1069.88	1025.	193.	0.215	91.07	1.877	J-134	s
1702.43	1103.59	656.	136.	0.151	93.26	1.639	J-135	
1767.01	1145.45	665.	66.	0.073	170.64	2.059	TE-131	D
1772.87	1149.25	663.	50.	0.055	224.56	2.063	CS-138	D
1781.81	1155.05	725.	898.	0.997	16.19	2.069	BI-214	D
1862.64	1207.51	888.	288.	0.319	60.79	1.692	-	M
1909.56	1237.94	925.	3313.	3.681	7.66	2.069	BI-214	M
1932.68	1252.95	650.	210.	0.233	68.04	2.536	KR-88	M
1975.34	1280.62	931.	907.	1.008	22.88	1.847	BI-214	sM
2124.87	1377.57	533.	2251.	2.501	7.68	2.297	BI-214	D
2136.63	1385.20	484.	412.	0.458	27.03	2.306	AG-110M	D
2161.50	1401.34	551.	685.	0.761	18.51	2.323	BI-214	D
2171.66	1407.94	509.	1288.	1.431	11.19	2.330	BI-214	D
2197.97	1425.05	572.	114.	0.127	115.47	1.475	-	s
2327.55	1509.13	1014.	1081.	1.202	19.13	2.140	BI-214	
2372.11	1537.85	534.	275.	0.305	40.06	2.474	RB-89	D
2381.66	1544.05	550.	202.	0.224	53.64	2.481	-	D
2441.91	1583.34	532.	473.	0.526	37.69	1.971	-	s
2460.01	1595.05	437.	89.	0.099	104.97	2.539	LA-140	D
2466.95	1599.56	412.	133.	0.148	69.51	2.544	EU-154	D
2562.41	1661.54	370.	540.	0.600	25.72	2.805	BI-214	s
2667.41	1729.68	244.	1318.	1.465	10.53	2.451	BI-214	
2697.36	1749.12	110.	54.	0.060	103.54	1.594	-	s
2835.79	1838.82	188.	129.	0.144	52.16	2.830	RH-106M	D
2849.44	1847.68	143.	969.	1.077	10.97	2.841	BI-214	D
2889.23	1873.66	163.	200.	0.222	47.24	2.540	-	s
2924.44	1896.52	174.	63.	0.070	115.18	2.114	-	s
3254.45	2110.67	30.	65.	0.072	52.04	3.180	MN-56	D
3267.41	2119.08	43.	498.	0.553	14.56	3.192	BI-214	D
3398.89	2204.54	60.	2001.	2.223	7.10	2.923	BI-214	
3536.02	2293.59	25.	132.	0.147	36.73	3.324	-	
3774.27	2448.32	0.	594.	0.660	12.31	2.875	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP Hs 098 88 in pipe 45 Colim@

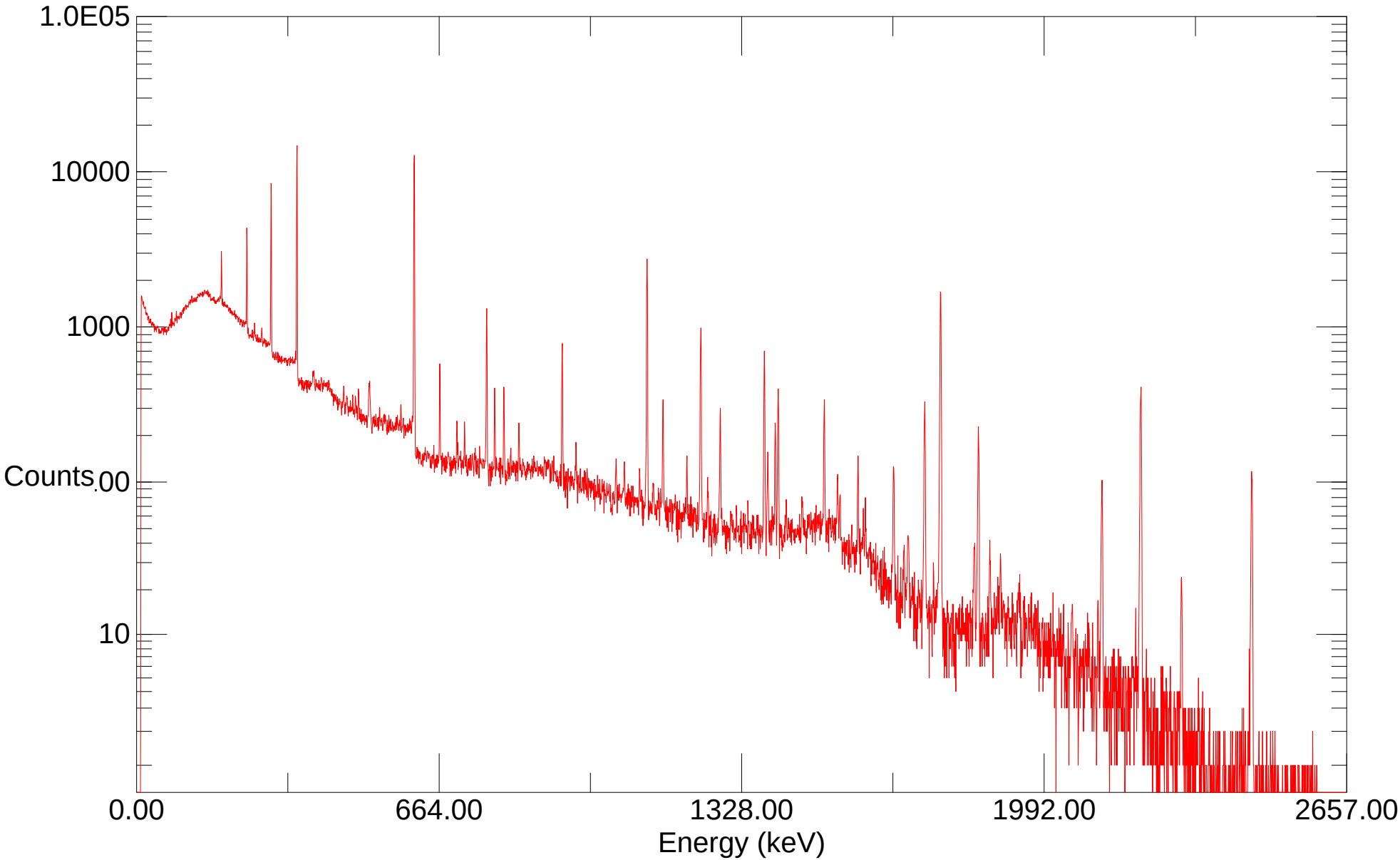
********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.40	11.29	6282.	4998.	5.553	11.94	2.883s
Pb-210	72.18	46.78	8541.	287.	0.319	227.25	3.089s
Th-234	95.91	62.15	7571.	98.	0.109	406.61	0.524s
Th-234	138.97	90.06	8006.	102.	0.114	387.24	0.503s
Ra-226	287.22	186.12	10238.	3156.	3.507	21.09	1.206
Pb-212	368.26	238.63	7158.	342.	0.380	106.16	1.318D
Pb-214	373.43	241.98	6542.	7293.	8.103	5.87	1.321D
Pb-214	455.57	295.21	5024.	17689.	19.654	2.82	1.356D
Tl-210	459.88	298.00	11957.	81.	0.090	572.88	1.358D
Pb-212	463.10	300.09	5223.	134.	0.149	229.66	1.359D
Ac-228	520.47	337.27	3456.	135.	0.150	262.55	0.921
Pb-214	542.71	351.68	6450.	30169.	33.521	2.21	1.317
Tl-208	788.26	510.84	2754.	209.	0.232	108.54	1.509D
Tl-208	899.80	583.14	1812.	58.	0.065	311.80	1.564D
Bi-214	939.60	608.94	2798.	32232.	35.814	1.90	1.534
Cs-137	1020.86	661.62	1085.	43.	0.047	330.69	1.626D
Bi-212	1123.65	728.26	1150.	110.	0.122	228.34	1.112
Pa-234m	1182.48	766.41	2309.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	1095.	47.	0.052	302.95	1.741D
Tl-208	1322.89	857.45	1688.	132.	0.146	177.27	0.770s
Ac-228	1407.12	912.07	909.	134.	0.149	160.41	2.585s
Ac-228	1495.08	969.11	894.	73.	0.081	177.29	1.892D
Pa-234m	1549.31	1004.28	1368.	160.	0.177	138.29	1.186s
Bi-214	1727.79	1120.04	1012.	8570.	9.522	3.85	1.953
Tl-210	2019.57	1309.31	279.	21.	0.023	343.75	1.518
K-40	2253.10	1460.82	594.	162.	0.180	83.52	2.920s
Bi-212	2501.55	1622.04	170.	17.	0.019	353.52	0.695s
Bi-214	2721.22	1764.61	351.	6978.	7.754	3.98	2.479
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP Hs 098 88 in pipe 45 Colim@6Det@Pos1_Recount



Acquired: 10/13/2007 9:41:53 AM Real Time: 945.88 s. Live Time: 900.00 s.
File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report
Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 099 Colim@6Det@Pos4.An1

Sample description
SMP HS 099 11_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 099 Colim@6Det@Pos4.An1

Acquisition information
Start time: 17-Nov-2007 14:00:58
Live time: 900
Real time: 934
Dead time: 3.60 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 099 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 099 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1526

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.43	11.52	4700.	1256.	1.395	24.66	1.180	PB-214	D
75.22	48.95	4491.	189.	0.210	151.90	1.202	EU-155	D
90.08	58.32	3887.	153.	0.170	174.25	1.207	TA-182	D
115.40	74.84	5859.	388.	0.431	85.06	1.217	BI-207	D
119.06	77.22	5127.	445.	0.494	69.75	1.218	PB-214	D
133.82	86.72	7432.	584.	0.649	99.80	2.198	BI-207	s
170.02	110.17	8864.	376.	0.418	168.68	1.084	PA-234	s
296.74	192.29	4678.	198.	0.219	195.52	1.434	FE-59	M
399.50	258.88	3267.	266.	0.296	130.23	1.322	XE-138	
424.07	274.79	4410.	399.	0.443	118.06	2.497	SR-91	s
598.54	387.87	2016.	351.	0.390	91.41	1.633	RH-106M	sM
701.65	454.68	1288.	240.	0.266	66.46	1.467	TE-131	D
711.83	461.28	1079.	308.	0.342	48.37	1.472	CS-138	D
740.62	479.96	1529.	217.	0.241	139.32	1.699	W-187	sM
751.09	486.74	648.	154.	0.171	96.14	1.231	LA-140	M
786.89	510.38	1375.	197.	0.219	82.75	1.508	J-133	D
822.70	532.84	882.	171.	0.190	77.11	1.526	ND-147	D
828.39	536.53	764.	135.	0.150	90.68	1.529	BA-140	D
893.68	579.17	1025.	213.	0.237	112.35	1.508	KR-89	s
1026.12	665.13	542.	499.	0.554	23.93	1.629	BI-214	D
1084.46	702.86	410.	132.	0.146	101.37	1.939	RH-106M	M
1110.02	720.06	481.	141.	0.157	70.71	1.673	SB-126	D
1169.28	757.85	380.	111.	0.123	121.20	1.423	ZR-95	sM
1184.82	767.90	504.	1444.	1.604	10.29	1.714	BI-214	D

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1211.90	785.48	608.	333.	0.370	41.84	1.854	BI-212	sM
1243.03	805.85	410.	413.	0.459	25.51	1.746	BI-214	D
1265.06	819.95	396.	142.	0.158	101.76	2.053	PA-234	sM
1293.93	838.67	628.	243.	0.270	58.41	2.239	J-135	sM
1306.64	846.91	243.	96.	0.107	102.13	2.503	J-134	sM
1355.80	878.79	301.	82.	0.091	138.66	1.706	CE-143	M
1440.24	933.54	639.	812.	0.902	19.68	1.824	BI-214	
1486.67	963.48	365.	136.	0.151	64.98	1.886	EU-152	D
1622.95	1052.04	267.	51.	0.057	151.67	1.721	-	
1639.45	1062.65	214.	42.	0.047	153.89	1.979	BI-207	D
1650.42	1069.76	341.	97.	0.108	86.39	1.986	J-134	D
1748.77	1133.64	316.	80.	0.089	120.23	1.459	J-135	M
1781.30	1154.75	340.	401.	0.445	28.77	2.276	BI-214	sM
1862.10	1207.16	316.	142.	0.157	71.61	2.376	-	sM
1909.40	1237.84	279.	1270.	1.411	10.72	2.020	BI-214	M
1975.84	1280.94	372.	398.	0.442	32.73	2.207	BI-214	sM
2124.52	1377.33	197.	979.	1.088	11.36	2.297	BI-214	D
2136.58	1385.15	212.	214.	0.238	35.40	2.306	AG-110M	D
2161.00	1401.06	234.	291.	0.324	28.34	2.323	BI-214	D
2171.26	1407.72	217.	602.	0.669	16.04	2.330	BI-214	D
2326.76	1508.62	409.	505.	0.561	26.16	2.502	BI-214	
2372.76	1538.61	231.	138.	0.153	53.40	2.474	RB-89	D
2380.00	1543.30	216.	76.	0.084	89.50	2.480	-	D
2441.26	1582.92	132.	178.	0.198	40.38	2.162	-	
2463.68	1597.47	235.	125.	0.139	76.99	1.834	EU-154	s
2561.31	1660.82	158.	252.	0.281	32.34	2.122	BI-214	s
2666.96	1729.39	132.	565.	0.628	17.90	2.466	BI-214	
2848.79	1847.40	72.	394.	0.438	19.53	3.123	BI-214	
3266.27	2118.43	20.	220.	0.245	23.45	2.133	BI-214	s
3398.37	2204.21	40.	791.	0.879	11.78	2.811	BI-214	
3773.88	2448.07	3.	212.	0.236	21.12	2.806	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	3489.	1384.	1.537	19.83	1.180D
Pb-210	71.75	46.50	3832.	21.	0.024	1228.95	1.200D
Th-234	97.66	63.29	4286.	32.	0.036	866.46	1.210D
Th-234	142.59	92.40	3866.	132.	0.147	246.15	1.157
Ra-226	287.17	186.08	8860.	2220.	2.466	30.51	1.216s
Pb-212	368.26	238.63	4620.	0.	0.000	0.00	0.753D
Pb-214	373.21	241.83	5100.	3220.	3.578	15.79	1.156
Pb-214	455.57	295.21	2881.	8762.	9.736	4.13	1.356D

ORTEC Spectrum name: SMP HS 099 Colim@6Det@Pos4.An1

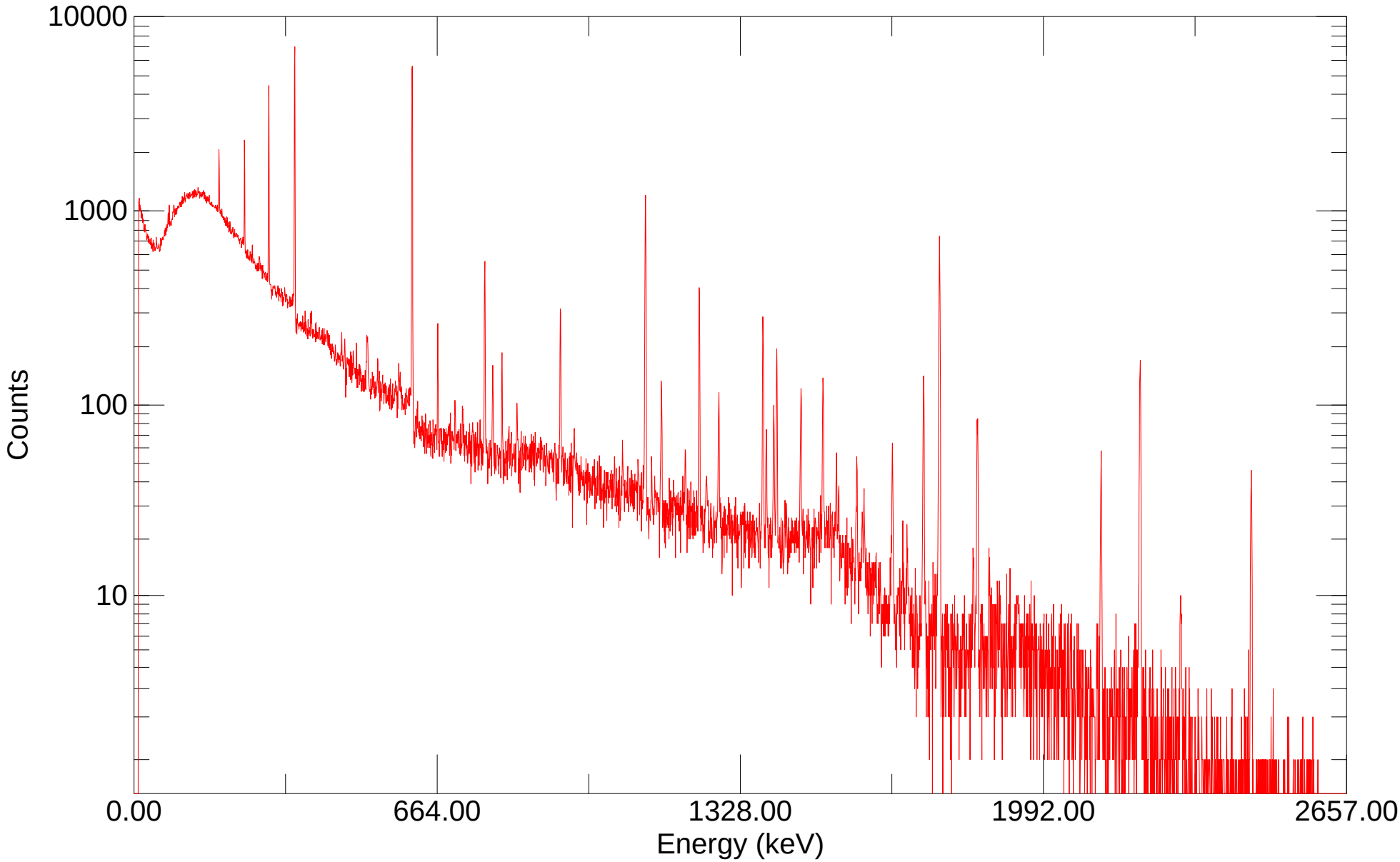
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	459.88	298.00	6099.	162.	0.180	206.43	1.358D
Pb-212	463.10	300.09	2691.	106.	0.118	210.08	1.359D
Ac-228	521.02	337.62	1335.	13.	0.015	1064.37	0.826
Pb-214	542.62	351.62	3861.	14589.	16.210	3.37	1.351
Tl-208	788.26	510.84	1413.	159.	0.177	103.07	1.509D
Tl-208	899.80	583.14	684.	0.	0.000	0.00	0.683D
Bi-214	939.46	608.85	1385.	14703.	16.337	2.85	1.583
Cs-137	1020.86	661.62	523.	54.	0.060	183.24	1.626D
Bi-212	1121.96	727.17	471.	41.	0.046	229.23	1.679D
Pa-234m	1182.48	766.41	1855.	16.	0.018	1112.81	1.713D
Tl-210	1233.83	799.70	286.	39.	0.043	191.73	1.741D
Tl-208	1326.13	859.55	392.	54.	0.060	249.32	2.005s
Ac-228	1408.32	912.85	534.	95.	0.106	195.51	2.157s
Ac-228	1495.08	969.11	420.	70.	0.077	130.12	1.892D
Pa-234m	1546.00	1002.13	106.	3.	0.003	1272.79	0.000s
Bi-214	1727.54	1119.87	633.	3785.	4.205	6.35	1.867
Tl-210	2020.00	1309.59	75.	7.	0.007	517.45	0.000s
K-40	2252.89	1460.68	363.	428.	0.475	31.39	2.187
Bi-212	2503.96	1623.61	167.	49.	0.054	161.33	1.460s
Bi-214	2720.84	1764.36	112.	2926.	3.252	6.07	2.329
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 099 Colim@6Det@Pos4

SMP HS 099 11_17_07



Acquired: 11/17/2007 2:00:58 PM Real Time: 933.62 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 100 Colim@6Det@Pos4.An1

Sample description
SMP HS 100 11_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 100 Colim@6Det@Pos4.An1

Acquisition information
Start time:	17-Nov-2007 13:31:43
Live time:	900
Real time:	948
Dead time:	5.09 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 100 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 100 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1469

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.47	11.56	6556.	1675.	1.861	21.78	1.180	PB-214	D
115.50	74.88	5818.	1332.	1.480	25.64	1.217	BI-207	D
119.10	77.21	7209.	2038.	2.264	18.89	1.218	PB-214	D
134.64	87.28	6714.	1068.	1.187	33.81	1.224	PB-214	D
139.32	90.31	8056.	339.	0.376	113.60	1.226	PB-214	D
399.29	258.73	8065.	980.	1.089	68.02	2.066	XE-138	s
423.64	274.52	7775.	860.	0.956	76.04	2.087	SR-91	s
434.64	281.64	3074.	166.	0.184	175.11	0.351	-	s
483.75	313.47	5054.	440.	0.488	114.70	1.379	NP-239	s
598.31	387.72	3995.	698.	0.776	67.50	1.720	RH-106M	sM
625.06	405.05	3564.	186.	0.207	226.89	1.284	J-134	sM
700.86	454.19	2704.	244.	0.272	150.87	0.991	TE-131	sM
712.34	461.63	1100.	122.	0.136	143.85	1.003	CS-138	M
725.10	469.94	1821.	158.	0.175	117.41	1.479	-	D
731.36	474.00	2074.	193.	0.214	102.54	1.482	RH-106M	D
740.88	480.16	1953.	295.	0.328	65.86	1.486	W-187	D
751.35	486.91	2325.	427.	0.474	84.24	1.210	LA-140	sM
787.88	510.64	2410.	448.	0.498	48.56	1.509	TL-208	D
822.51	533.04	1620.	184.	0.204	148.40	1.525	ND-147	sM
894.33	579.59	1516.	292.	0.324	91.16	1.378	KR-89	
948.82	615.33	1157.	149.	0.165	100.16	1.589	RH-106M	D
974.73	631.71	1048.	188.	0.209	122.82	1.385	AG-108	s
1026.17	665.06	936.	954.	1.060	16.71	1.629	BI-214	D
1053.23	682.61	728.	160.	0.178	115.58	2.026	RH-106M	sM

ORTEC Spectrum name: SMP HS 100 Colim@6Det@Pos4.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1084.12	702.63	985.	402.	0.447	59.29	1.556	NB-94	sM
1109.82	719.30	1050.	338.	0.376	72.31	2.021	SB-126	sM
1160.10	751.89	990.	242.	0.269	101.30	1.585	LA-140	s
1184.71	767.86	1232.	2999.	3.332	8.19	1.518	BI-214	
1211.84	785.44	1174.	612.	0.680	31.52	2.071	BI-212	s
1243.11	805.68	874.	758.	0.842	19.81	1.746	PA-234	D
1267.37	821.37	745.	108.	0.120	110.65	1.760	PA-234	D
1274.26	825.83	751.	162.	0.180	75.61	1.763	PA-234	D
1293.57	838.44	900.	305.	0.339	71.30	1.744	J-135	M
1440.36	933.62	1171.	1620.	1.800	13.77	1.777	BI-214	
1486.97	963.94	836.	205.	0.227	63.49	1.886	EU-152	D
1551.44	1005.30	673.	62.	0.068	182.67	1.925	EU-154	D
1622.10	1051.49	815.	206.	0.229	76.75	1.595	-	s
1649.64	1069.35	715.	145.	0.161	96.40	1.701	J-134	s
1748.25	1133.31	492.	134.	0.149	82.68	2.744	J-135	s
1781.45	1154.84	765.	819.	0.910	21.27	2.099	BI-214	
1862.62	1207.49	609.	276.	0.307	51.00	1.929	-	s
1909.26	1237.75	785.	2697.	2.997	8.40	2.032	J-133	
1932.30	1252.70	638.	204.	0.227	72.40	3.254	KR-88	s
1975.30	1280.59	690.	725.	0.806	24.43	1.969	BI-214	
2071.33	1342.89	240.	59.	0.065	123.09	1.810	CS-138	s
2124.51	1377.16	387.	1838.	2.042	8.34	2.297	BI-214	D
2136.50	1384.94	439.	314.	0.349	32.97	2.306	AG-110M	D
2161.17	1401.13	443.	554.	0.616	20.55	2.323	BI-214	D
2171.23	1407.66	443.	1121.	1.246	11.99	2.330	BI-214	D
2327.09	1508.83	675.	880.	0.978	19.74	2.409	BI-214	
2441.63	1583.16	366.	336.	0.373	33.27	2.545	AC-228	s
2459.59	1595.04	360.	134.	0.149	65.58	2.538	LA-140	D
2465.84	1599.09	404.	139.	0.155	66.26	2.543	EU-154	D
2561.29	1660.81	240.	429.	0.477	26.06	2.718	BI-214	
2596.15	1683.43	116.	84.	0.093	72.82	1.612	-	s
2666.81	1729.29	157.	1149.	1.276	12.28	2.562	BI-214	
2834.16	1837.71	120.	130.	0.144	44.53	2.829	RH-106M	D
2848.91	1847.28	122.	785.	0.872	12.26	2.840	BI-214	D
2888.39	1873.11	122.	116.	0.129	62.37	1.966	-	
3266.53	2118.60	72.	396.	0.440	20.83	3.158	BI-214	
3398.42	2204.24	50.	1637.	1.819	7.98	2.623	BI-214	
3536.13	2293.66	25.	120.	0.133	41.08	1.285	-	s
3773.70	2447.95	4.	496.	0.552	13.68	3.353	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 100 Colim@6Det@Pos4.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	4812.	1900.	2.111	16.95	1.180D
Pb-210	70.44	45.65	6503.	254.	0.282	202.92	2.339s
Th-234	97.42	63.13	7696.	205.	0.228	287.83	0.965s
Th-234	143.21	92.80	5733.	8.	0.009	3807.37	1.228D
Ra-226	287.26	186.14	12627.	4491.	4.990	18.16	1.178
Pb-212	368.26	238.63	5084.	122.	0.135	249.68	1.318D
Pb-214	373.43	241.98	6811.	7920.	8.800	5.56	1.321D
Pb-214	455.57	295.21	4965.	18582.	20.647	2.73	1.356D
Tl-210	459.88	298.00	11795.	28.	0.031	1643.27	1.358D
Pb-212	463.10	300.09	3895.	123.	0.137	216.42	1.359D
Ac-228	524.40	339.82	4982.	124.	0.137	272.43	0.553s
Pb-214	542.62	351.62	6730.	30660.	34.067	2.23	1.357
Tl-208	788.26	510.84	2587.	271.	0.301	81.64	1.509D
Tl-208	899.80	583.14	1225.	0.	0.000	0.00	0.938D
Bi-214	940.17	609.31	1418.	31026.	34.474	1.78	1.584D
Cs-137	1020.86	661.62	1044.	42.	0.046	332.00	1.626D
Bi-212	1120.49	726.22	384.	38.	0.042	272.34	1.285
Pa-234m	1182.56	766.46	3806.	0.	0.000	26174.03	1.713
Tl-210	1233.83	799.70	515.	1.	0.001	9633.78	1.741D
Tl-208	1323.70	857.98	856.	30.	0.034	458.38	1.038s
Ac-228	1404.33	910.26	825.	201.	0.223	107.12	3.737s
Ac-228	1495.08	969.11	766.	49.	0.054	243.29	1.891D
Pa-234m	1544.25	1001.00	599.	25.	0.028	415.35	1.921D
Bi-214	1727.50	1119.85	1134.	7290.	8.100	4.51	1.920
Tl-210	2023.16	1311.64	265.	65.	0.072	121.31	2.450
K-40	2253.33	1460.97	568.	416.	0.462	36.05	1.621
Bi-212	2494.05	1617.17	451.	58.	0.064	240.54	1.927
Bi-214	2720.90	1764.40	200.	5834.	6.482	4.16	2.430
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

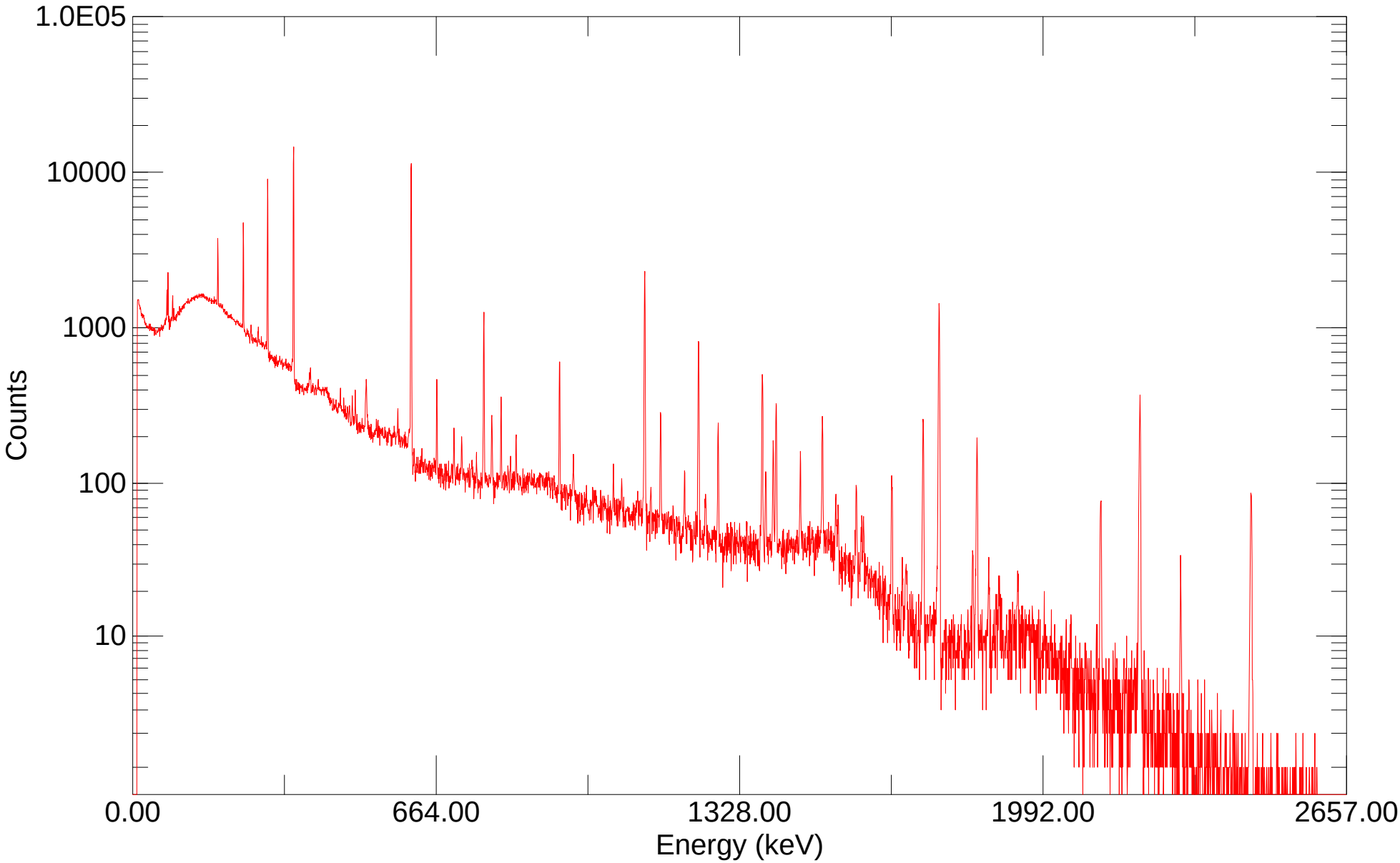
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 100 Colim@6Det@Pos4

SMP HS 100 11_17_07



Acquired: 11/17/2007 1:31:43 PM Real Time: 948.22 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 101 12_21_07.An1

Sample description
SMP HS 101 12_21_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 101 12_21_07.An1

Acquisition information
Start time:	21-Dec-2007 14:26:43
Live time:	900
Real time:	921
Dead time:	2.26 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 101 12_21_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 101 12_21_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1728

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.17	44.25	3196.	596.	0.663	42.04	1.199	EU-155	D
115.48	74.88	2275.	668.	0.742	32.46	1.217	BI-207	D
119.14	77.26	2283.	1033.	1.147	21.74	1.218	BI-207	D
134.87	87.95	1470.	479.	0.533	36.59	1.224	PB-214	D
399.74	259.03	1002.	232.	0.258	84.20	1.384	XE-138	
424.01	274.76	962.	340.	0.378	60.22	2.046	SR-91	s
471.02	305.26	966.	124.	0.138	109.87	1.363	BA-140	D
481.91	312.28	822.	140.	0.155	133.28	2.122	NP-239	s
640.50	415.06	658.	89.	0.099	186.16	1.290	SB-126	M
701.43	454.56	512.	178.	0.198	88.19	1.820	TE-131	sM
741.02	480.22	625.	162.	0.180	115.83	1.433	W-187	sM
751.52	487.02	526.	188.	0.209	88.39	1.828	LA-140	sM
823.93	533.96	454.	114.	0.126	135.12	1.392	-	sM
894.95	579.82	389.	97.	0.108	91.45	1.562	KR-89	D
1026.70	665.24	317.	415.	0.461	23.40	1.629	BI-214	D
1084.98	703.19	286.	226.	0.251	60.61	2.072	RH-106M	sM
1111.04	719.77	253.	138.	0.153	55.29	1.674	SB-126	D
1185.39	768.29	450.	1254.	1.393	12.56	2.010	BI-214	
1213.18	786.31	295.	287.	0.319	35.05	2.423	PA-234	sM
1243.90	805.97	275.	301.	0.334	29.09	1.747	BI-214	D
1294.66	839.15	220.	121.	0.134	86.64	2.771	J-135	sM
1441.30	934.24	327.	668.	0.742	18.54	2.045	BI-214	
1488.15	964.46	236.	119.	0.133	61.05	1.887	AC-228	D
1504.30	974.93	201.	70.	0.078	93.25	1.897	J-134	D

ORTEC Spectrum name: SMP HS 101 12_21_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1623.67	1052.51	172.	60.	0.066	111.70	2.061	-	
1748.08	1133.20	215.	101.	0.113	84.62	2.020	J-135	sM
1782.58	1155.58	280.	342.	0.380	32.45	2.204	BI-214	sM
1863.84	1208.29	178.	118.	0.131	66.16	1.725	-	sM
1910.28	1238.41	205.	1104.	1.226	11.49	2.363	CO-56	sM
1977.01	1281.70	170.	283.	0.314	30.95	2.103	BI-214	sM
2125.77	1377.98	150.	671.	0.745	13.94	2.298	BI-214	D
2138.09	1385.97	160.	138.	0.153	46.63	2.307	AG-110M	D
2162.31	1401.87	162.	223.	0.248	31.44	2.324	BI-214	D
2172.60	1408.55	122.	376.	0.418	19.85	2.331	EU-152	D
2329.16	1510.18	270.	344.	0.382	39.33	2.203	BI-214	
2373.72	1539.09	130.	75.	0.083	82.14	1.706	RB-89	
2443.61	1585.12	124.	96.	0.107	57.94	2.527	AC-228	D
2459.06	1595.14	94.	58.	0.064	81.17	2.538	LA-140	D
2467.36	1600.52	105.	63.	0.070	78.97	2.544	EU-154	D
2563.70	1662.37	99.	161.	0.179	46.51	2.786	BI-214	
2668.64	1730.48	42.	342.	0.381	19.41	2.070	BI-214	
2850.35	1848.42	45.	254.	0.282	24.23	1.911	BI-214	s
3400.66	2205.69	7.	560.	0.622	13.06	3.158	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.33	11.25	2.	1.	0.001	624.50	0.583s
Pb-210	71.75	46.50	3504.	323.	0.359	79.41	1.200D
Th-234	97.00	62.86	968.	20.	0.022	759.67	0.648
Th-234	143.21	92.80	1248.	39.	0.043	386.50	1.227D
Ra-226	287.33	186.19	2529.	3513.	3.903	11.27	1.542s
Pb-212	368.26	238.63	1477.	107.	0.119	154.50	1.318D
Pb-214	373.43	241.98	1538.	4102.	4.558	6.20	1.321D
Pb-214	455.57	295.21	1431.	9123.	10.137	3.60	1.356D
Tl-210	459.88	298.00	5744.	112.	0.125	287.27	1.358D
Pb-212	463.10	300.09	1080.	76.	0.085	185.54	1.359D
Ac-228	523.30	339.10	1165.	103.	0.114	245.30	0.836s
Pb-214	542.92	351.82	1466.	15993.	17.770	2.68	1.574
Tl-208	787.97	510.65	600.	288.	0.319	67.50	3.828s
Tl-208	899.80	583.14	404.	37.	0.041	237.47	1.564D
Bi-214	940.06	609.24	611.	13256.	14.729	2.80	1.707
Cs-137	1020.86	661.62	163.	25.	0.028	220.70	1.626D
Bi-212	1121.96	727.17	257.	19.	0.022	355.62	1.680D
Pa-234m	1182.48	766.41	666.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	246.	31.	0.035	218.50	1.741D
Tl-208	1329.34	861.63	212.	44.	0.049	226.54	0.912s

ORTEC Spectrum name: SMP HS 101 12_21_07.An1

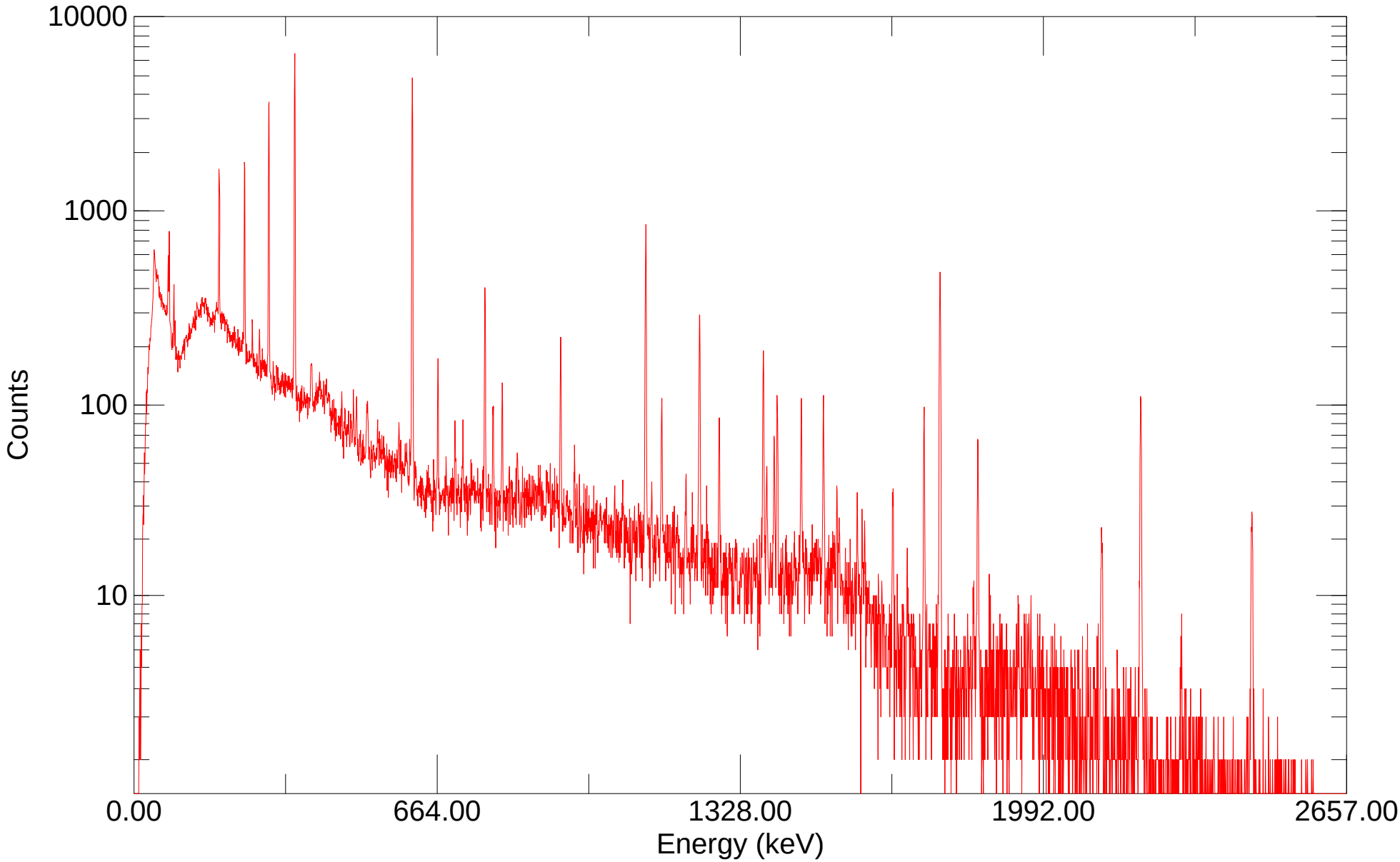
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1405.22	910.84	159.	49.	0.054	160.24	0.898s
Ac-228	1495.08	969.11	238.	43.	0.048	158.78	1.892D
Pa-234m	1547.46	1003.08	218.	22.	0.024	340.26	0.917s
Bi-214	1728.56	1120.54	317.	2883.	3.203	6.62	2.080
Tl-210	2022.43	1311.16	58.	7.	0.008	475.31	0.686s
K-40	2254.09	1461.46	252.	375.	0.417	31.08	1.745
Bi-212	2495.72	1618.26	60.	24.	0.027	178.54	1.375s
Bi-214	2722.58	1765.49	48.	2086.	2.318	6.86	2.679
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 101 12_21_07

SMP HS 101 12_21_07



Acquired: 12/21/2007 2:26:43 PM Real Time: 920.80 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 102 12_21_07.An1

Sample description
SMP HS 102 12_21_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 102 12_21_07.An1

Acquisition information
Start time:	21-Dec-2007 15:17:22
Live time:	900
Real time:	911
Dead time:	1.16 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 102 12_21_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 102 12_21_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1402

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.42	74.80	860.	764.	0.849	19.57	1.217	BI-207	D
119.16	77.23	1030.	1250.	1.389	13.81	1.218	PB-214	D
134.65	87.14	780.	488.	0.542	27.84	1.224	BI-207	D
139.25	90.13	688.	155.	0.172	75.79	1.226	PB-214	D
231.92	150.28	952.	103.	0.114	203.11	1.743	TE-131	s
398.77	258.40	575.	166.	0.184	108.67	2.881	XE-138	s
423.47	274.40	560.	149.	0.166	119.27	2.150	SR-91	s
586.17	379.85	238.	96.	0.106	117.84	2.329	SB-125	sM
787.83	510.43	318.	28.	0.031	273.78	1.509	J-133	D
894.45	579.68	136.	66.	0.073	124.15	1.108	-	s
1026.83	665.47	84.	143.	0.159	36.97	1.629	BI-214	D
1185.64	768.23	105.	410.	0.455	18.23	1.714	BI-214	D
1212.97	786.18	125.	87.	0.097	72.10	2.448	PA-234	sM
1243.22	805.92	159.	121.	0.135	63.05	1.250	BI-214	
1441.10	934.11	128.	227.	0.252	33.86	1.881	BI-214	
1622.52	1051.76	75.	38.	0.042	121.79	1.808	-	s
1782.58	1155.58	100.	113.	0.125	56.30	1.442	BI-214	sM
1910.67	1238.67	96.	329.	0.366	23.80	1.874	CO-56	M
1976.93	1281.65	76.	94.	0.104	63.10	1.677	BI-214	M
2125.71	1378.11	33.	220.	0.244	23.08	2.298	BI-214	D
2138.08	1386.14	55.	63.	0.070	62.92	2.307	AG-110M	D
2162.94	1402.29	55.	76.	0.084	53.91	2.324	BI-214	D
2172.85	1408.72	39.	154.	0.171	29.66	2.331	EU-152	D
2328.73	1509.89	53.	132.	0.146	41.22	1.857	BI-214	

ORTEC Spectrum name: SMP HS 102 12_21_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2668.50	1730.39	12.	139.	0.155	28.74	2.146	BI-214	
2850.67	1848.63	17.	85.	0.094	41.86	1.933	BI-214	s
3268.80	2120.08	2.	60.	0.066	40.95	2.096	BI-214	s
3400.38	2205.51	6.	188.	0.209	23.39	2.930	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

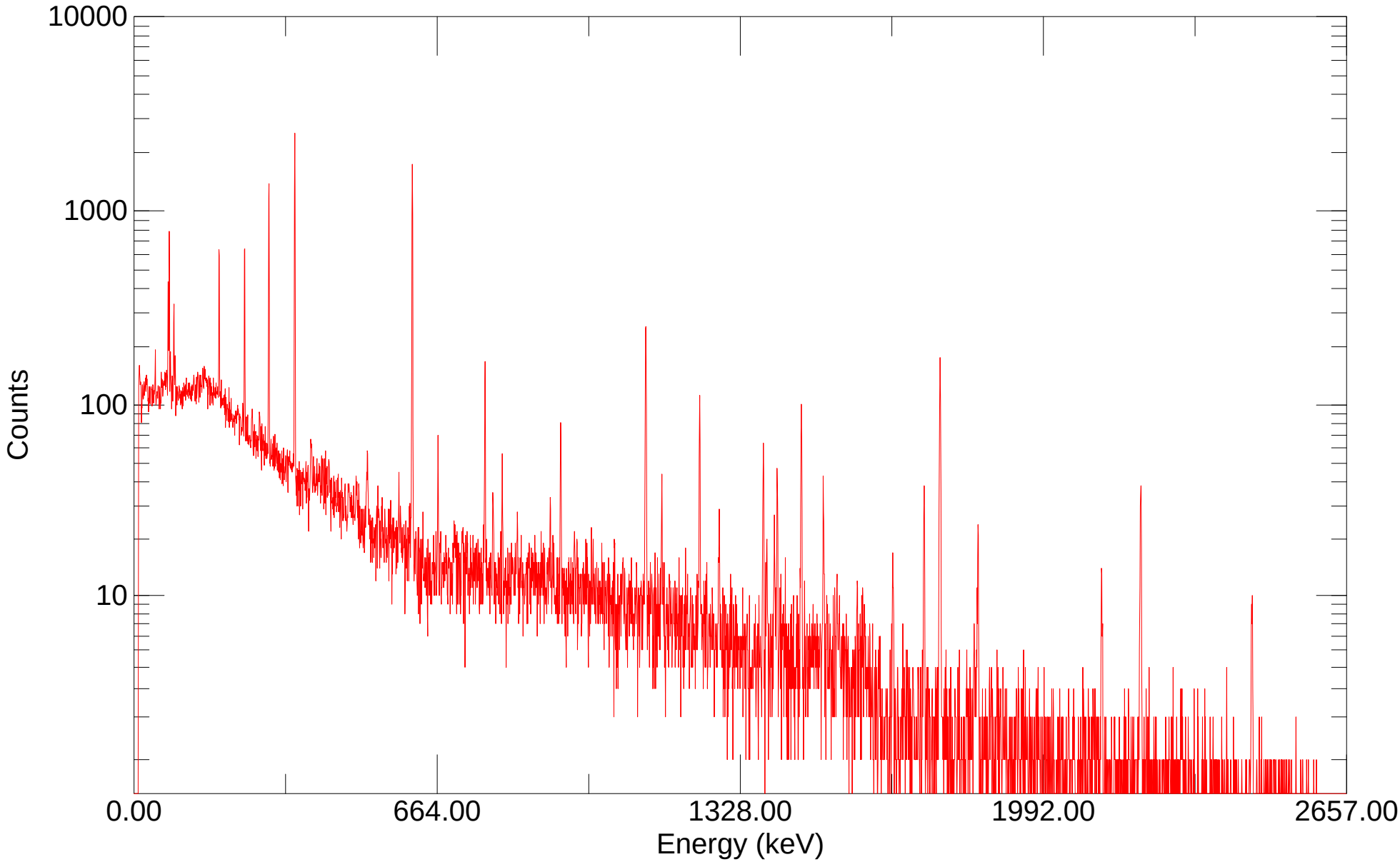
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.59	11.41	508.	351.	0.390	45.96	2.558s
Pb-210	71.62	46.42	749.	156.	0.173	114.20	0.930s
Th-234	99.71	64.62	711.	41.	0.046	393.02	1.953s
Th-234	143.21	92.80	636.	44.	0.048	249.82	1.228D
Ra-226	287.50	186.29	932.	1174.	1.304	20.29	1.360
Pb-212	368.26	238.63	514.	62.	0.069	159.01	1.318D
Pb-214	373.43	241.98	474.	1440.	1.599	10.18	1.321D
Pb-214	455.57	295.21	385.	3137.	3.486	5.98	1.356D
Tl-210	459.88	298.00	2058.	0.	0.000	19246.82	1.358D
Pb-212	463.10	300.09	317.	24.	0.027	322.38	1.359D
Ac-228	523.69	339.36	369.	74.	0.082	185.93	3.843s
Pb-214	542.99	351.86	561.	5236.	5.818	4.80	1.284
Tl-208	788.26	510.84	272.	74.	0.082	101.10	1.509D
Tl-208	899.80	583.14	140.	0.	0.000	0.00	1.972D
Bi-214	940.06	609.24	238.	4231.	4.701	5.03	1.526
Cs-137	1020.86	661.62	99.	14.	0.016	304.63	1.626D
Bi-212	1123.07	727.89	77.	82.	0.091	88.30	2.012s
Pa-234m	1182.48	766.41	448.	9.	0.010	991.88	1.713D
Tl-210	1233.83	799.70	91.	0.	0.000	0.00	0.568D
Tl-208	1328.36	861.00	28.	14.	0.016	212.13	1.038s
Ac-228	1405.85	911.24	145.	72.	0.080	96.28	1.540
Ac-228	1495.14	969.15	80.	22.	0.024	196.98	1.478
Pa-234m	1545.05	1001.52	56.	14.	0.016	240.54	0.759s
Bi-214	1728.70	1120.63	115.	895.	0.995	11.89	2.209
Tl-210	2017.85	1308.20	43.	30.	0.033	121.86	1.823
K-40	2254.04	1461.43	38.	352.	0.392	18.72	2.151
Bi-212	2501.00	1621.68	5.	1.	0.001	679.15	0.000s
Bi-214	2722.67	1765.55	28.	702.	0.780	12.40	2.417
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____ _____
Supervisor

SMP HS 102 12_21_07

SMP HS 102 12_21_07



Acquired: 12/21/2007 3:17:22 PM Real Time: 910.60 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 103 15 Min 45 Colim@6Det@

Sample description
smp hs 103 array down col @ 6 det pos 4 10_26_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 103 15 Min 45 Colim@6Det@Pos1.An1

Acquisition information
Start time:	26-Oct-2007 11:47:08
Live time:	900
Real time:	912
Dead time:	1.29 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMPHS1~4.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 103 15 Min 45 Colim@6Det@

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2252

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
68.09	44.09	1891.	269.	0.298	23.70	1.199	EU-155	D
115.10	74.60	1112.	421.	0.468	12.22	1.217	BI-207	D
119.13	77.21	1218.	878.	0.976	6.56	1.218	PB-214	D
134.46	86.94	1221.	415.	0.461	12.87	1.224	BI-207	D
139.38	90.13	1017.	171.	0.190	27.39	1.226	PB-214	D
398.14	257.99	1265.	352.	0.391	25.32	2.054	XE-138	s
423.40	274.36	1026.	330.	0.367	23.42	3.161	SR-91	s
598.72	387.98	748.	218.	0.242	32.69	2.046	RH-106M	sM
700.73	454.10	297.	82.	0.091	43.46	2.278	TE-131	sM
724.76	469.68	219.	80.	0.089	38.65	2.186	-	sM
740.92	480.15	370.	150.	0.167	32.46	2.098	W-187	sM
787.52	510.50	470.	135.	0.150	24.29	1.509	J-133	D
894.47	579.74	209.	84.	0.093	26.81	1.561	KR-89	D
1026.08	665.01	264.	213.	0.237	14.88	1.356	PA-234	
1084.65	702.98	135.	117.	0.130	25.06	1.208	RH-106M	sM
1184.73	767.83	187.	631.	0.701	5.02	1.714	BI-214	D
1211.88	785.47	245.	188.	0.209	17.20	2.106	BI-212	s
1242.75	805.57	156.	205.	0.228	11.06	1.746	PA-234	D
1294.03	838.73	174.	104.	0.115	23.54	1.712	J-135	M
1440.04	933.42	266.	317.	0.352	10.94	1.685	BI-214	
1649.66	1069.37	123.	51.	0.057	39.05	2.153	J-134	
1781.07	1154.60	150.	161.	0.179	16.27	2.104	BI-214	s
1909.08	1237.63	160.	613.	0.681	5.65	2.035	J-133	
1975.14	1280.49	135.	163.	0.181	16.27	2.349	BI-214	s

ORTEC Spectrum name: SMP HS 103 15 Min 45 Colim@6Det@

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2124.35	1377.06	103.	324.	0.360	7.10	2.297	BI-214	D
2136.46	1384.92	75.	59.	0.066	24.37	2.306	AG-110M	D
2160.33	1400.50	102.	128.	0.142	14.28	2.322	BI-214	D
2171.33	1407.64	89.	243.	0.271	8.42	2.330	BI-214	D
2326.16	1508.22	123.	211.	0.234	12.57	2.434	BI-214	
2371.67	1537.41	87.	44.	0.049	33.35	2.474	RB-89	D
2381.41	1543.73	74.	23.	0.026	56.27	2.480	-	D
2440.73	1582.57	65.	72.	0.080	23.15	1.772	-	
2562.28	1661.45	39.	117.	0.130	14.12	2.065	BI-214	
2666.98	1729.40	42.	220.	0.244	9.19	2.368	BI-214	
2848.53	1847.24	17.	183.	0.204	8.72	2.073	BI-214	
3397.82	2203.85	4.	335.	0.372	5.65	2.846	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	17.00	11.03	13.	3.	0.003	195.26	0.576s
Pb-210	71.75	46.50	2207.	189.	0.210	35.86	1.200D
Th-234	98.00	63.51	510.	47.	0.052	77.36	0.648
Th-234	143.21	92.80	1163.	89.	0.099	54.92	1.228D
Ra-226	287.12	186.05	1792.	2081.	2.312	4.84	1.401
Pb-212	368.26	238.63	1275.	126.	0.140	41.16	1.318D
Pb-214	373.43	241.98	1251.	2117.	2.352	3.21	1.321D
Pb-214	455.57	295.21	950.	4941.	5.490	1.67	1.356D
Tl-210	459.88	298.00	2767.	73.	0.081	102.25	1.358D
Pb-212	463.10	300.09	873.	65.	0.073	64.97	1.359D
Ac-228	522.78	338.77	330.	41.	0.046	78.32	0.775
Pb-214	542.59	351.61	988.	8657.	9.619	1.24	1.562
Tl-208	788.26	510.84	536.	69.	0.076	49.27	1.509D
Tl-208	899.80	583.14	232.	56.	0.062	40.67	1.564D
Bi-214	939.41	608.82	418.	7299.	8.110	1.27	1.720
Cs-137	1020.77	661.56	132.	0.	0.000	1624.81	1.626
Bi-212	1124.59	728.87	148.	54.	0.061	54.16	1.497s
Pa-234m	1182.48	766.41	743.	18.	0.020	216.04	1.713D
Tl-210	1233.83	799.70	161.	29.	0.033	63.71	1.741D
Tl-208	1326.29	859.65	172.	18.	0.020	119.02	1.136
Ac-228	1405.91	911.28	130.	60.	0.067	46.11	2.672s
Ac-228	1494.00	968.41	63.	8.	0.009	127.44	0.000s
Pa-234m	1544.15	1000.93	107.	15.	0.017	106.01	0.610s
Bi-214	1727.35	1119.75	160.	1634.	1.816	2.88	2.224
Tl-210	2018.17	1308.40	48.	18.	0.020	63.34	0.963s
K-40	2252.23	1460.26	116.	321.	0.356	8.63	2.301
Bi-212	2501.74	1622.16	35.	14.	0.016	74.99	0.930s

ORTEC Spectrum name: SMP HS 103 15 Min 45 Colim@6Det@

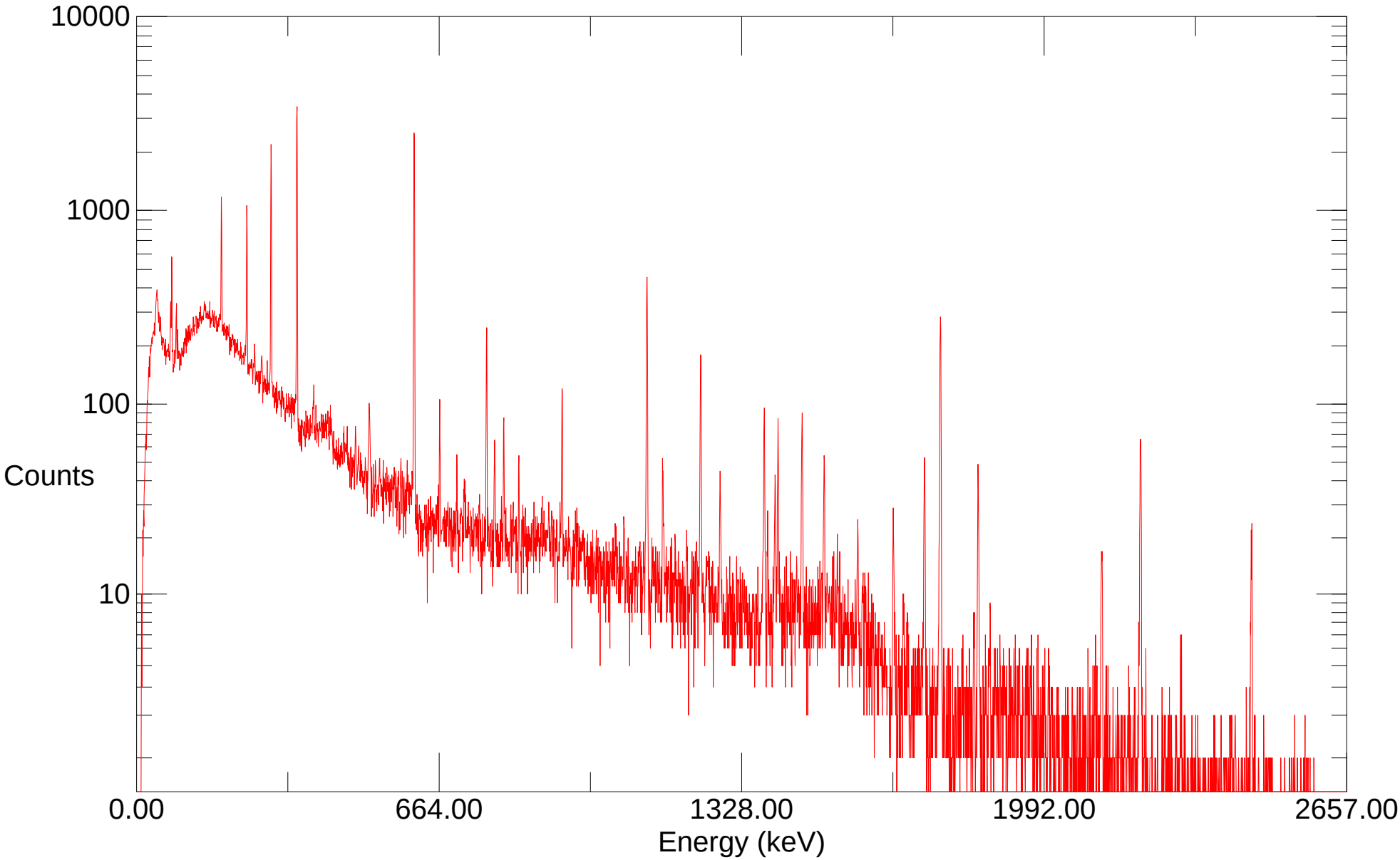
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	2720.65	1764.24	40.	1198.	1.331	3.09	2.469
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 103 15 Min 45 Colim@6Det@Pos1

smp hs 103 array down col @ 6 det pos 4 10_26_07



Acquired: 10/26/2007 11:47:08 AM Real Time: 911.80 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 104 15 Min 45 Colim@6Det@

Sample description
smp hs 104 array down col @ 6 det pos 4 10_26_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 104 15 Min 45 Colim@6Det@Pos1.An1

Acquisition information
Start time:	26-Oct-2007 11:15:16
Live time:	900
Real time:	935
Dead time:	3.79 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM05C1~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1446

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
67.58	43.98	6293.	874.	0.971	13.28	1.199	EU-155	D
118.01	76.47	5888.	2365.	2.628	7.54	1.201	PB-214	s
134.55	87.16	4550.	932.	1.036	10.75	1.224	BI-207	D
138.92	89.99	3963.	323.	0.359	28.12	1.226	PB-214	D
269.16	174.41	7707.	452.	0.502	41.47	2.278	SB-125	s
399.39	258.80	5112.	682.	0.758	23.75	1.694	XE-138	s
422.30	273.65	5465.	793.	0.881	23.11	2.229	CS-136	s
485.38	314.53	3474.	390.	0.433	35.80	1.705	NP-239	sM
599.03	388.18	3060.	483.	0.537	28.42	1.712	RH-106M	sM
625.87	405.58	2040.	168.	0.187	57.39	1.750	J-134	sM
702.36	455.16	2120.	274.	0.304	41.60	1.962	TE-131	sM
724.04	469.17	1617.	134.	0.149	43.19	1.478	-	D
731.28	473.86	1539.	155.	0.173	36.58	1.482	RH-106M	D
740.60	479.90	1302.	288.	0.320	18.65	1.486	W-187	D
750.86	486.55	1440.	344.	0.383	16.48	1.491	LA-140	D
787.54	510.46	1826.	405.	0.450	15.73	1.509	J-133	D
822.55	533.06	1290.	197.	0.219	45.22	1.683	ND-147	sM
843.88	546.89	620.	94.	0.104	50.62	0.817	CS-138	sM
894.39	579.63	1195.	338.	0.376	25.64	1.818	KR-89	s
976.25	632.70	513.	99.	0.110	46.85	1.443	AG-108	
1026.12	664.99	711.	825.	0.916	5.75	1.629	PA-234	D
1068.53	692.52	634.	90.	0.099	66.85	0.918	PA-234	sM
1084.18	702.67	665.	432.	0.480	15.39	1.883	NB-94	sM
1111.12	720.14	840.	334.	0.371	23.60	2.121	SB-126	s

ORTEC Spectrum name: SMP HS 104 15 Min 45 Colim@6Det@

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1145.08	742.16	448.	154.	0.171	30.25	2.818	PA-234	sM
1184.93	767.94	832.	2521.	2.801	2.57	1.714	BI-214	D
1211.84	785.45	910.	608.	0.676	9.50	2.211	BI-212	sM
1243.25	805.87	617.	711.	0.790	6.21	1.746	BI-214	D
1266.11	820.63	540.	106.	0.118	49.97	2.104	PA-234	M
1293.63	838.48	739.	330.	0.367	14.91	2.143	J-135	sM
1405.23	910.84	580.	114.	0.126	50.66	2.457	AC-228	s
1440.33	933.60	730.	1496.	1.662	4.06	1.814	BI-214	
1486.72	964.00	555.	208.	0.232	17.41	1.886	EU-152	D
1621.77	1051.28	512.	200.	0.222	20.83	2.486	CS-136	s
1650.15	1069.68	611.	109.	0.121	41.48	1.391	-	
1741.49	1129.26	379.	57.	0.064	49.88	2.043	RH-106M	D
1747.79	1133.34	399.	145.	0.161	21.14	2.047	J-135	D
1781.70	1155.01	640.	787.	0.874	7.24	2.155	BI-214	sM
1862.13	1207.18	483.	222.	0.247	19.28	2.256	-	M
1909.33	1237.79	460.	2324.	2.582	2.70	2.305	J-133	M
1932.73	1252.97	263.	87.	0.097	30.30	1.554	KR-88	M
1975.53	1280.74	552.	500.	0.555	10.24	2.161	BI-214	M
2010.86	1303.82	222.	65.	0.072	34.74	2.219	-	D
2124.60	1377.42	313.	1484.	1.649	3.10	2.297	BI-214	D
2136.56	1385.18	323.	301.	0.334	10.22	2.306	AG-110M	D
2161.13	1401.13	314.	508.	0.564	6.64	2.323	BI-214	D
2171.48	1407.84	289.	868.	0.965	4.38	2.330	BI-214	D
2299.19	1490.73	244.	50.	0.056	50.94	1.460	-	s
2327.05	1508.81	372.	812.	0.902	5.66	2.348	BI-214	s
2373.17	1538.56	282.	175.	0.195	15.54	2.475	RB-89	D
2380.50	1543.32	349.	152.	0.169	19.21	2.480	-	D
2441.85	1583.30	255.	245.	0.272	12.54	2.789	AC-228	
2459.79	1594.94	266.	46.	0.051	61.24	2.041	LA-140	
2562.19	1661.39	229.	322.	0.358	10.26	2.399	BI-214	
2611.21	1693.21	112.	120.	0.133	18.96	2.045	KR-89	s
2667.06	1729.45	130.	958.	1.065	4.10	2.894	BI-214	
2834.55	1838.10	86.	106.	0.117	15.78	2.829	RH-106M	D
2848.85	1847.38	108.	590.	0.656	4.81	2.840	BI-214	D
2924.62	1896.63	104.	88.	0.098	24.62	2.434	-	s
3266.78	2118.77	22.	334.	0.371	6.09	3.403	BI-214	
3398.56	2204.33	40.	1233.	1.370	3.04	2.921	BI-214	
3774.03	2448.17	4.	407.	0.452	5.10	2.943	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 104 15 Min 45 Colim@6Det@

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV
Pb-210	17.00	11.03	18.	4.	0.004	166.52	0.000s
Pb-210	71.75	46.50	7583.	456.	0.507	27.41	1.200D
Th-234	96.16	62.32	3850.	127.	0.141	91.83	1.308
Th-234	143.21	92.80	3905.	0.	0.000	8837.58	1.228D
Ra-226	287.14	186.06	7556.	5914.	6.571	3.38	1.476s
Pb-212	368.26	238.63	5584.	183.	0.204	58.09	1.318D
Pb-214	373.43	241.98	5536.	8107.	9.008	1.71	1.321D
Pb-214	455.57	295.21	4572.	18407.	20.453	0.90	1.356D
Tl-210	459.88	298.00	11359.	211.	0.234	71.81	1.358D
Pb-212	463.10	300.09	3206.	126.	0.140	64.12	1.359D
Ac-228	521.00	337.61	1906.	0.	0.000	0.00	0.000s
Pb-214	542.60	351.61	4998.	33102.	36.781	0.67	1.576
Tl-208	788.26	510.84	1926.	305.	0.338	21.17	1.509D
Tl-208	899.80	583.14	961.	0.	0.000	0.00	1.019D
Bi-214	939.51	608.88	1471.	28522.	31.691	0.64	1.805
Cs-137	1020.86	661.62	731.	48.	0.054	80.49	1.626D
Bi-212	1121.96	727.17	436.	0.	0.000	0.00	1.146D
Pa-234m	1182.48	766.41	2938.	162.	0.180	48.04	1.713D
Tl-210	1233.83	799.70	305.	25.	0.028	101.57	1.741D
Tl-208	1327.03	860.13	384.	33.	0.037	120.03	0.811s
Ac-228	1405.45	910.99	631.	0.	0.000	3552.46	1.839
Ac-228	1495.08	969.11	544.	22.	0.025	148.29	1.891D
Pa-234m	1542.38	999.78	387.	50.	0.056	61.32	2.640s
Bi-214	1728.19	1120.30	531.	6108.	6.787	1.39	2.034D
Tl-210	2020.63	1310.00	195.	5.	0.006	387.16	2.226D
K-40	2252.63	1460.52	416.	296.	0.329	13.57	2.040
Bi-212	2495.74	1618.27	184.	74.	0.082	35.61	0.970s
Bi-214	2721.00	1764.46	119.	4653.	5.170	1.55	2.526
Tl-208	4029.00	2613.78	0.	0.	0.000	100.00	0.000s

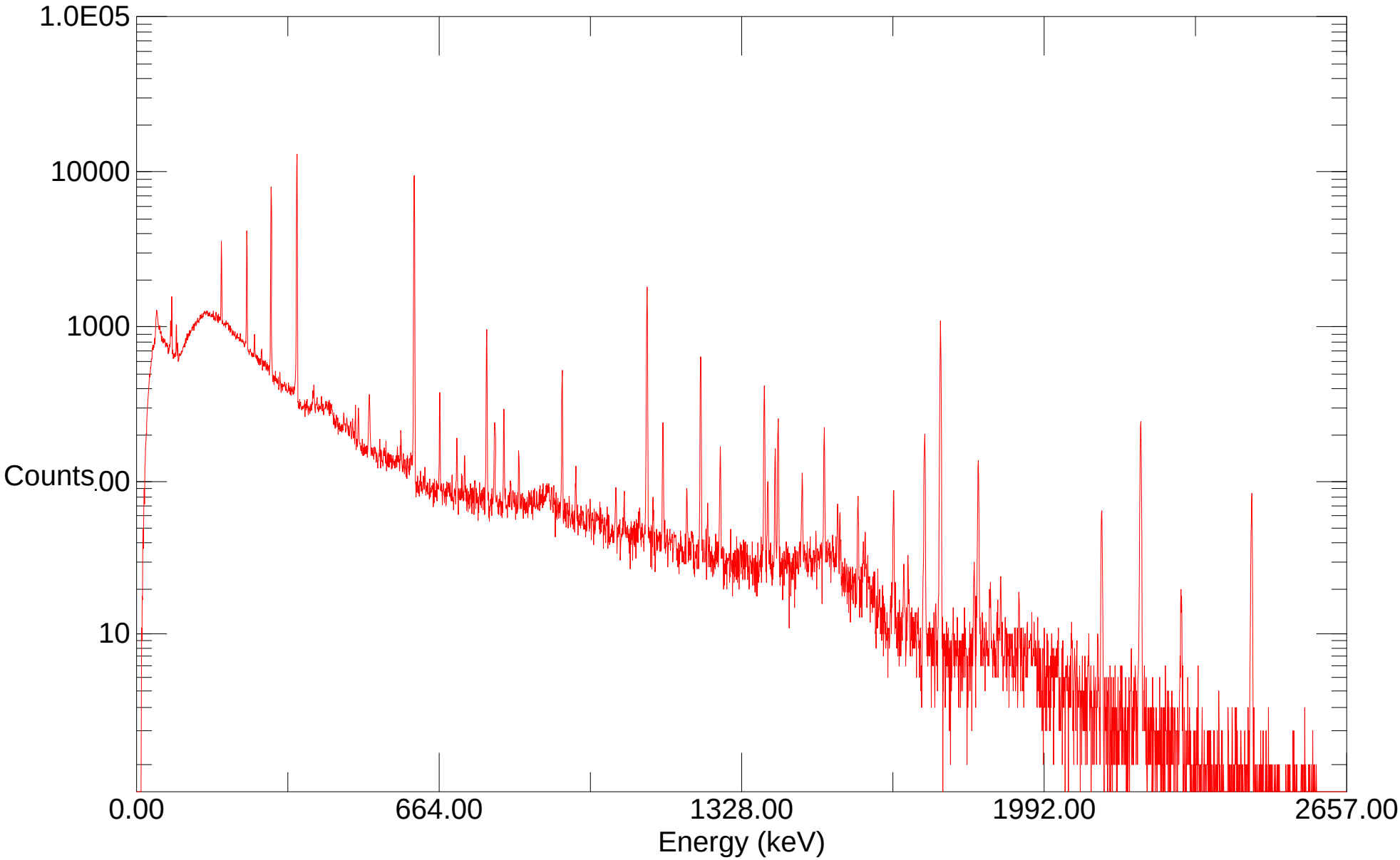
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 104 15 Min 45 Colim@6Det@Pos1

smp hs 104 array down col @ 6 det pos 4 10_26_07



Acquired: 10/26/2007 11:15:16 AM Real Time: 935.42 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 105 15 Min Colim@6Det@Pos

Sample description
smp hs 105 array down col @ 6 det pos 4 10_30_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 105 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 30-Oct-2007 11:11:51
Live time: 900
Real time: 922
Dead time: 2.38 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM2CA4~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 105 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.3018

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.19	44.14	3081.	425.	0.472	57.32	1.199	EU-155	D
115.10	74.64	4110.	554.	0.616	50.73	1.217	BI-207	D
118.97	77.14	4156.	886.	0.985	32.47	1.218	PB-214	D
134.17	86.49	4021.	482.	0.536	57.44	1.224	BI-207	D
139.66	90.05	3218.	270.	0.300	90.96	1.226	PB-214	D
177.99	115.34	2905.	192.	0.213	179.96	1.553	PA-234	s
398.80	258.42	3303.	481.	0.534	85.17	1.592	XE-138	s
423.38	274.35	2320.	426.	0.473	73.50	2.340	SR-91	s
598.09	387.58	1920.	582.	0.646	58.95	4.914	RH-106M	sM
700.60	454.02	1130.	234.	0.259	103.15	2.069	TE-131	sM
713.15	462.26	903.	127.	0.141	104.00	1.473	CS-138	D
723.41	468.91	871.	120.	0.133	108.00	1.478	-	D
740.56	479.92	921.	193.	0.214	70.24	1.486	W-187	D
750.76	486.53	877.	234.	0.261	57.03	1.491	LA-140	D
787.62	510.50	1147.	260.	0.289	58.36	1.509	J-133	D
894.28	579.63	577.	166.	0.184	65.78	1.561	KR-89	D
905.94	587.19	450.	66.	0.073	141.07	1.567	KR-89	D
1025.82	664.77	517.	611.	0.679	19.91	1.629	PA-234	D
1075.63	697.32	261.	45.	0.050	159.74	1.655	SB-126	D
1083.95	702.72	464.	204.	0.227	49.48	1.659	NB-94	D
1109.60	719.15	414.	182.	0.202	81.74	2.200	SB-126	s
1184.53	767.59	801.	1454.	1.616	11.41	1.714	BI-214	D
1211.41	785.17	560.	396.	0.440	34.52	1.950	BI-212	sM
1242.95	805.49	443.	409.	0.454	26.42	1.746	PA-234	D

ORTEC Spectrum name: SMP HS 105 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1256.11	814.41	377.	81.	0.090	107.06	1.753	LA-140	D
1266.22	820.96	303.	102.	0.114	77.99	1.759	PA-234	D
1293.13	838.15	455.	244.	0.271	48.07	1.892	J-135	sM
1439.94	933.35	669.	1036.	1.151	17.37	2.184	BI-214	s
1486.09	963.24	344.	132.	0.147	64.94	1.886	EU-152	D
1621.51	1051.11	249.	99.	0.110	81.40	2.448	CS-136	s
1649.72	1069.40	356.	81.	0.090	125.54	1.426	-	
1687.99	1094.22	153.	30.	0.034	189.03	1.419	-	s
1781.12	1154.63	413.	458.	0.509	29.12	2.396	BI-214	sM
1821.98	1181.13	179.	31.	0.035	202.70	1.639	KR-88	M
1861.32	1206.65	275.	129.	0.143	70.08	1.959	-	sM
1908.74	1237.42	366.	1521.	1.690	10.78	2.661	J-133	sM
1974.74	1280.22	380.	415.	0.461	32.32	2.391	BI-214	sM
2124.00	1376.94	297.	958.	1.065	12.33	2.297	BI-214	D
2135.81	1384.60	201.	187.	0.208	38.93	2.305	AG-110M	D
2160.56	1400.85	206.	319.	0.355	25.38	2.323	BI-214	D
2170.59	1407.36	199.	605.	0.672	15.70	2.329	BI-214	D
2326.80	1508.64	379.	479.	0.533	30.49	2.229	BI-214	
2379.45	1542.81	191.	82.	0.091	102.89	1.728	-	
2441.05	1582.78	174.	168.	0.186	47.05	3.422	AC-228	s
2560.13	1660.06	140.	303.	0.337	30.24	2.343	BI-214	s
2666.22	1728.91	80.	610.	0.677	15.34	3.015	BI-214	
2847.86	1846.81	54.	421.	0.468	18.10	3.367	BI-214	s
2986.67	1936.91	63.	52.	0.057	103.15	1.717	-	s
3265.74	2118.09	13.	237.	0.263	21.75	3.739	BI-214	
3397.24	2203.47	40.	819.	0.910	11.92	3.140	BI-214	
3772.54	2447.20	4.	230.	0.256	20.42	2.324	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	1.	1.	0.001	474.34	0.000s
Pb-210	71.75	46.50	3438.	156.	0.174	160.75	1.200D
Th-234	98.84	64.05	5985.	162.	0.180	336.81	0.914s
Th-234	143.21	92.80	3516.	110.	0.122	230.48	1.228D
Ra-226	286.99	185.96	5445.	3207.	3.563	17.03	1.715s
Pb-212	368.26	238.63	2160.	0.	0.000	0.00	1.401D
Pb-214	372.99	241.70	4195.	6429.	7.143	8.29	1.783s
Pb-214	455.57	295.21	4337.	12313.	13.681	3.53	1.356D
Tl-210	459.88	298.00	6934.	201.	0.223	176.93	1.357D
Pb-212	463.10	300.09	2271.	2.	0.003	8987.46	1.359D
Ac-228	520.99	337.61	828.	32.	0.036	352.28	0.533s
Pb-214	542.31	351.43	2821.	24524.	27.249	2.24	1.912s

ORTEC Spectrum name: SMP HS 105 15 Min Colim@6Det@Pos

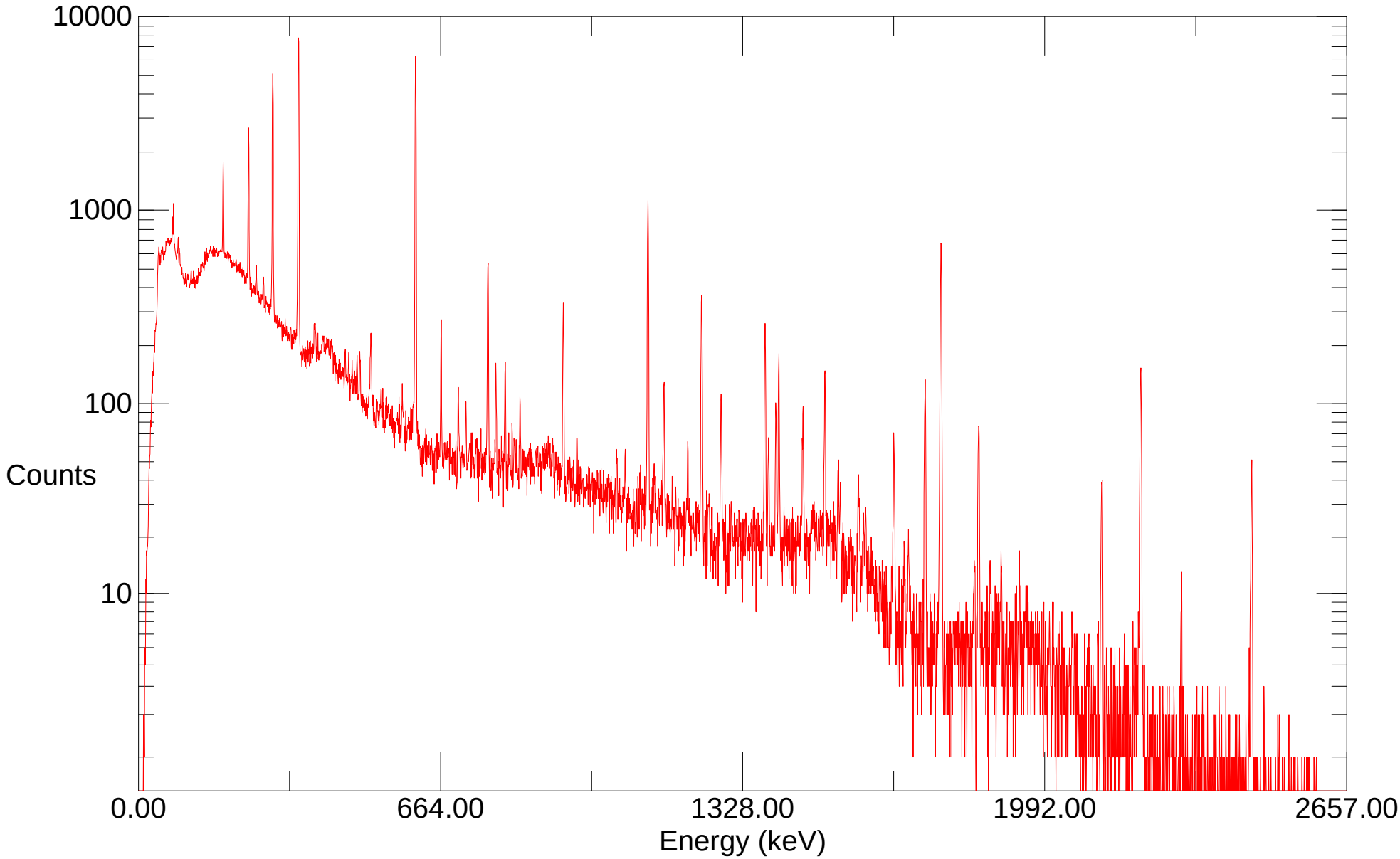
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	788.26	510.84	1266.	141.	0.156	110.35	1.509D
Tl-208	899.80	583.14	497.	0.	0.000	0.00	0.000D
Bi-214	939.15	608.65	1270.	20195.	22.439	2.33	2.001s
Cs-137	1020.86	661.62	521.	19.	0.021	521.11	1.626D
Bi-212	1122.40	727.46	540.	109.	0.121	171.64	3.046s
Pa-234m	1182.48	766.41	1894.	280.	0.311	68.28	1.713D
Tl-210	1233.83	799.70	412.	35.	0.039	249.05	1.741D
Tl-208	1327.75	860.60	166.	29.	0.032	237.48	0.814s
Ac-228	1405.62	911.10	356.	116.	0.128	118.20	3.216s
Ac-228	1495.08	969.11	249.	29.	0.032	239.25	1.891D
Pa-234m	1544.00	1000.84	91.	0.	0.000	3505.00	0.000s
Bi-214	1727.00	1119.53	456.	4286.	4.762	5.44	2.319
Tl-210	2020.06	1309.63	104.	17.	0.019	264.71	0.854s
K-40	2251.82	1459.99	368.	348.	0.386	38.62	2.617s
Bi-212	2499.29	1620.57	81.	14.	0.016	315.30	0.494s
Bi-214	2720.11	1763.89	81.	3145.	3.495	5.66	2.743
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 105 15 Min Colim@6Det@Pos4

smp hs 105 array down col @ 6 det pos 4 10_30_07



Acquired: 10/30/2007 11:11:51 AM Real Time: 921.94 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 106 15 Min Colim@6Det@Pos

Sample description
SMP HS 106 11_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 106 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 17-Nov-2007 10:29:48
Live time: 900
Real time: 909
Dead time: 1.04 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SM6CA4~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 106 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1932

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.44	10.44	320.	246.	0.273	54.69	2.700	SE-75	s
787.60	510.58	127.	69.	0.076	78.59	1.509	TL-208	D
898.81	582.50	94.	27.	0.030	164.68	1.564	TL-208	D
1975.69	1280.85	17.	21.	0.023	113.48	1.555	BI-214	sM

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	320.	0.	0.000	0.00	2.700D
Pb-210	73.38	47.55	216.	48.	0.053	188.75	1.282s
Th-234	95.79	62.08	246.	48.	0.053	200.78	1.252s
Th-234	141.87	91.93	477.	86.	0.096	181.58	1.287s
Ra-226	288.06	186.66	218.	34.	0.038	245.30	0.347s
Pb-212	368.26	238.63	217.	85.	0.094	80.67	1.318D
Pb-214	373.43	241.98	198.	61.	0.068	104.31	1.321D
Pb-214	455.57	295.21	121.	65.	0.073	80.58	1.356D
Tl-210	459.88	298.00	189.	15.	0.017	392.30	1.358D
Pb-212	463.10	300.09	149.	30.	0.033	181.79	1.359D
Ac-228	521.94	338.22	111.	18.	0.020	358.24	0.689s

ORTEC Spectrum name: SMP HS 106 15 Min Colim@6Det@Pos

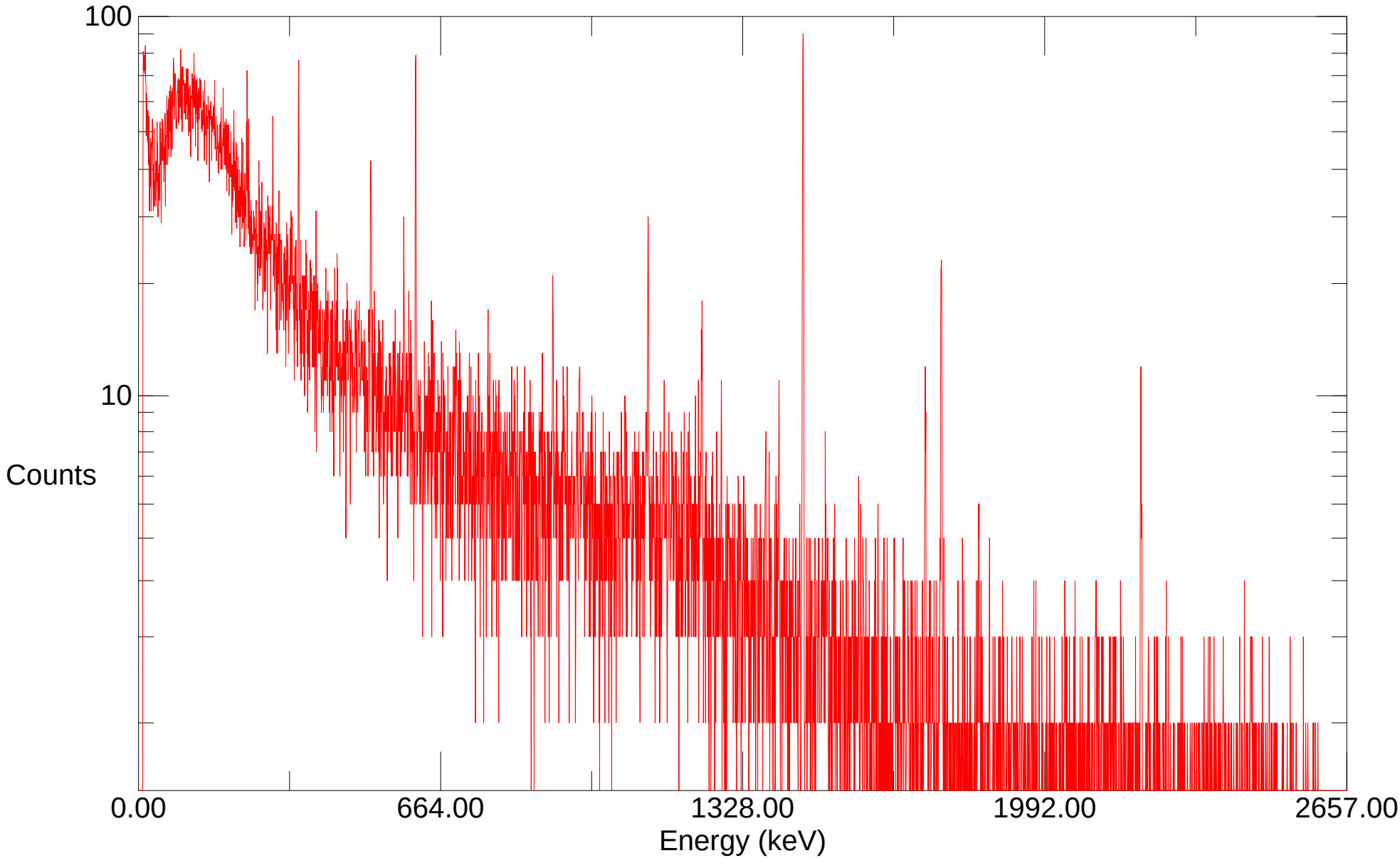
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	542.80	351.74	156.	159.	0.177	46.20	1.506
Tl-208	788.26	510.84	178.	18.	0.020	314.99	1.509D
Tl-208	899.80	583.14	89.	28.	0.031	154.82	1.564D
Bi-214	939.37	608.79	76.	211.	0.234	29.79	1.798
Cs-137	1017.31	659.32	46.	52.	0.058	113.39	1.631s
Bi-212	1122.21	727.33	34.	13.	0.014	207.69	1.244
Pa-234m	1184.34	767.62	60.	26.	0.029	159.26	1.368
Tl-210	1233.58	799.54	21.	3.	0.004	609.28	1.200
Tl-208	1326.36	859.70	44.	33.	0.037	114.15	1.481
Ac-228	1404.36	910.28	70.	56.	0.062	91.12	1.973s
Ac-228	1494.54	968.76	42.	28.	0.031	123.56	2.766s
Pa-234m	1543.13	1000.28	9.	2.	0.002	746.99	0.477s
Bi-214	1726.67	1119.32	89.	97.	0.108	66.59	1.873
Tl-210	2021.14	1310.33	12.	7.	0.008	260.69	0.931s
K-40	2252.64	1460.53	12.	337.	0.375	17.25	2.321
Bi-212	2497.92	1619.68	4.	2.	0.002	441.59	0.515s
Bi-214	2721.02	1764.47	9.	116.	0.129	31.88	3.092
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 106 15 Min Colim@6Det@Pos4

SMP HS 106 11_17_07



Acquired: 11/17/2007 10:29:48 AM Real Time: 909.42 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 107 11_28_07.An1

Sample description
SMP HS 107 11_28_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 107 11_28_07.An1

Acquisition information
Start time:	28-Nov-2007 12:46:46
Live time:	900
Real time:	938
Dead time:	4.00 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 107 11_28_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 107 11_28_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1240

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	3 Sigma %	FWHM keV	Suspected Nuclide	
119.04	77.14	1127.	159.	0.177	136.46	1.215	PB-214	
134.40	87.09	678.	142.	0.158	112.87	2.002	BI-207	s
178.32	115.55	525.	78.	0.087	168.33	1.322	TE-132	
248.80	161.22	1328.	119.	0.132	207.26	2.025	BA-140	s
358.30	232.18	675.	69.	0.077	228.79	1.103	CE-143	M
400.41	259.47	732.	123.	0.137	150.01	1.223	XE-138	s
700.91	454.22	228.	80.	0.089	130.98	2.080	TE-131	sM
741.06	480.18	193.	65.	0.073	97.41	1.486	W-187	D
751.03	486.64	236.	58.	0.064	119.94	1.491	LA-140	D
787.50	510.35	313.	95.	0.105	85.20	1.509	J-133	D
899.13	582.71	96.	54.	0.060	116.27	1.288	TL-208	
1026.43	665.23	116.	167.	0.185	35.99	1.629	BI-214	D
1185.06	768.02	144.	384.	0.427	20.24	1.714	BI-214	D
1212.00	785.55	166.	93.	0.103	78.42	1.419	BI-212	M
1243.82	806.57	116.	110.	0.122	50.37	1.747	BI-214	D
1293.91	838.66	117.	53.	0.059	107.38	1.919	J-135	M
1440.20	933.52	142.	302.	0.335	28.15	2.357	BI-214	s
1782.04	1155.23	99.	128.	0.143	51.75	1.833	BI-214	sM
1862.92	1207.69	74.	54.	0.060	93.64	1.567	-	sM
1909.84	1238.13	115.	379.	0.421	22.37	2.106	BI-214	M
1976.39	1281.30	75.	109.	0.121	53.05	2.669	BI-214	sM
2124.94	1377.69	64.	264.	0.293	22.52	2.298	BI-214	D
2136.26	1385.04	60.	35.	0.039	105.99	2.305	AG-110M	D
2161.18	1401.13	62.	60.	0.067	67.25	2.323	BI-214	D

ORTEC Spectrum name: SMP HS 107 11_28_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2172.10	1408.22	50.	169.	0.188	29.12	2.330	EU-152	D
2327.25	1508.94	67.	116.	0.129	48.98	2.689	BI-214	
2667.66	1729.84	21.	108.	0.120	39.53	2.512	BI-214	s
3267.14	2119.00	4.	53.	0.059	45.64	2.618	BI-214	
3399.44	2204.90	4.	244.	0.271	19.91	2.324	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

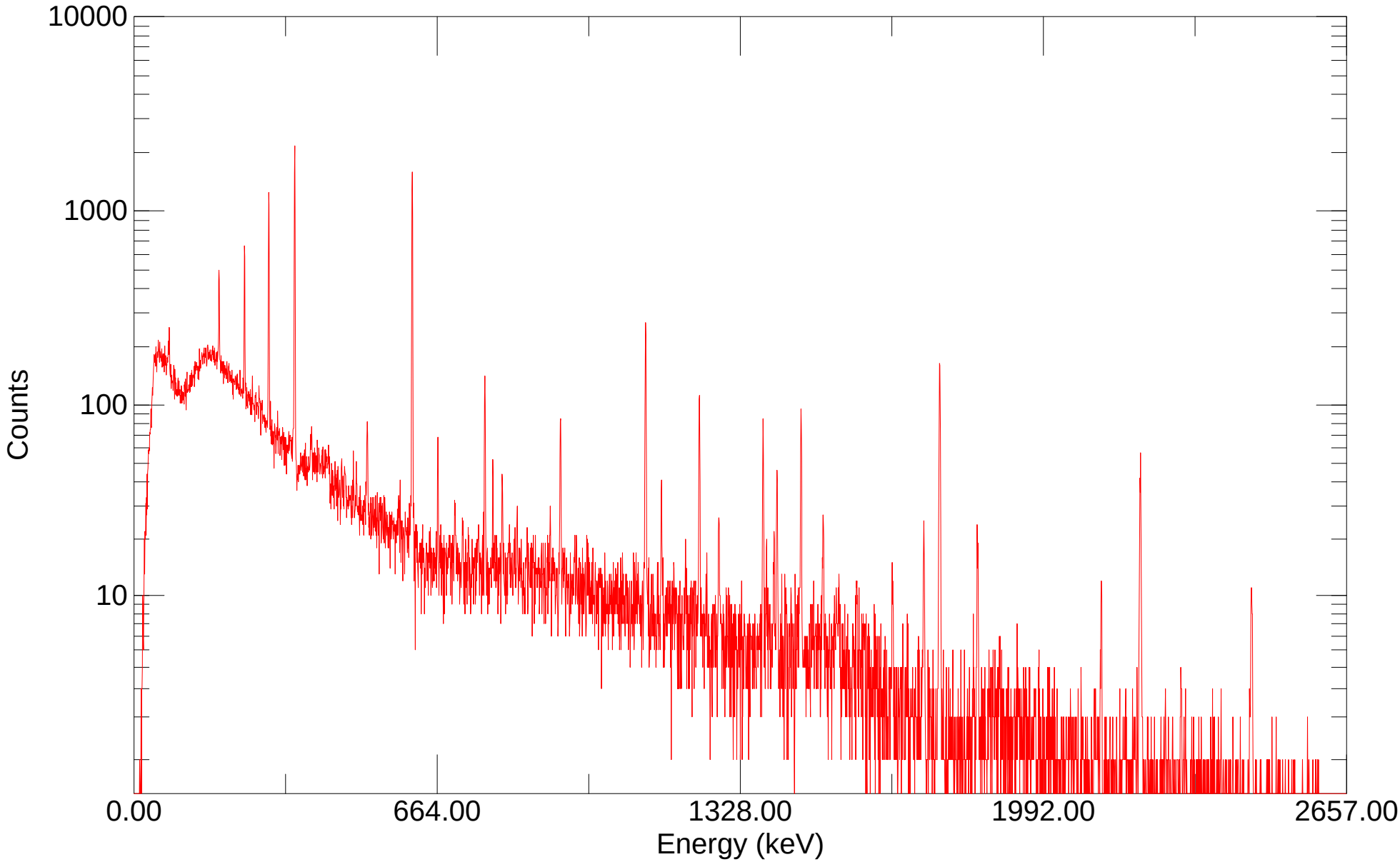
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	73.44	47.60	1650.	95.	0.106	211.72	0.634
Th-234	98.84	64.05	1224.	136.	0.151	174.47	1.572s
Th-234	142.01	92.02	675.	27.	0.030	580.23	0.652
Ra-226	287.14	186.06	1832.	888.	0.986	38.23	1.533s
Pb-212	368.26	238.63	446.	0.	0.000	0.00	1.219D
Pb-214	373.14	241.79	1218.	1623.	1.803	18.62	1.613s
Pb-214	455.57	295.21	702.	2912.	3.236	6.77	1.356D
Tl-210	459.88	298.00	1892.	43.	0.048	433.97	1.358D
Pb-212	463.10	300.09	611.	20.	0.022	530.08	1.359D
Ac-228	521.47	337.92	593.	26.	0.029	468.68	0.986
Pb-214	542.73	351.69	748.	5336.	5.928	4.93	1.528
Tl-208	788.26	510.84	341.	94.	0.105	88.71	1.509D
Tl-208	899.80	583.14	150.	0.	0.000	5196.15	1.564
Bi-214	939.73	609.03	305.	4566.	5.073	4.93	1.784
Cs-137	1020.86	661.62	110.	20.	0.022	232.77	1.626D
Bi-212	1120.88	726.47	68.	42.	0.047	139.61	1.853s
Pa-234m	1182.48	766.41	450.	23.	0.025	398.96	1.713D
Tl-210	1233.83	799.70	101.	17.	0.019	254.19	1.741D
Tl-208	1326.01	859.47	93.	46.	0.051	112.75	1.679s
Ac-228	1405.40	910.95	102.	50.	0.056	104.79	1.409
Ac-228	1494.62	968.82	68.	23.	0.026	167.61	1.329
Pa-234m	1545.45	1001.78	75.	11.	0.013	360.58	0.722s
Bi-214	1727.98	1120.16	131.	941.	1.046	12.01	2.148
Tl-210	2015.59	1306.73	38.	18.	0.020	185.93	0.644s
K-40	2253.04	1460.78	88.	342.	0.380	22.84	2.111
Bi-212	2499.17	1620.50	33.	17.	0.019	194.45	0.670s
Bi-214	2721.53	1764.81	27.	727.	0.808	11.97	2.700
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 107 11_28_07

SMP HS 107 11_28_07



Acquired: 11/28/2007 12:46:46 PM Real Time: 937.50 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 108 12_21_07.An1

Sample description
SMP HS 108 12_21_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 108 12_21_07.An1

Acquisition information
Start time: 21-Dec-2007 11:10:14
Live time: 900
Real time: 914
Dead time: 1.52 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 108 12_21_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 108 12_21_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1922

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.25	44.66	1285.	223.	0.248	71.15	1.199	EU-155	D
117.89	76.40	1155.	804.	0.893	32.81	1.068	PB-214	s
134.68	87.87	713.	257.	0.285	47.96	1.224	PB-214	D
398.46	258.20	752.	134.	0.149	145.71	1.465	XE-138	s
712.87	461.97	256.	100.	0.111	117.17	2.196	CS-138	sM
740.70	480.01	185.	145.	0.161	73.30	2.555	W-187	sM
751.78	487.19	234.	87.	0.097	127.82	2.520	LA-140	sM
788.42	511.00	327.	77.	0.085	106.00	1.509	TL-208	D
1002.58	649.77	90.	57.	0.063	123.66	1.476	J-132	s
1026.63	665.23	139.	145.	0.161	42.68	1.629	BI-214	D
1084.61	702.95	104.	74.	0.082	103.48	1.513	RH-106M	sM
1185.43	768.32	182.	455.	0.506	21.17	1.770	BI-214	
1212.73	786.02	182.	164.	0.183	51.69	1.966	PB-214	s
1244.08	806.20	113.	128.	0.143	43.93	1.747	BI-214	D
1441.52	934.38	204.	260.	0.289	37.25	1.676	BI-214	s
1782.31	1155.40	74.	131.	0.146	43.62	1.777	BI-214	s
1863.66	1208.17	49.	37.	0.041	100.80	1.266	-	s
1910.54	1238.58	78.	385.	0.428	19.59	2.414	CO-56	s
1976.61	1281.44	56.	137.	0.152	40.52	2.783	BI-214	s
2125.81	1378.24	68.	260.	0.289	26.33	2.281	BI-214	
2162.20	1401.84	45.	87.	0.097	45.81	2.323	BI-214	D
2172.79	1408.71	60.	159.	0.177	31.54	2.331	EU-152	D
2328.36	1509.66	66.	176.	0.196	36.20	2.430	BI-214	s
2668.39	1730.32	3.	153.	0.170	25.09	2.934	BI-214	

ORTEC Spectrum name: SMP HS 108 12_21_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2850.49	1848.51	16.	95.	0.105	38.70	2.316	BI-214	
3400.08	2205.32	0.	181.	0.201	22.30	2.958	BI-214	
3776.37	2449.69	0.	78.	0.087	33.97	1.879	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

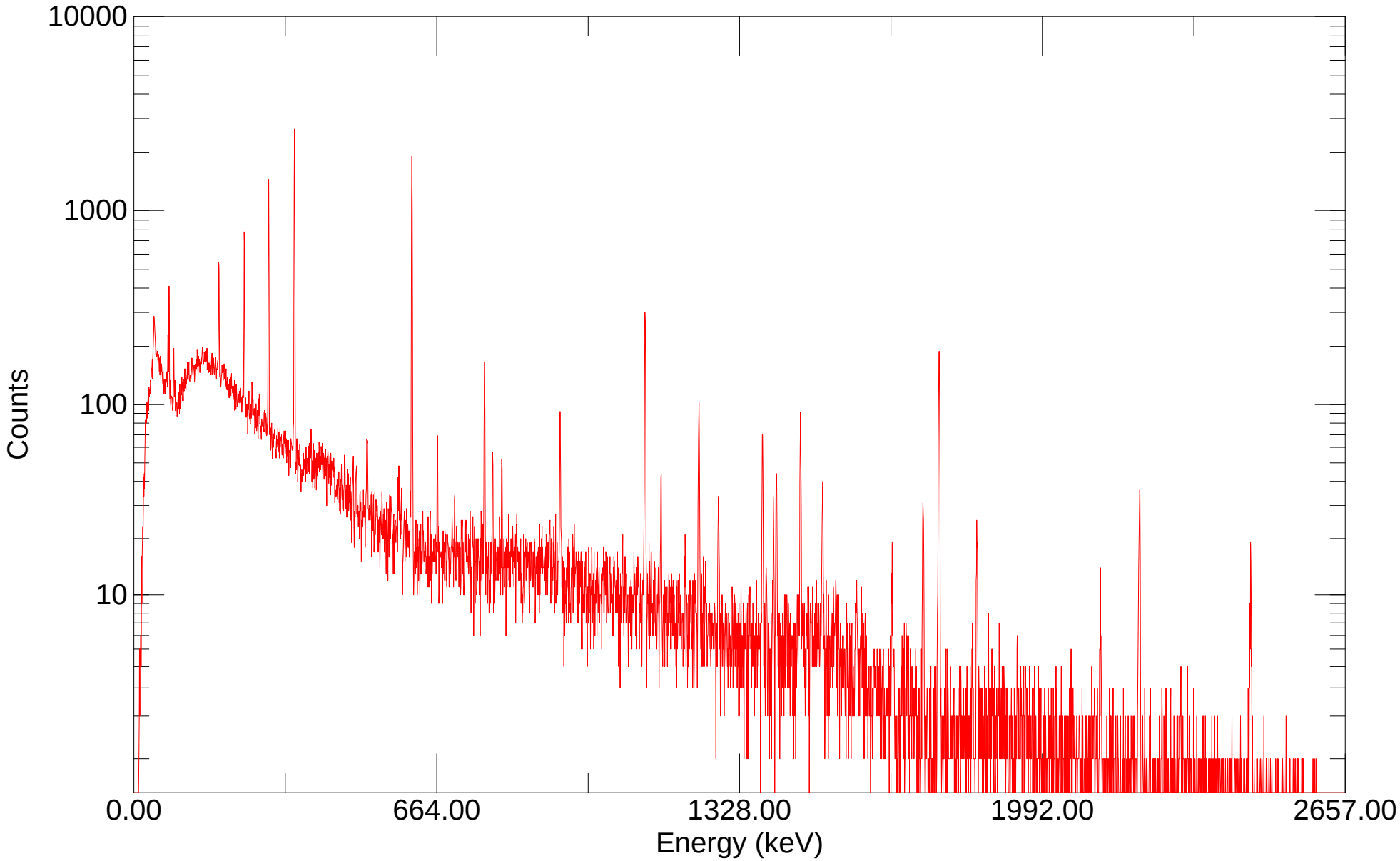
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	19.00	12.33	7.	1.	0.001	828.40	0.324	s
Pb-210	71.75	46.50	1527.	136.	0.151	124.91	1.200	D
Th-234	100.48	65.12	922.	7.	0.008	1831.46	0.598	s
Th-234	143.21	92.80	653.	18.	0.020	595.44	1.227	D
Ra-226	287.30	186.17	1495.	992.	1.102	30.18	1.458	s
Pb-212	368.26	238.63	600.	0.	0.000	0.00	0.762	D
Pb-214	373.36	241.93	975.	1596.	1.773	16.22	1.426	
Pb-214	455.57	295.21	506.	3517.	3.908	5.74	1.356	D
Tl-210	459.88	298.00	2256.	75.	0.083	271.19	1.358	D
Pb-212	463.10	300.09	558.	28.	0.031	360.12	1.359	D
Ac-228	520.59	337.35	372.	85.	0.094	155.65	1.548	s
Pb-214	542.95	351.84	640.	5978.	6.642	4.46	1.441	
Tl-208	788.26	510.84	329.	75.	0.083	108.75	1.509	D
Tl-208	899.47	582.92	90.	20.	0.022	255.44	1.250	
Bi-214	940.02	609.21	258.	5004.	5.559	4.61	1.658	
Cs-137	1020.86	661.62	78.	3.	0.003	1236.60	1.626	D
Bi-212	1121.64	726.96	132.	69.	0.077	132.38	1.302	s
Pa-234m	1182.48	766.41	99.	0.	0.000	0.00	0.471	D
Tl-210	1233.83	799.70	79.	8.	0.009	503.81	1.741	D
Tl-208	1326.05	859.50	200.	48.	0.053	174.70	2.305	s
Ac-228	1405.26	910.86	138.	49.	0.054	125.96	2.630	s
Ac-228	1495.71	969.52	90.	39.	0.043	185.10	2.398	s
Pa-234m	1537.79	996.81	88.	18.	0.020	270.22	0.595	s
Bi-214	1728.44	1120.46	119.	1045.	1.161	11.12	2.117	
Tl-210	2019.45	1309.23	18.	1.	0.001	1670.33	0.779	s
K-40	2254.10	1461.47	98.	311.	0.345	25.90	2.064	
Bi-212	2498.00	1619.74	10.	0.	0.000	1284.52	0.455	s
Bi-214	2722.46	1765.41	12.	800.	0.889	10.92	2.475	
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 108 12_21_07

SMP HS 108 12_21_07



Acquired: 12/21/2007 11:10:14 AM Real Time: 913.86 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 109 15 Min Colim@6Det@Pos

Sample description
SMP HS 109 @6 det @ 4 11_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 109 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time:	16-Nov-2007 14:18:13
Live time:	900
Real time:	937
Dead time:	3.97 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SM2B04~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 109 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1349

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.98	11.76	3643.	1111.	1.235	24.73	1.180	PB-214	D
115.42	74.83	5637.	858.	0.954	38.50	1.217	BI-207	D
119.15	77.25	5816.	1442.	1.602	23.79	1.218	PB-214	D
134.59	87.11	4955.	788.	0.876	39.37	1.224	BI-207	D
138.76	89.81	6191.	457.	0.507	74.45	1.226	PB-214	D
224.90	145.74	5282.	236.	0.263	173.58	1.572	CE-141	s
399.98	259.18	3912.	413.	0.459	102.66	1.763	XE-138	s
422.65	273.88	3540.	437.	0.486	92.45	1.407	CS-136	s
598.78	388.02	1860.	332.	0.369	88.68	1.393	-	sM
711.26	460.92	1233.	316.	0.351	79.98	4.040	CS-138	sM
731.28	473.77	852.	82.	0.091	154.62	1.482	RH-106M	D
741.01	480.08	1107.	176.	0.195	83.41	1.486	W-187	D
750.89	486.48	1132.	195.	0.216	76.47	1.491	LA-140	D
787.34	510.42	1376.	227.	0.252	72.15	1.509	J-133	D
823.44	533.15	885.	124.	0.138	105.47	1.526	ND-147	D
829.71	537.21	826.	94.	0.104	133.96	1.529	BA-140	D
888.77	576.05	616.	102.	0.113	107.42	1.559	KR-89	D
894.75	579.93	777.	216.	0.240	58.52	1.562	TL-208	D
1026.07	665.08	517.	548.	0.609	21.76	1.629	BI-214	D
1084.01	702.56	399.	200.	0.222	67.01	1.809	NB-94	M
1109.52	719.10	525.	239.	0.266	73.07	2.267	SB-126	sM
1144.81	741.98	412.	130.	0.144	107.99	1.504	PA-234	sM
1160.92	752.43	374.	98.	0.108	129.92	2.103	LA-140	sM
1184.85	767.94	675.	1616.	1.796	11.02	1.887	BI-214	

ORTEC Spectrum name: SMP HS 109 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1211.89	785.48	602.	354.	0.394	37.47	1.978	BI-212	
1243.17	805.77	511.	427.	0.474	26.77	1.746	PA-234	D
1293.96	838.69	464.	224.	0.249	70.38	1.717	J-135	sM
1440.43	933.67	537.	965.	1.072	15.51	1.728	BI-214	
1486.41	962.88	375.	137.	0.152	65.30	1.886	TB-160	D
1528.19	990.59	165.	62.	0.069	122.36	1.710	SB-126	s
1621.37	1051.01	365.	100.	0.111	100.85	1.764	CS-136	
1649.39	1069.19	410.	105.	0.117	104.39	1.561	-	
1709.77	1108.35	194.	29.	0.032	211.25	0.792	KR-89	s
1781.30	1154.75	408.	436.	0.484	29.19	2.252	BI-214	
1863.23	1207.89	336.	149.	0.166	71.72	1.357	-	s
1880.30	1218.96	288.	83.	0.092	111.23	2.166	TA-182	s
1909.31	1237.78	448.	1502.	1.669	11.33	2.182	J-133	
1933.50	1253.48	380.	131.	0.146	87.53	1.331	-	s
1975.31	1280.59	318.	394.	0.437	29.57	2.453	BI-214	
2124.59	1377.37	236.	998.	1.108	11.53	2.297	BI-214	D
2136.82	1385.30	264.	226.	0.251	36.44	2.306	AG-110M	D
2160.84	1400.99	268.	325.	0.361	27.06	2.322	BI-214	D
2171.33	1407.79	252.	582.	0.646	17.00	2.330	BI-214	D
2327.24	1508.93	388.	550.	0.611	24.63	2.091	BI-214	
2373.51	1538.95	402.	170.	0.189	75.89	2.108	RB-89	
2441.44	1583.03	173.	197.	0.219	41.65	2.399	-	
2545.31	1650.27	76.	41.	0.045	102.22	2.603	-	D
2561.99	1661.10	87.	235.	0.261	25.81	2.615	BI-214	D
2667.00	1729.42	101.	691.	0.767	14.49	2.737	BI-214	
2834.86	1838.27	44.	64.	0.071	57.41	2.829	RH-106M	D
2848.99	1847.44	62.	462.	0.513	15.74	2.841	BI-214	D
3266.77	2118.76	48.	219.	0.243	29.35	2.688	BI-214	
3398.49	2204.29	18.	943.	1.048	10.27	2.908	BI-214	
3773.90	2448.08	0.	281.	0.312	17.90	3.085	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	2529.	1329.	1.477	18.04	1.180D
Pb-210	73.27	47.49	3148.	42.	0.047	742.31	1.335
Th-234	99.00	64.16	1992.	11.	0.012	1493.54	0.000s
Th-234	143.21	92.80	5005.	185.	0.205	164.03	1.228D
Ra-226	287.26	186.14	6500.	2246.	2.496	23.70	1.302
Pb-212	368.26	238.63	3714.	0.	0.000	0.00	1.533D
Pb-214	373.26	241.87	4168.	4228.	4.697	10.76	1.353
Pb-214	455.57	295.21	2715.	10401.	11.557	3.63	1.356D
Tl-210	459.88	298.00	7073.	112.	0.125	319.11	1.358D

ORTEC Spectrum name: SMP HS 109 15 Min Colim@6Det@Pos

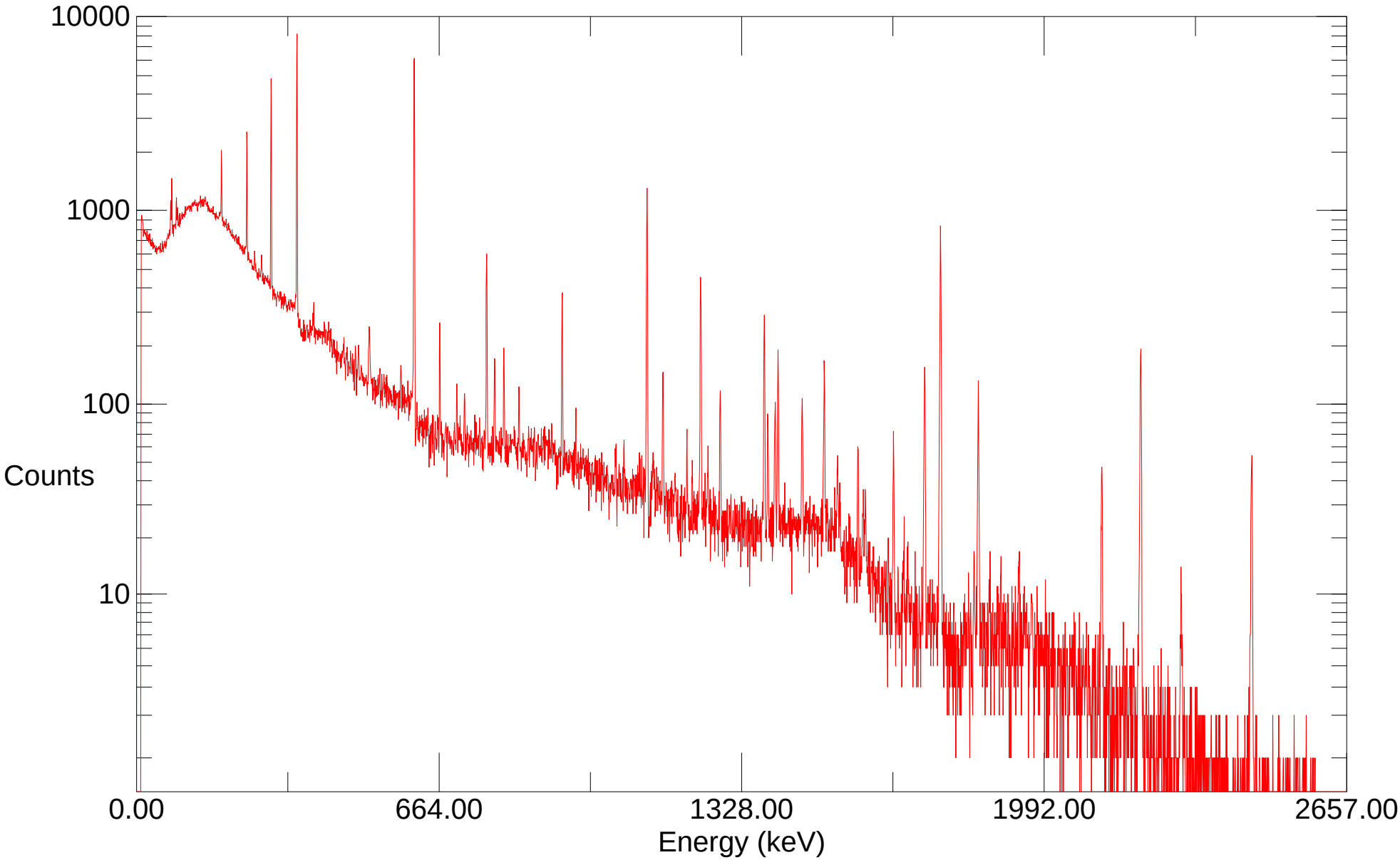
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	463.10	300.09	3014.	66.	0.073	354.06	1.359D
Ac-228	521.46	337.91	1875.	100.	0.111	261.53	2.159s
Pb-214	542.67	351.66	3880.	17974.	19.971	2.90	1.404
Tl-208	788.26	510.84	1454.	149.	0.165	111.39	1.509D
Tl-208	899.80	583.14	468.	0.	0.000	0.00	1.393D
Bi-214	939.49	608.87	1267.	17050.	18.944	2.57	1.659
Cs-137	1020.86	661.62	537.	52.	0.058	193.55	1.626D
Bi-212	1120.05	725.93	408.	96.	0.107	144.43	2.696s
Pa-234m	1182.48	766.41	827.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	326.	43.	0.047	185.75	1.741D
Tl-208	1325.76	859.31	400.	122.	0.136	118.09	2.492s
Ac-228	1405.75	911.18	357.	74.	0.082	166.19	1.490
Ac-228	1495.08	969.11	334.	41.	0.045	196.87	1.892D
Pa-234m	1541.00	998.89	312.	38.	0.042	218.50	2.441s
Bi-214	1727.68	1119.97	396.	4056.	4.506	5.39	1.943
Tl-210	2018.50	1308.62	141.	13.	0.014	417.32	0.960s
K-40	2252.80	1460.63	284.	343.	0.381	30.81	2.404
Bi-212	2495.67	1618.22	105.	22.	0.024	236.97	0.630s
Bi-214	2720.99	1764.46	108.	3275.	3.639	5.59	2.293
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 109 15 Min Colim@6Det@Pos4

SMP HS 109 @6 det @ 4 11_16_07



Acquired: 11/16/2007 2:18:13 PM Real Time: 937.22 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 110 15 Min Colim@6Det@Pos

Sample description
SMP HS 110 @6 det @ 4 11_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 110 15 Min Colim@6Det@Pos1.An1

Acquisition information
Start time: 16-Nov-2007 12:08:33
Live time: 900
Real time: 932
Dead time: 3.42 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SME06F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 110 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1618

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
32.64	21.16	5076.	317.	0.352	135.90	0.796	TC-99M	
53.12	34.43	3550.	198.	0.220	170.23	1.212	CS-137	
115.11	74.58	4591.	549.	0.610	53.93	1.217	BI-207	D
119.13	77.19	4978.	868.	0.965	35.95	1.218	PB-214	D
134.57	87.20	6370.	392.	0.436	130.45	1.210	BI-207	
196.83	127.54	9504.	304.	0.338	215.81	1.653	AC-228	s
400.77	259.69	5144.	434.	0.482	117.29	0.993	XE-138	s
412.87	267.54	3225.	265.	0.294	129.89	1.492	AC-228	s
423.79	274.61	5295.	581.	0.646	92.87	2.452	SR-91	s
434.65	281.65	5080.	304.	0.338	173.15	1.384	YB-175	s
627.11	406.38	2232.	238.	0.264	141.01	1.874	RH-106M	sM
701.14	454.37	1735.	399.	0.443	78.17	2.947	TE-131	sM
741.60	480.61	1290.	201.	0.223	78.76	1.486	W-187	D
750.67	486.49	1261.	212.	0.236	73.96	1.491	LA-140	D
777.70	504.45	835.	82.	0.092	152.48	1.504	J-132	D
786.76	510.32	1524.	225.	0.250	76.30	1.508	J-133	D
894.36	579.61	888.	208.	0.231	98.33	1.677	KR-89	s
957.48	620.53	568.	133.	0.148	122.99	1.941	AG-110M	s
1026.00	664.87	578.	514.	0.571	23.84	1.629	PA-234	D
1084.46	702.86	438.	220.	0.245	63.66	1.831	RH-106M	
1110.11	719.33	519.	217.	0.241	49.08	1.673	SB-126	D
1116.22	723.29	513.	95.	0.106	105.71	1.677	EU-154	D
1163.28	753.96	682.	129.	0.143	157.08	0.879	PA-234	s
1184.81	767.92	586.	1617.	1.796	9.80	1.714	BI-214	D

ORTEC Spectrum name: SMP HS 110 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1211.95	785.52	498.	408.	0.453	29.89	2.072	BI-212	M
1243.24	805.86	528.	481.	0.534	24.47	1.746	BI-214	D
1274.98	826.39	477.	109.	0.121	143.87	1.417	PA-234	sM
1293.77	838.57	780.	247.	0.274	63.31	1.698	J-135	sM
1372.17	889.41	318.	82.	0.091	134.62	2.081	SC-46	M
1405.31	910.90	446.	116.	0.129	130.46	1.408	AC-228	s
1440.39	933.64	661.	984.	1.094	16.91	1.823	BI-214	
1486.30	963.63	395.	117.	0.130	77.24	1.886	EU-152	D
1621.88	1051.34	382.	94.	0.104	103.96	1.063	-	s
1650.66	1070.01	360.	82.	0.091	114.65	1.472	J-134	
1703.10	1104.03	412.	85.	0.094	128.28	1.812	J-135	
1781.69	1155.00	536.	532.	0.592	28.65	2.139	BI-214	sM
1861.85	1207.00	418.	140.	0.155	82.09	2.047	-	M
1909.28	1237.76	400.	1595.	1.772	10.29	1.982	J-133	M
1933.49	1253.47	357.	117.	0.130	92.70	1.504	KR-88	M
1975.44	1280.68	491.	373.	0.415	39.53	2.162	BI-214	M
2058.70	1334.69	165.	38.	0.042	163.89	1.011	-	s
2124.50	1377.38	260.	1016.	1.128	11.58	2.297	BI-214	D
2136.25	1385.01	246.	204.	0.227	38.82	2.305	AG-110M	D
2161.03	1401.08	272.	332.	0.369	26.77	2.323	BI-214	D
2171.53	1407.89	224.	664.	0.738	15.07	2.330	BI-214	D
2327.38	1509.02	416.	565.	0.628	25.06	2.325	BI-214	
2373.12	1538.82	299.	114.	0.127	70.01	2.475	RB-89	D
2379.96	1543.25	240.	105.	0.116	69.38	2.480	-	D
2441.27	1582.92	222.	210.	0.234	44.83	2.226	-	s
2560.76	1660.46	141.	264.	0.293	36.64	2.463	BI-214	
2595.96	1683.31	93.	93.	0.103	67.51	1.194	-	s
2667.21	1729.55	109.	644.	0.715	15.06	1.971	BI-214	
2834.96	1838.42	69.	72.	0.080	60.18	2.829	RH-106M	D
2848.86	1847.45	61.	457.	0.508	15.80	2.840	BI-214	D
2915.23	1890.54	35.	20.	0.022	142.30	1.159	-	s
3266.86	2118.82	33.	215.	0.239	26.48	2.613	BI-214	
3398.52	2204.30	35.	910.	1.011	10.91	2.756	BI-214	
3535.65	2293.35	6.	72.	0.080	41.45	2.147	-	s
3774.07	2448.20	0.	297.	0.330	17.41	2.461	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.78	10.88	3661.	2080.	2.311	19.65	2.265s
Pb-210	71.08	46.07	5316.	194.	0.216	253.03	0.872s
Th-234	96.09	62.27	5836.	464.	0.515	116.80	1.361s
Th-234	143.01	92.67	4635.	101.	0.112	379.50	1.954s

ORTEC Spectrum name: SMP HS 110 15 Min Colim@6Det@Pos

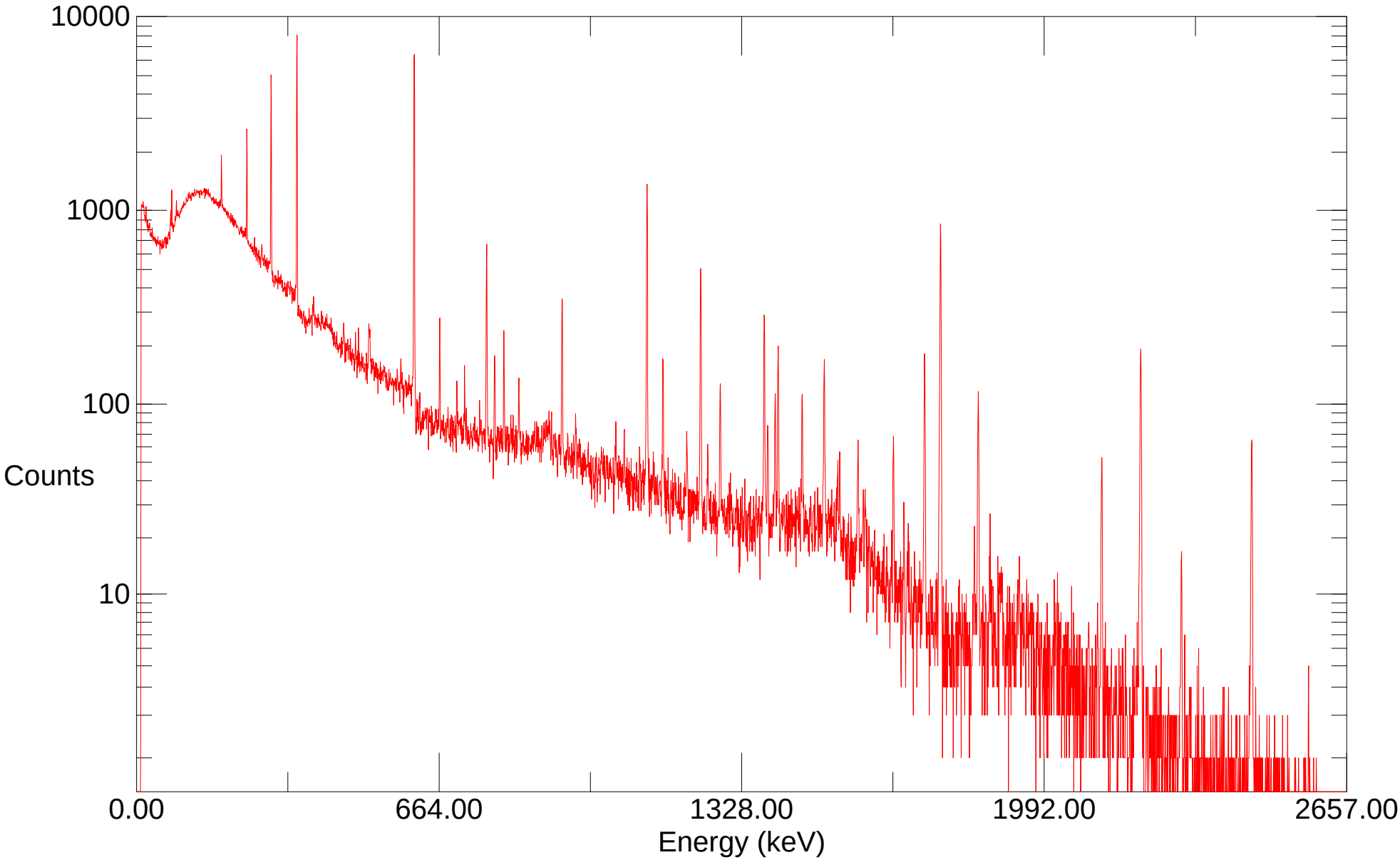
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ra-226	287.24	186.13	6333.	1576.	1.751	31.23	1.100
Pb-212	368.26	238.63	5079.	243.	0.270	125.91	1.318D
Pb-214	373.43	241.98	4832.	4204.	4.671	8.40	1.321D
Pb-214	455.57	295.21	3391.	10124.	11.249	3.85	1.356D
Tl-210	459.88	298.00	7214.	117.	0.130	310.03	1.358D
Pb-212	463.10	300.09	3052.	47.	0.052	500.36	1.359D
Ac-228	522.40	338.52	2804.	321.	0.357	111.92	2.209s
Pb-214	542.65	351.64	3702.	16784.	18.649	2.95	1.340
Tl-208	788.26	510.84	1665.	106.	0.118	166.03	1.509D
Tl-208	899.80	583.14	651.	0.	0.000	0.00	0.781D
Bi-214	939.50	608.88	1437.	16843.	18.714	2.62	1.576
Cs-137	1020.86	661.62	631.	38.	0.042	285.38	1.626D
Bi-212	1121.96	727.17	507.	46.	0.051	212.51	1.680D
Pa-234m	1182.48	766.41	2113.	14.	0.016	1398.70	1.713D
Tl-210	1233.83	799.70	567.	50.	0.056	205.62	1.741D
Tl-208	1327.45	860.41	432.	67.	0.074	211.30	2.467s
Ac-228	1405.45	910.99	514.	0.	0.000	9618.73	1.839
Ac-228	1495.08	969.11	331.	23.	0.026	341.88	1.891D
Pa-234m	1545.33	1001.70	409.	60.	0.067	174.05	1.846
Bi-214	1727.62	1119.93	671.	4290.	4.766	5.89	1.928
Tl-210	2019.00	1308.94	91.	5.	0.006	703.56	0.331s
K-40	2252.80	1460.63	328.	362.	0.402	32.22	2.115s
Bi-212	2498.15	1619.83	142.	36.	0.040	179.12	1.284s
Bi-214	2720.98	1764.45	85.	3446.	3.829	5.35	2.389
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 110 15 Min Colim@6Det@Pos1

SMP HS 110 @6 det @ 4 11_16_07



Acquired: 11/16/2007 12:08:33 PM Real Time: 931.88 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 111 Colim@6Det@Pos4.An1

Sample description
SMP HS 111 11_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 111 Colim@6Det@Pos4.An1

Acquisition information
Start time: 19-Nov-2007 12:45:43
Live time: 900
Real time: 910
Dead time: 1.09 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 111 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 111 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1972

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.08	77.17	365.	183.	0.203	62.65	1.091	PB-214	
134.64	87.27	450.	104.	0.115	91.65	1.224	PB-214	D
398.50	258.22	368.	64.	0.071	204.54	0.918	XE-138	s
572.12	370.74	88.	46.	0.051	123.66	1.242	PA-234	M
788.11	510.68	220.	59.	0.066	112.89	1.509	TL-208	D
1025.71	664.69	93.	75.	0.084	64.14	1.629	PA-234	D
1084.25	702.72	66.	60.	0.067	78.58	1.383	NB-94	s
1160.59	752.21	30.	34.	0.038	109.50	1.637	LA-140	
1184.71	767.78	83.	198.	0.220	28.84	1.714	BI-214	D
1212.08	785.60	55.	90.	0.100	51.28	2.316	BI-212	sM
1243.41	805.68	70.	61.	0.068	69.88	1.746	PA-234	D
1440.33	933.61	105.	119.	0.132	57.46	2.321	BI-214	s
1782.04	1155.23	49.	67.	0.074	67.96	2.470	BI-214	M
1909.22	1237.73	63.	177.	0.197	32.84	2.071	J-133	M
1974.73	1280.22	33.	47.	0.052	74.85	2.186	BI-214	M
2124.15	1377.16	28.	127.	0.141	35.06	2.452	BI-214	
2171.64	1407.97	40.	74.	0.082	59.31	2.421	BI-214	
2327.21	1508.91	23.	79.	0.087	51.13	2.381	BI-214	s
2666.36	1729.00	7.	75.	0.083	41.93	1.814	BI-214	s
2847.91	1846.84	7.	65.	0.072	43.38	1.718	BI-214	s
3398.89	2204.54	4.	92.	0.102	34.51	2.325	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 111 Colim@6Det@Pos4.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	70.20	45.50	618.	114.	0.127	133.82	2.237s
Th-234	98.36	63.74	358.	28.	0.031	390.10	1.085
Th-234	143.21	92.80	442.	10.	0.011	886.23	1.228D
Ra-226	287.25	186.13	724.	818.	0.908	25.43	1.484
Pb-212	368.26	238.63	305.	37.	0.041	205.96	1.318D
Pb-214	373.43	241.98	397.	718.	0.798	16.24	1.321D
Pb-214	455.57	295.21	252.	1555.	1.728	8.75	1.356D
Tl-210	459.88	298.00	836.	44.	0.049	283.52	1.358D
Pb-212	463.10	300.09	198.	26.	0.029	236.55	1.359D
Ac-228	522.27	338.44	135.	22.	0.024	303.24	2.106s
Pb-214	542.60	351.61	401.	2628.	2.920	7.13	1.421
Tl-208	788.26	510.84	224.	55.	0.061	121.83	1.509D
Tl-208	900.12	583.35	76.	64.	0.072	102.46	1.256s
Bi-214	939.39	608.80	147.	2139.	2.377	7.19	1.722
Cs-137	1020.86	661.62	56.	3.	0.003	1166.51	1.626D
Bi-212	1122.03	727.21	56.	18.	0.021	203.35	1.022
Pa-234m	1182.48	766.41	261.	9.	0.010	769.31	1.713D
Tl-210	1233.83	799.70	33.	2.	0.002	1569.41	1.741D
Tl-208	1327.48	860.43	48.	27.	0.030	181.56	0.834s
Ac-228	1405.66	911.12	48.	51.	0.057	82.14	2.207s
Ac-228	1493.78	968.27	50.	26.	0.028	143.73	1.919
Pa-234m	1543.24	1000.34	15.	2.	0.003	665.32	0.515s
Bi-214	1727.16	1119.63	56.	502.	0.558	15.89	2.185s
Tl-210	2019.08	1308.99	24.	21.	0.023	137.77	1.023s
K-40	2252.86	1460.67	17.	337.	0.375	18.00	2.799
Bi-212	2500.35	1621.26	2.	10.	0.011	115.65	1.427s
Bi-214	2720.62	1764.22	3.	375.	0.417	15.71	2.578
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

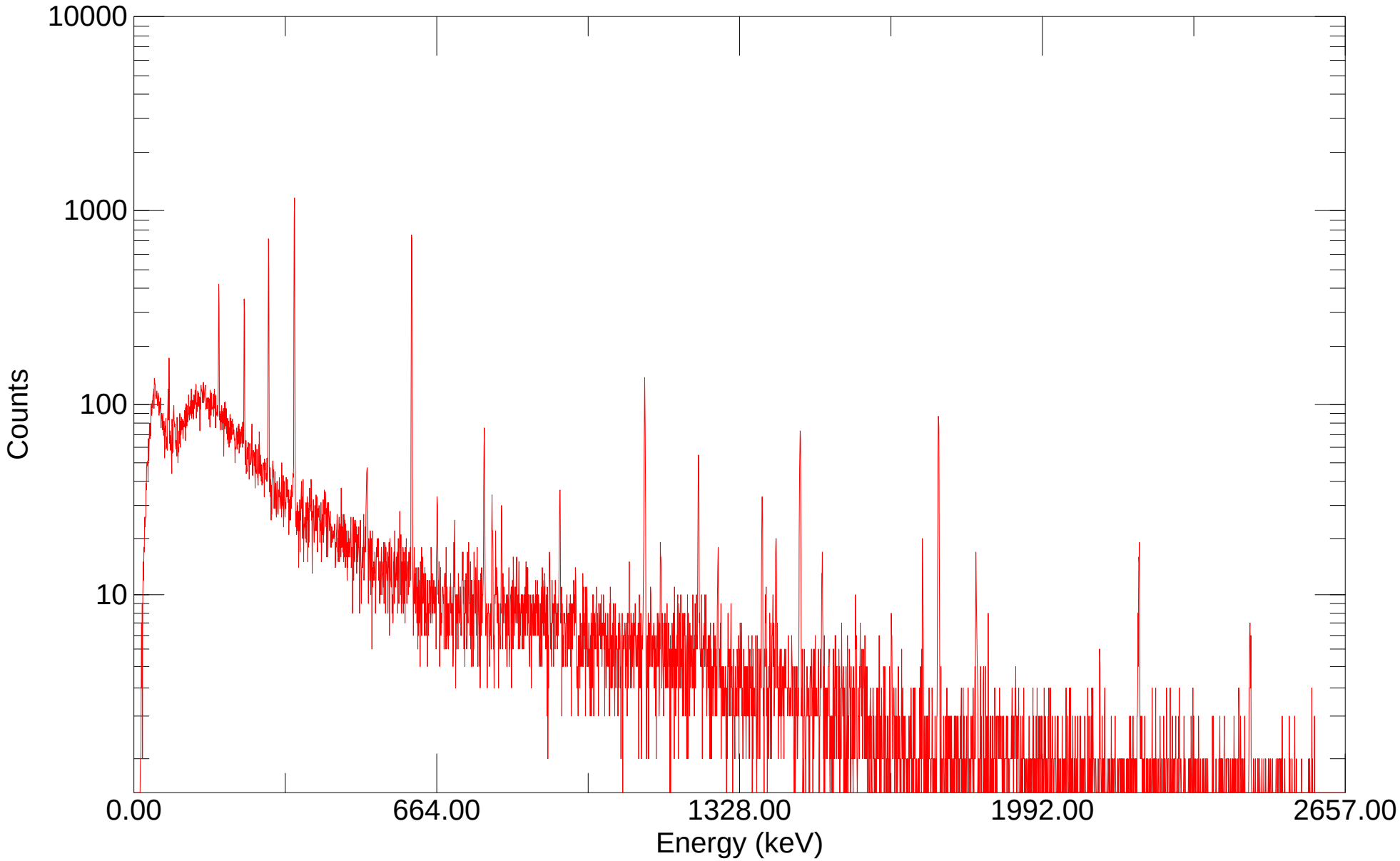
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 111 Colim@6Det@Pos4

SMP HS 111 11_19_07



Acquired: 11/19/2007 12:45:43 PM Real Time: 909.92 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 112 Colim@6Det@Pos4.An1

Sample description
SMP HS 112 11_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 112 Colim@6Det@Pos4.An1

Acquisition information
Start time:	19-Nov-2007 15:08:59
Live time:	900
Real time:	911
Dead time:	1.19 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 112 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 112 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1980

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.40	74.81	870.	215.	0.238	61.83	1.217	BI-207	D
119.01	77.16	879.	326.	0.362	42.01	1.218	PB-214	D
134.20	86.96	668.	98.	0.108	151.79	1.632	BI-207	s
398.96	258.53	718.	116.	0.128	150.21	0.337	XE-138	s
423.15	274.20	462.	104.	0.115	120.29	1.766	SR-91	s
434.99	281.87	492.	97.	0.108	140.54	1.479	YB-175	
740.14	479.64	234.	66.	0.074	151.09	1.817	W-187	sM
750.84	486.58	224.	64.	0.071	161.29	2.049	LA-140	sM
787.91	510.60	412.	79.	0.087	114.65	1.509	TL-208	D
899.59	583.01	172.	79.	0.088	116.37	1.906	TL-208	s
1025.71	664.81	155.	139.	0.154	45.91	1.629	PA-234	D
1085.06	703.24	148.	76.	0.084	88.52	1.375	RH-106M	sM
1109.47	719.07	94.	56.	0.062	118.52	0.863	SB-126	sM
1184.89	767.97	182.	451.	0.501	21.32	1.876	BI-214	
1211.82	785.43	115.	132.	0.147	47.60	2.463	BI-212	sM
1243.02	805.56	128.	121.	0.134	48.31	1.746	PA-234	D
1293.76	838.56	150.	65.	0.072	102.76	2.115	J-135	M
1440.11	933.46	185.	272.	0.302	33.44	2.203	BI-214	s
1454.42	942.74	71.	41.	0.046	104.23	1.648	PA-234	
1486.80	963.12	113.	45.	0.050	110.26	1.886	TB-160	D
1781.16	1153.93	78.	115.	0.128	42.86	2.068	BI-214	D
1789.03	1159.04	79.	16.	0.018	240.25	2.073	CS-134	D
1909.52	1237.92	115.	399.	0.443	21.29	2.281	BI-214	M
1975.61	1280.79	101.	105.	0.116	62.55	2.051	BI-214	sM

ORTEC Spectrum name: SMP HS 112 Colim@6Det@Pos4.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2124.52	1377.28	59.	240.	0.267	23.66	2.297	BI-214	D
2136.80	1385.25	51.	55.	0.061	68.55	2.306	AG-110M	D
2160.75	1400.87	56.	87.	0.097	48.54	2.323	BI-214	D
2171.34	1407.73	50.	166.	0.184	29.56	2.330	BI-214	D
2325.95	1508.09	82.	164.	0.182	41.26	2.442	BI-214	s
2562.85	1661.82	44.	67.	0.074	73.89	1.854	BI-214	s
2666.76	1729.26	24.	182.	0.203	28.13	2.572	BI-214	
2848.46	1847.19	12.	128.	0.143	30.64	2.428	BI-214	s
3398.29	2204.16	10.	213.	0.237	22.18	2.956	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

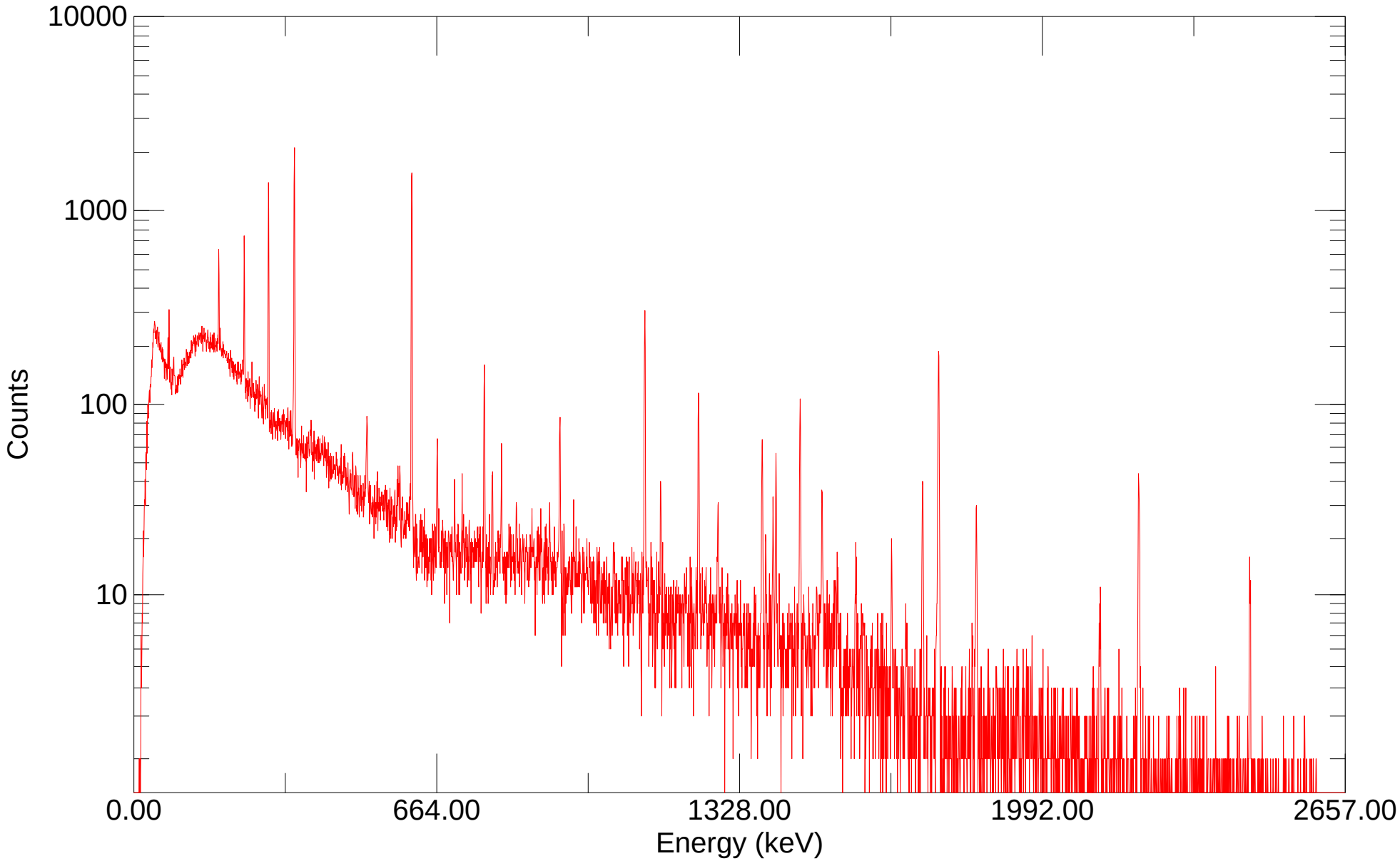
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	17.33	11.25	1.	0.	0.000	360.56	0.510	s
Pb-210	70.14	45.46	1816.	164.	0.182	175.88	2.421	s
Th-234	100.01	64.81	1057.	136.	0.151	154.29	3.229	s
Th-234	143.52	93.00	687.	25.	0.028	631.91	0.933	s
Ra-226	287.17	186.08	1197.	937.	1.041	24.23	1.393	
Pb-212	368.26	238.63	966.	0.	0.000	0.00	1.220	D
Pb-214	373.20	241.83	1255.	1306.	1.451	21.59	1.246	
Pb-214	455.57	295.21	581.	3032.	3.369	6.41	1.356	D
Tl-210	459.88	298.00	1755.	7.	0.008	2633.02	1.358	D
Pb-212	463.10	300.09	636.	20.	0.023	527.63	1.359	D
Ac-228	521.06	337.65	372.	90.	0.100	132.41	1.450	
Pb-214	542.59	351.60	916.	5140.	5.711	5.23	1.492	
Tl-208	788.26	510.84	402.	89.	0.098	101.29	1.509	D
Tl-208	899.77	583.12	233.	0.	0.000	6476.11	1.564	
Bi-214	939.45	608.85	299.	4607.	5.119	4.87	1.733	
Cs-137	1020.86	661.62	133.	17.	0.019	296.52	1.626	D
Bi-212	1122.93	727.80	126.	58.	0.064	154.75	2.332	s
Pa-234m	1182.48	766.41	364.	0.	0.000	0.00	0.000	D
Tl-210	1233.83	799.70	129.	26.	0.029	194.28	1.741	D
Tl-208	1326.12	859.54	94.	48.	0.053	150.42	4.089	s
Ac-228	1405.60	911.08	169.	57.	0.063	128.08	1.621	s
Ac-228	1495.08	969.11	82.	16.	0.017	258.82	1.892	D
Pa-234m	1541.24	999.05	130.	27.	0.030	226.90	1.179	s
Bi-214	1727.46	1119.83	196.	1024.	1.137	12.34	2.160	
Tl-210	2020.49	1309.91	46.	21.	0.024	174.18	0.899	s
K-40	2252.77	1460.61	78.	353.	0.392	21.92	2.243	
Bi-212	2498.00	1619.74	3.	0.	0.000	636.40	0.000	s
Bi-214	2720.73	1764.29	20.	840.	0.933	10.95	2.496	
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 112 Colim@6Det@Pos4

SMP HS 112 11_19_07



Acquired: 11/19/2007 3:08:59 PM Real Time: 910.84 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 113 15 Min Colim@6Det@Pos

Sample description
SMP HS 113 @6 det @ 4 11_16_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 113 15 Min Colim@6Det@Pos4.An1

Acquisition information
Start time: 16-Nov-2007 13:29:15
Live time: 900
Real time: 917
Dead time: 1.84 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMAC6F~1.AN1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 113 15 Min Colim@6Det@Pos

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2127

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
114.60	74.26	2600.	432.	0.480	80.48	1.375	BI-207	s
398.34	258.12	2500.	298.	0.331	124.52	1.944	XE-138	s
739.99	479.55	552.	151.	0.168	107.19	1.717	W-187	sM
788.38	510.75	888.	100.	0.111	130.34	1.509	TL-208	D
1026.37	665.20	411.	296.	0.329	38.68	1.581	BI-214	
1084.18	702.68	210.	93.	0.103	98.53	1.688	NB-94	M
1110.58	719.79	342.	196.	0.218	77.90	2.060	SB-126	s
1184.71	767.85	468.	740.	0.822	19.11	1.583	BI-214	
1211.75	785.38	464.	150.	0.167	80.29	1.365	BI-212	
1243.27	805.68	320.	238.	0.264	37.35	1.746	PA-234	D
1293.78	838.58	252.	138.	0.153	84.87	2.180	J-135	sM
1440.44	933.68	427.	464.	0.516	28.09	1.692	BI-214	
1622.19	1051.55	158.	36.	0.041	159.75	1.929	CS-136	
1781.39	1154.80	170.	248.	0.275	32.76	2.088	BI-214	
1863.16	1207.84	133.	81.	0.090	77.67	1.918	-	
1909.32	1237.79	188.	774.	0.861	14.65	1.809	J-133	
1975.63	1280.80	162.	204.	0.227	39.34	1.810	BI-214	
2124.73	1377.42	135.	504.	0.560	16.54	2.297	BI-214	D
2136.81	1385.26	118.	112.	0.125	49.75	2.306	AG-110M	D
2161.23	1401.11	142.	180.	0.200	35.97	2.323	BI-214	D
2171.31	1407.66	119.	322.	0.358	22.02	2.330	BI-214	D
2327.49	1509.09	150.	258.	0.286	28.57	1.984	BI-214	
2441.81	1583.27	119.	110.	0.122	61.39	2.493	AC-228	
2560.74	1660.46	58.	118.	0.131	45.58	2.237	BI-214	s

ORTEC Spectrum name: SMP HS 113 15 Min Colim@6Det@Pos

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2597.14	1684.08	28.	42.	0.046	77.95	1.959	-	
2667.21	1729.55	53.	358.	0.397	20.35	2.647	BI-214	
2848.72	1847.36	32.	196.	0.217	26.51	2.244	BI-214	
3266.51	2118.59	13.	141.	0.157	29.57	1.111	BI-214	s
3398.45	2204.25	18.	458.	0.508	15.18	2.969	BI-214	
3773.63	2447.91	0.	138.	0.153	25.54	2.391	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

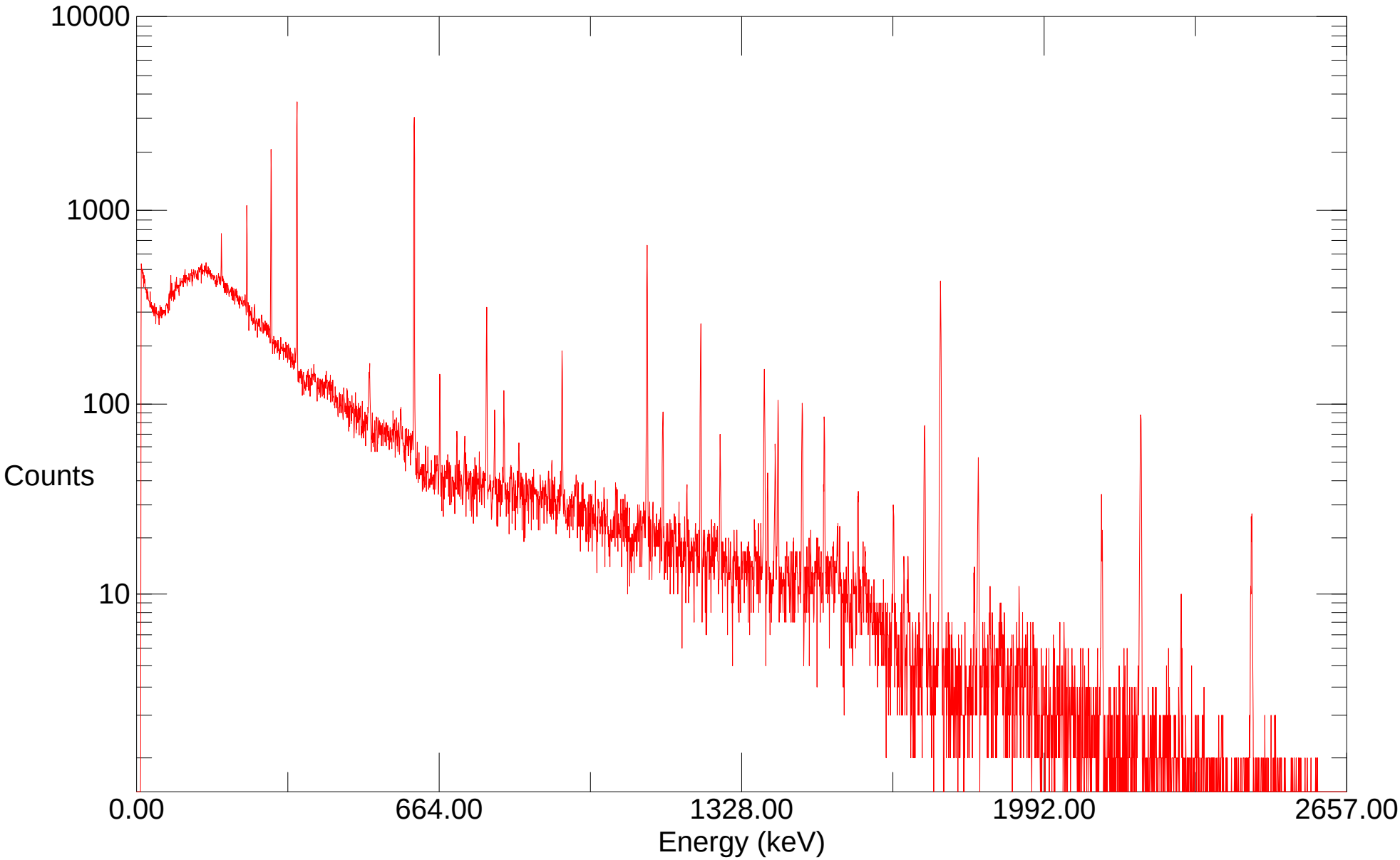
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	16.65	10.80	1433.	817.	0.908	22.27	1.180	D
Pb-210	75.00	48.61	1995.	20.	0.022	988.46	0.000	s
Th-234	99.98	64.79	2424.	91.	0.101	364.30	2.604	s
Th-234	143.00	92.67	1122.	9.	0.010	1768.24	1.296	
Ra-226	287.05	186.01	2541.	592.	0.658	52.56	1.046	
Pb-212	368.26	238.63	2240.	100.	0.111	203.24	1.318	D
Pb-214	373.43	241.98	2151.	1536.	1.706	14.93	1.321	D
Pb-214	455.57	295.21	1421.	4214.	4.683	5.98	1.356	D
Tl-210	459.88	298.00	3160.	27.	0.030	895.56	1.358	D
Pb-212	463.10	300.09	1593.	73.	0.081	235.02	1.359	D
Ac-228	522.93	338.86	933.	67.	0.074	275.98	1.045	
Pb-214	542.67	351.66	1527.	7365.	8.184	4.36	1.327	
Tl-208	788.26	510.84	810.	178.	0.197	71.67	1.509	D
Tl-208	900.94	583.88	488.	23.	0.026	444.56	0.759	s
Bi-214	939.54	608.90	726.	7620.	8.467	3.92	1.546	
Cs-137	1020.83	661.60	361.	0.	0.000	8061.02	1.626	
Bi-212	1121.96	727.17	290.	0.	0.000	0.00	1.346	D
Pa-234m	1182.64	766.51	1037.	0.	0.000	13662.36	1.713	
Tl-210	1233.83	799.70	210.	28.	0.031	228.96	1.741	D
Tl-208	1329.48	861.73	196.	51.	0.057	179.68	2.245	s
Ac-228	1406.94	911.95	200.	81.	0.090	121.77	1.282	
Ac-228	1493.95	968.38	108.	46.	0.052	132.65	1.897	
Pa-234m	1544.71	1001.30	214.	16.	0.017	454.63	0.831	s
Bi-214	1727.65	1119.95	339.	1944.	2.160	8.71	1.819	
Tl-210	2021.92	1310.83	126.	36.	0.040	169.56	1.254	s
K-40	2252.66	1460.54	142.	364.	0.405	24.80	2.262	
Bi-212	2496.24	1618.59	60.	12.	0.013	327.87	0.708	s
Bi-214	2721.09	1764.52	44.	1736.	1.929	7.61	2.417	
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 113 15 Min Colim@6Det@Pos4

SMP HS 113 @6 det @ 4 11_16_07



Acquired: 11/16/2007 1:29:15 PM Real Time: 916.84 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 114 Colim@6Det@Pos4.An1

Sample description
SMP HS 114 11_17_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 114 Colim@6Det@Pos4.An1

Acquisition information
Start time:	17-Nov-2007 11:07:19
Live time:	900
Real time:	910
Dead time:	1.07 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 114 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 114 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1686

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.15	76.56	796.	238.	0.264	81.86	0.827	BI-207	s
787.36	510.33	199.	79.	0.088	83.00	1.509	J-133	D
899.58	583.00	90.	68.	0.076	108.78	2.036	TL-208	s
1026.53	665.28	57.	55.	0.061	71.50	1.629	BI-214	D
1184.78	767.83	65.	123.	0.136	38.87	1.714	BI-214	D
1440.40	933.65	63.	82.	0.091	62.52	1.856	BI-214	s
1908.99	1237.58	61.	108.	0.120	48.80	2.176	J-133	M
2124.22	1377.21	20.	73.	0.081	46.96	2.085	BI-214	
2161.32	1401.09	24.	33.	0.037	82.24	2.323	BI-214	D
2171.38	1407.62	25.	64.	0.071	50.27	2.330	BI-214	D
2327.34	1508.99	20.	44.	0.049	69.49	2.216	BI-214	
2667.20	1729.54	5.	52.	0.057	49.00	1.552	BI-214	s
3398.24	2204.12	2.	72.	0.081	37.30	2.021	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 114 Colim@6Det@Pos4.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.00	11.68	605.	428.	0.476	46.29	3.418s
Pb-210	71.39	46.27	366.	43.	0.048	270.84	0.627
Th-234	97.83	63.40	296.	16.	0.018	563.75	0.729
Th-234	143.24	92.82	560.	157.	0.174	98.87	2.575s
Ra-226	286.72	185.79	745.	308.	0.342	67.33	1.456s
Pb-212	368.26	238.63	384.	0.	0.000	0.00	1.329D
Pb-214	373.04	241.73	291.	305.	0.339	37.70	1.141
Pb-214	455.57	295.21	210.	696.	0.773	14.39	1.356D
Tl-210	459.88	298.00	519.	27.	0.030	360.06	1.358D
Pb-212	463.10	300.09	297.	21.	0.023	353.91	1.359D
Ac-228	520.42	337.24	319.	86.	0.096	162.11	2.047s
Pb-214	542.63	351.63	330.	1143.	1.270	12.12	1.333
Tl-208	788.26	510.84	242.	42.	0.047	162.65	1.509D
Tl-208	899.47	582.93	140.	0.	0.000	5019.96	1.564
Bi-214	939.51	608.88	128.	1105.	1.227	10.63	1.613
Cs-137	1020.86	661.62	54.	24.	0.026	145.08	1.626D
Bi-212	1125.85	729.69	80.	14.	0.016	302.13	1.103
Pa-234m	1182.48	766.41	176.	1.	0.001	5342.17	1.713D
Tl-210	1234.00	799.81	18.	4.	0.004	417.58	0.324s
Tl-208	1325.97	859.45	40.	32.	0.036	142.80	2.270s
Ac-228	1403.67	909.83	94.	37.	0.041	144.82	2.216s
Ac-228	1494.54	968.76	70.	30.	0.034	149.25	2.135
Pa-234m	1545.62	1001.88	26.	2.	0.002	974.44	1.623
Bi-214	1727.65	1119.95	63.	316.	0.351	22.63	1.851
Tl-210	2025.17	1312.94	15.	16.	0.018	140.31	1.745
K-40	2252.57	1460.48	35.	358.	0.398	18.79	2.135
Bi-212	2498.00	1619.74	1.	0.	0.000	367.42	0.216s
Bi-214	2720.81	1764.34	8.	254.	0.283	19.75	2.420
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

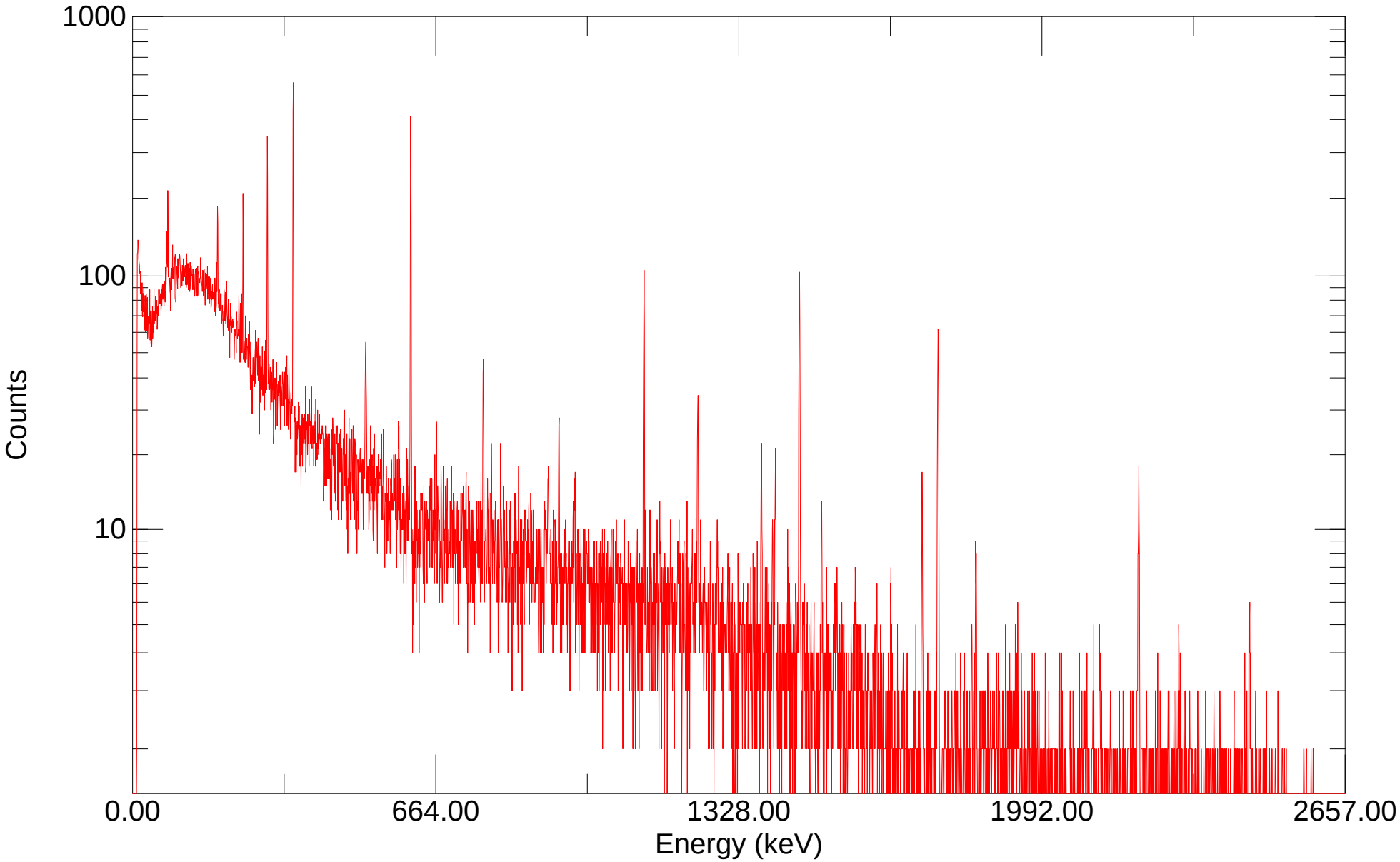
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 114 Colim@6Det@Pos4

SMP HS 114 11_17_07



Acquired: 11/17/2007 11:07:19 AM Real Time: 909.74 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 115 Colim@6Det@Pos4.An1

Sample description
SMP HS 115 11_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 115 Colim@6Det@Pos4.An1

Acquisition information

Start time:	19-Nov-2007 14:33:23
Live time:	900
Real time:	912
Dead time:	1.26 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 115 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration

Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration

Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files

Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters

Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 115 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2150

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
67.71	44.08	1786.	327.	0.363	57.38	1.199	EU-155	D
115.35	74.77	1409.	290.	0.322	57.70	1.217	BI-207	D
119.01	77.15	1129.	573.	0.637	27.86	1.218	PB-214	D
134.44	87.12	903.	293.	0.326	63.98	1.301	BI-207	
310.82	201.41	1344.	203.	0.226	116.84	0.980	PA-234	sM
322.75	209.14	1448.	149.	0.166	173.07	1.635	AC-228	sM
399.38	258.79	1044.	241.	0.268	91.99	2.093	XE-138	s
423.57	274.47	1058.	254.	0.283	91.84	2.058	SR-91	s
599.29	388.36	657.	181.	0.201	102.10	1.610	RH-106M	sM
610.55	395.65	484.	116.	0.129	130.24	1.844	YB-175	sM
676.92	438.67	352.	100.	0.111	129.38	2.145	BA-140	sM
712.05	461.44	287.	81.	0.090	137.21	1.295	CS-138	sM
739.82	479.44	330.	158.	0.176	87.79	2.739	W-187	sM
751.59	487.07	316.	97.	0.108	126.65	1.459	LA-140	M
770.67	499.43	160.	51.	0.057	145.40	1.352	KR-89	M
787.75	510.53	506.	94.	0.104	106.53	1.509	J-133	D
1025.87	664.81	186.	243.	0.270	30.57	1.629	PA-234	D
1061.13	687.73	104.	71.	0.079	102.72	1.207	AG-110M	sM
1109.89	719.34	260.	109.	0.121	124.89	1.613	SB-126	sM
1184.66	767.82	258.	786.	0.874	15.28	1.736	BI-214	
1203.73	780.29	165.	36.	0.040	159.07	1.724	J-132	D
1212.03	785.67	150.	183.	0.203	36.02	1.729	BI-212	D
1243.01	805.65	165.	182.	0.202	40.19	2.120	PA-234	s
1274.22	825.89	155.	71.	0.079	133.68	1.116	PA-234	sM

ORTEC Spectrum name: SMP HS 115 Colim@6Det@Pos4.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1293.23	838.22	202.	82.	0.091	93.16	1.056	J-135	sM
1440.63	933.80	223.	400.	0.444	24.96	2.276	BI-214	s
1622.67	1051.86	143.	34.	0.038	184.91	1.806	-	s
1781.46	1154.85	160.	206.	0.229	40.31	1.730	BI-214	M
1862.79	1207.61	106.	67.	0.074	87.86	2.245	-	M
1909.15	1237.68	125.	625.	0.694	15.81	2.296	J-133	sM
1975.56	1280.76	108.	184.	0.205	39.77	2.042	BI-214	M
2124.59	1377.26	79.	424.	0.471	17.06	2.297	BI-214	D
2136.40	1384.92	99.	71.	0.079	69.37	2.306	AG-110M	D
2160.73	1400.84	81.	152.	0.169	34.96	2.323	BI-214	D
2171.35	1407.73	79.	232.	0.258	25.51	2.330	BI-214	D
2326.71	1508.59	115.	198.	0.220	37.63	1.787	BI-214	
2561.18	1660.74	33.	98.	0.109	47.79	2.547	BI-214	s
2666.81	1729.29	25.	245.	0.272	22.33	3.139	BI-214	
2848.96	1847.51	12.	178.	0.198	25.34	2.793	BI-214	
2913.28	1889.27	12.	32.	0.036	80.60	1.451	-	s
3398.16	2204.07	15.	318.	0.353	18.34	2.741	BI-214	
3773.29	2447.69	0.	120.	0.133	27.39	2.858	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.14	11.77	1.	3.	0.003	223.61	0.880
Pb-210	71.75	46.50	2005.	179.	0.199	108.45	1.200D
Th-234	98.55	63.86	800.	61.	0.068	243.98	1.229
Th-234	142.00	92.02	441.	6.	0.007	1291.80	0.216s
Ra-226	287.05	186.00	2280.	1764.	1.960	21.14	1.429s
Pb-212	368.26	238.63	708.	0.	0.000	0.00	1.296D
Pb-214	373.07	241.74	1872.	2628.	2.920	14.32	1.403s
Pb-214	455.57	295.21	837.	5204.	5.782	4.78	1.356D
Tl-210	459.88	298.00	2763.	0.	0.000	22301.12	1.358D
Pb-212	463.10	300.09	716.	35.	0.038	332.87	1.359D
Ac-228	521.00	337.61	410.	4.	0.004	2061.70	0.000s
Pb-214	542.57	351.59	988.	9429.	10.477	3.54	1.529
Tl-208	788.26	510.84	510.	90.	0.100	110.55	1.509D
Tl-208	902.63	584.98	285.	74.	0.082	171.23	3.474s
Bi-214	939.46	608.85	381.	7768.	8.631	3.66	1.755
Cs-137	1020.86	661.62	149.	15.	0.016	357.86	1.626D
Bi-212	1124.22	728.63	175.	50.	0.056	199.00	1.901s
Pa-234m	1182.55	766.45	932.	0.	0.000	12952.22	1.713
Tl-210	1233.83	799.70	57.	0.	0.000	0.00	0.000D
Tl-208	1325.21	858.96	214.	45.	0.050	174.74	0.817s
Ac-228	1404.40	910.30	78.	36.	0.041	144.19	1.213

ORTEC Spectrum name: SMP HS 115 Colim@6Det@Pos4.An1

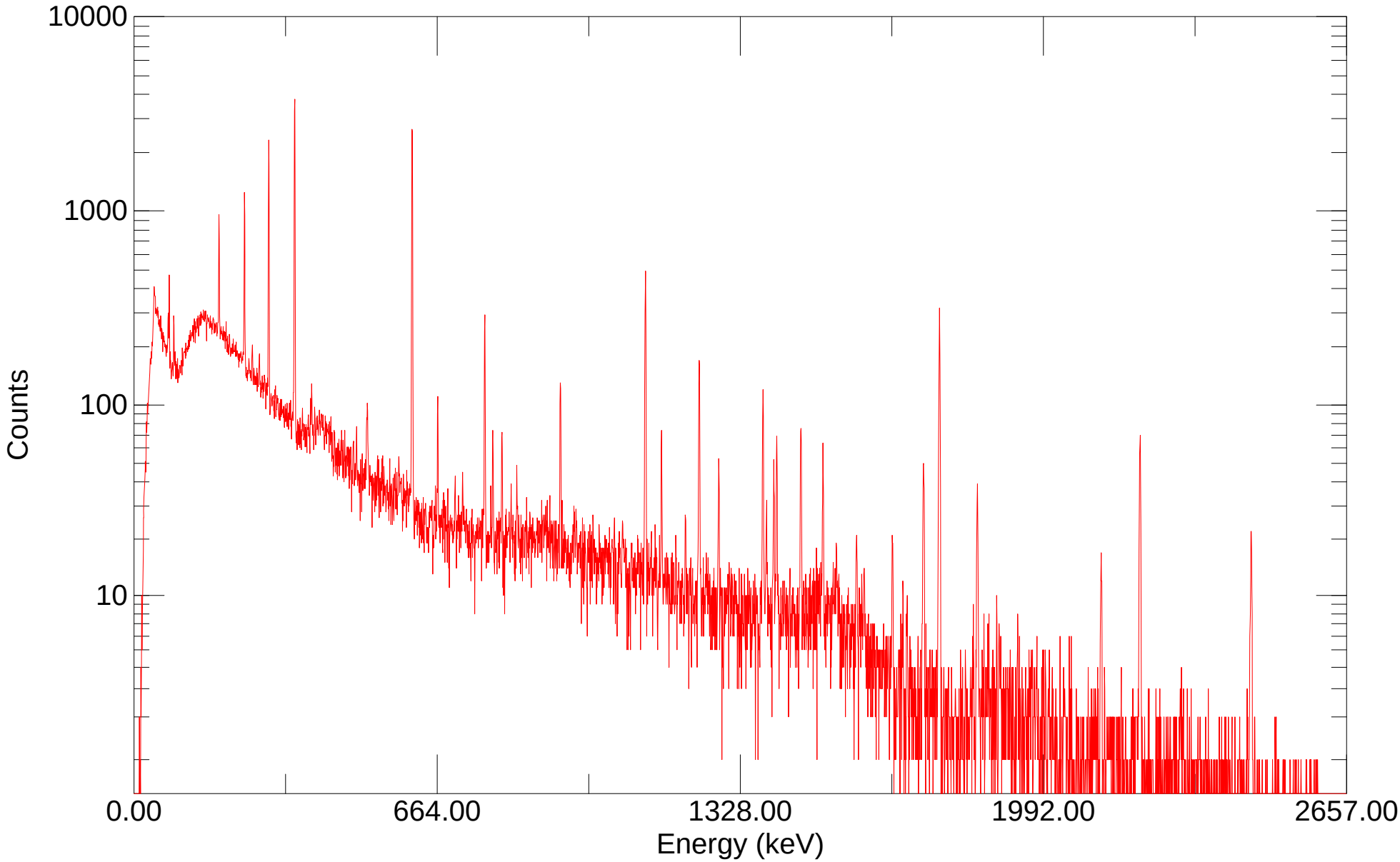
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1493.89	968.34	129.	34.	0.037	163.20	2.353s
Pa-234m	1545.16	1001.59	96.	19.	0.021	233.59	0.605s
Bi-214	1727.44	1119.81	175.	1663.	1.848	8.61	2.032
Tl-210	2018.13	1308.37	95.	16.	0.017	323.71	1.135s
K-40	2252.52	1460.45	80.	305.	0.339	23.26	2.686
Bi-212	2494.00	1617.14	50.	18.	0.020	231.54	0.000s
Bi-214	2720.73	1764.29	26.	1248.	1.387	8.82	2.333
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 115 Colim@6Det@Pos4

SMP HS 115 11_19_07



Acquired: 11/19/2007 2:33:23 PM Real Time: 911.50 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 116 Colim@6Det@Pos4.An1

Sample description
SMP HS 116 11_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 116 Colim@6Det@Pos4.An1

Acquisition information
Start time:	20-Nov-2007 11:02:28
Live time:	900
Real time:	917
Dead time:	1.83 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 116 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 116 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1726

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
60.96	39.51	329.	59.	0.066	199.51	1.896	CE-144	s
119.36	77.35	370.	106.	0.118	105.93	1.364	PB-214	
701.04	454.30	96.	68.	0.076	103.28	1.900	TE-131	sM
1025.90	665.24	66.	86.	0.095	51.86	1.629	BI-214	D
1184.83	767.74	84.	170.	0.189	32.50	1.714	BI-214	D
1211.39	785.15	80.	57.	0.063	86.54	1.377	BI-212	M
1242.99	805.56	65.	51.	0.057	79.23	1.746	PA-234	D
1440.62	933.79	60.	114.	0.126	44.62	1.670	BI-214	
1909.23	1237.73	60.	173.	0.192	35.24	1.619	J-133	M
1974.84	1280.29	40.	70.	0.078	62.11	2.169	BI-214	sM
2124.17	1377.17	35.	105.	0.117	43.42	2.096	BI-214	s
2160.93	1400.79	20.	36.	0.040	72.77	2.323	BI-214	D
2170.95	1407.29	28.	61.	0.068	52.93	2.330	BI-214	D
2666.81	1729.29	13.	71.	0.079	46.85	1.499	BI-214	s
3397.93	2203.92	0.	107.	0.119	29.00	2.435	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 116 Colim@6Det@Pos4.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	73.53	47.65	736.	57.	0.063	321.74	1.340s
Th-234	96.30	62.41	595.	87.	0.097	181.31	1.496s
Th-234	143.94	93.27	242.	42.	0.046	215.69	1.537s
Ra-226	287.08	186.02	522.	470.	0.522	33.91	1.610s
Pb-212	368.26	238.63	412.	73.	0.081	122.61	1.318D
Pb-214	373.43	241.98	389.	571.	0.635	19.28	1.320D
Pb-214	455.57	295.21	318.	1260.	1.400	10.37	1.356D
Tl-210	459.88	298.00	793.	48.	0.053	252.26	1.358D
Pb-212	463.10	300.09	200.	40.	0.045	156.19	1.359D
Ac-228	522.00	338.26	97.	0.	0.000	3618.70	0.000s
Pb-214	542.57	351.59	416.	2183.	2.426	8.13	1.554s
Tl-208	788.26	510.84	150.	89.	0.099	66.58	1.509D
Tl-208	900.21	583.40	77.	34.	0.038	172.12	1.071s
Bi-214	939.45	608.84	152.	1921.	2.135	7.69	1.787
Cs-137	1020.86	661.62	62.	16.	0.017	228.29	1.626D
Bi-212	1121.73	727.02	54.	30.	0.033	180.83	1.019s
Pa-234m	1182.48	766.41	238.	18.	0.019	381.09	1.713D
Tl-210	1233.83	799.70	38.	9.	0.010	317.39	1.741D
Tl-208	1326.00	859.47	20.	0.	0.000	1643.17	0.108s
Ac-228	1405.96	911.32	88.	33.	0.037	156.67	1.913
Ac-228	1494.86	968.97	39.	26.	0.029	122.99	0.924s
Pa-234m	1544.70	1001.29	68.	26.	0.029	174.99	2.003
Bi-214	1727.58	1119.90	75.	406.	0.451	19.25	1.854
Tl-210	2020.50	1309.91	5.	4.	0.004	272.14	0.973s
K-40	2252.73	1460.58	29.	321.	0.356	19.36	2.670
Bi-212	2496.07	1618.49	5.	18.	0.020	95.26	1.449s
Bi-214	2720.84	1764.36	15.	347.	0.386	17.61	2.387
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

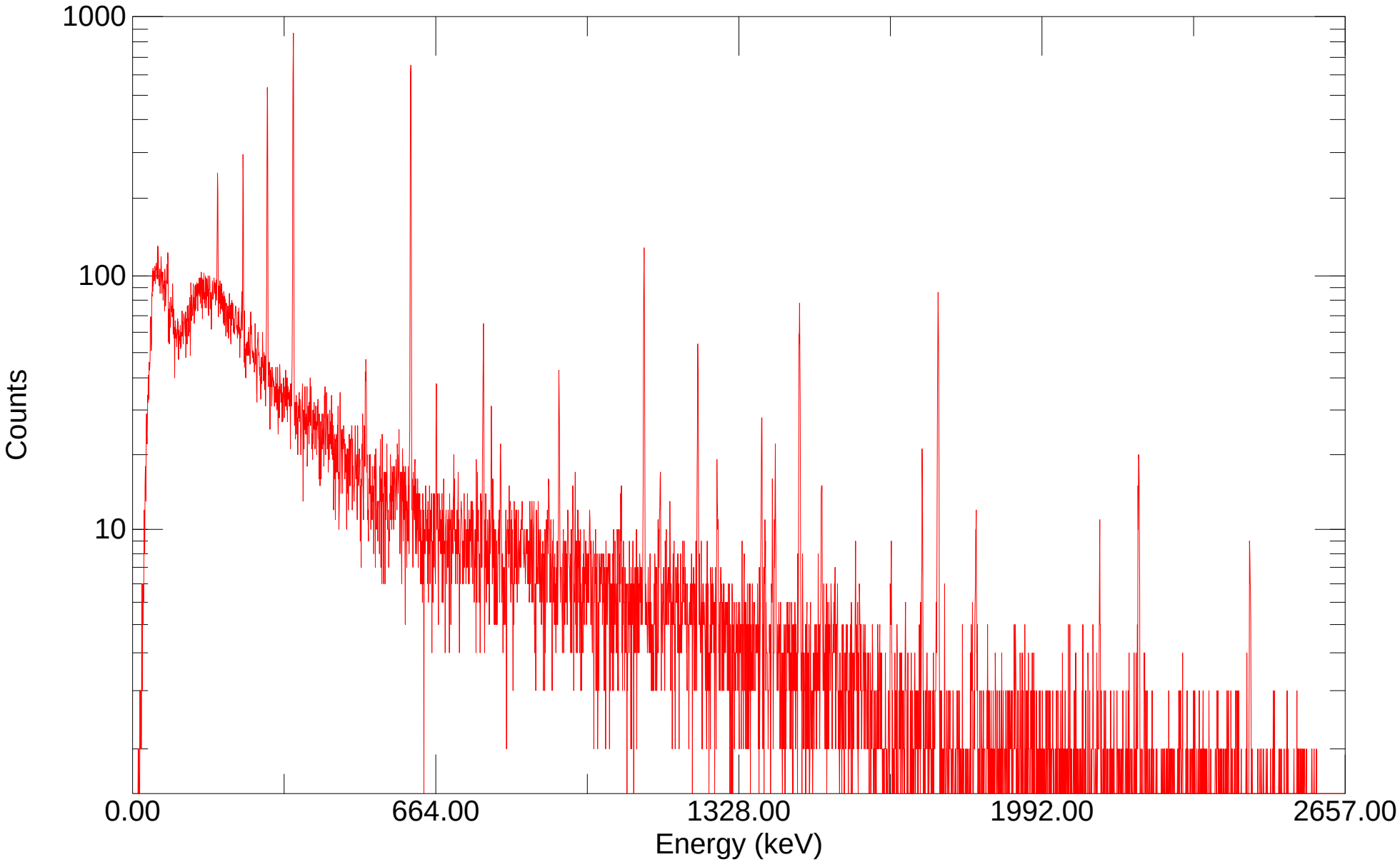
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 116 Colim@6Det@Pos4

SMP HS 116 11_20_07



Acquired: 11/20/2007 11:02:28 AM Real Time: 916.80 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 117 Colim@6Det@Pos4.An1

Sample description
SMP HS 117 11_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 117 Colim@6Det@Pos4.An1

Acquisition information
Start time: 20-Nov-2007 09:34:14
Live time: 900
Real time: 919
Dead time: 2.10 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 117 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 117 Colim@6Det@Pos4.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2391

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.43	44.68	3231.	377.	0.418	65.90	1.199	EU-155	D
118.99	77.11	2422.	820.	0.911	35.30	1.042	PB-214	
134.62	87.26	2159.	430.	0.478	48.06	1.224	PB-214	D
139.46	90.39	2478.	278.	0.309	78.11	1.226	PB-214	D
398.82	258.43	2488.	522.	0.579	68.57	1.667	XE-138	s
423.30	274.30	2220.	312.	0.347	102.72	1.367	SR-91	
469.78	304.67	1406.	160.	0.178	102.24	1.362	BA-140	D
598.03	387.53	1650.	426.	0.473	74.36	3.459	RH-106M	sM
701.42	454.55	995.	257.	0.286	92.11	2.072	TE-131	sM
740.65	480.05	722.	202.	0.225	60.17	1.486	W-187	D
750.13	486.20	805.	97.	0.108	127.23	1.491	LA-140	D
786.88	510.25	959.	271.	0.301	51.88	1.508	J-133	D
822.68	533.15	552.	130.	0.144	124.06	2.372	ND-147	sM
1026.02	665.04	413.	571.	0.635	19.62	1.629	BI-214	D
1083.76	702.40	534.	207.	0.230	91.03	2.238	NB-94	sM
1109.79	719.28	418.	222.	0.247	73.26	1.839	SB-126	sM
1166.77	756.22	242.	100.	0.112	102.86	2.314	EU-154	sM
1184.66	767.82	604.	1639.	1.821	11.07	1.783	BI-214	
1211.18	785.02	537.	409.	0.455	34.36	2.056	BI-212	s
1242.97	805.62	355.	374.	0.416	26.40	1.746	PA-234	D
1265.98	820.26	272.	99.	0.110	76.85	1.759	PA-234	D
1273.70	825.27	291.	82.	0.091	94.48	1.763	PA-234	D
1293.68	838.51	460.	204.	0.227	58.53	2.200	J-135	sM
1440.19	933.51	640.	915.	1.016	19.04	1.940	BI-214	

ORTEC Spectrum name: SMP HS 117 Colim@6Det@Pos4.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1622.10	1051.49	284.	116.	0.129	78.60	1.665	-	
1650.35	1069.81	232.	96.	0.107	80.93	2.065	J-134	
1781.08	1154.60	436.	366.	0.406	37.04	2.551	BI-214	s
1861.61	1206.84	236.	123.	0.137	70.31	1.193	-	s
1909.03	1237.60	380.	1397.	1.553	11.47	2.140	J-133	
1975.00	1280.39	277.	381.	0.423	29.46	2.270	BI-214	
2124.26	1377.15	250.	780.	0.867	13.76	2.297	BI-214	D
2136.14	1384.86	206.	160.	0.178	44.87	2.305	AG-110M	D
2160.62	1400.75	195.	320.	0.355	24.99	2.322	BI-214	D
2171.00	1407.49	209.	496.	0.551	18.29	2.330	BI-214	D
2326.78	1508.63	277.	494.	0.549	23.96	2.448	BI-214	s
2440.88	1582.67	231.	209.	0.232	46.43	2.301	-	s
2561.58	1661.00	128.	207.	0.230	41.20	2.225	BI-214	
2596.46	1683.64	55.	61.	0.068	72.42	1.385	-	s
2666.65	1729.19	105.	566.	0.629	16.49	2.554	BI-214	
2834.31	1837.92	58.	66.	0.073	61.16	2.829	RH-106M	D
2848.45	1847.10	60.	343.	0.381	18.79	2.840	BI-214	D
2985.53	1936.17	48.	44.	0.049	97.87	1.743	-	s
3265.27	2117.78	48.	213.	0.237	30.41	2.115	BI-214	s
3397.60	2203.71	12.	738.	0.821	11.45	2.710	BI-214	
3773.52	2447.84	0.	218.	0.242	20.32	2.907	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000	s
Pb-210	71.75	46.50	3491.	187.	0.208	135.82	1.200	D
Th-234	95.83	62.10	3225.	129.	0.143	265.45	0.962	
Th-234	143.21	92.80	2349.	86.	0.096	241.24	1.228	D
Ra-226	286.93	185.93	4365.	3600.	4.000	13.85	1.524	s
Pb-212	368.26	238.63	2190.	0.	0.000	0.00	0.000	D
Pb-214	373.03	241.72	4342.	5068.	5.631	11.48	1.526	s
Pb-214	455.57	295.21	2360.	10450.	11.611	3.54	1.356	D
Tl-210	459.88	298.00	5608.	159.	0.177	201.18	1.358	D
Pb-212	463.10	300.09	1793.	76.	0.085	237.32	1.359	D
Ac-228	520.28	337.15	1508.	138.	0.153	190.49	0.992	s
Pb-214	542.46	351.52	2440.	19017.	21.130	2.56	1.617	
Tl-208	788.26	510.84	1108.	143.	0.159	101.92	1.509	D
Tl-208	901.36	584.15	434.	75.	0.083	180.13	2.135	s
Bi-214	939.32	608.76	936.	16587.	18.430	2.54	1.767	
Cs-137	1020.86	661.62	395.	26.	0.028	334.54	1.626	D
Bi-212	1125.48	729.45	318.	41.	0.046	211.56	2.259	s
Pa-234m	1182.48	766.41	1479.	0.	0.000	0.00	0.329	D

ORTEC Spectrum name: SMP HS 117 Colim@6Det@Pos4.An1

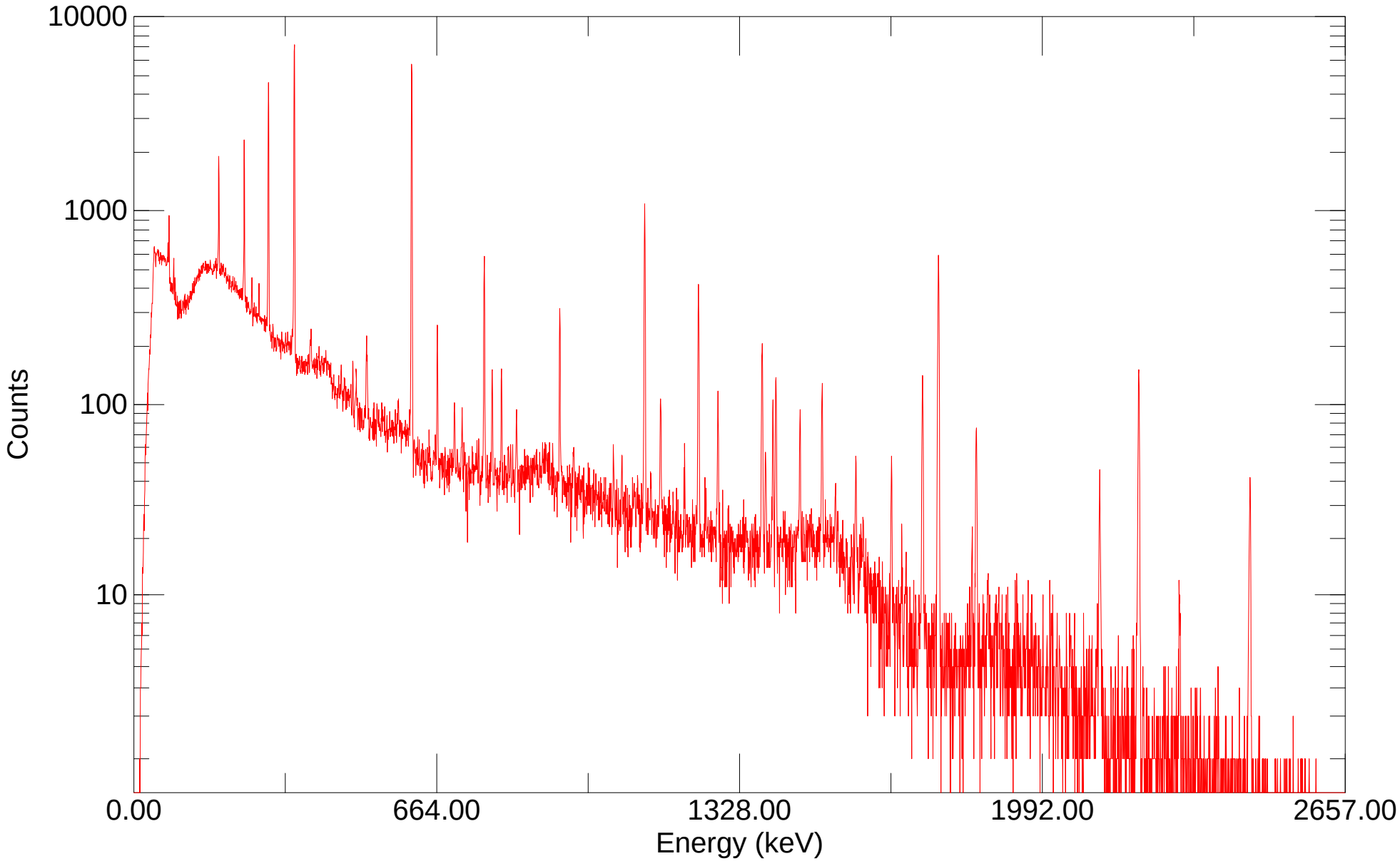
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	1233.83	799.70	336.	33.	0.037	241.71	1.741D
Tl-208	1325.54	859.17	250.	16.	0.018	425.92	0.990s
Ac-228	1405.63	911.11	185.	60.	0.067	132.99	1.372
Ac-228	1494.73	968.89	168.	69.	0.077	124.88	1.435
Pa-234m	1544.00	1000.84	129.	0.	0.000	0.00	0.000s
Bi-214	1727.24	1119.68	419.	3796.	4.218	5.77	2.091
Tl-210	2016.17	1307.11	243.	57.	0.064	161.03	0.900s
K-40	2252.67	1460.55	339.	279.	0.310	43.48	2.117
Bi-212	2504.27	1623.80	113.	15.	0.017	377.42	0.556s
Bi-214	2720.44	1764.10	84.	2814.	3.126	6.05	2.859
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 117 Colim@6Det@Pos4

SMP HS 117 11_20_07



Acquired: 11/20/2007 9:34:14 AM Real Time: 919.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 118 Colim@6Det@Pos4.An1

Sample description
SMP HS 118 11_20_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 118 Colim@6Det@Pos4.An1

Acquisition information
Start time:	20-Nov-2007 10:15:07
Live time:	900
Real time:	908
Dead time:	0.88 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 118 Colim@6Det@Pos4.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1635

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.26	77.29	333.	73.	0.081	154.04	0.773	PB-214	
305.81	198.16	178.	96.	0.106	84.10	1.529	TA-182	M
558.11	361.67	82.	30.	0.034	175.75	0.828	KR-88	M
712.30	461.60	77.	29.	0.032	200.46	1.259	CS-138	M
787.63	510.42	185.	49.	0.054	126.02	1.509	J-133	D
1184.85	767.94	68.	142.	0.158	39.30	1.396	BI-214	
1440.16	933.49	51.	94.	0.104	52.12	1.132	BI-214	s
1909.51	1237.91	37.	136.	0.151	35.66	2.608	BI-214	s
2124.14	1376.91	25.	85.	0.094	41.05	2.297	BI-214	D
2136.32	1384.81	24.	29.	0.032	91.28	2.305	AG-110M	D
2170.92	1407.50	25.	31.	0.034	95.64	2.325	BI-214	
2667.00	1729.42	0.	58.	0.064	39.39	1.695	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

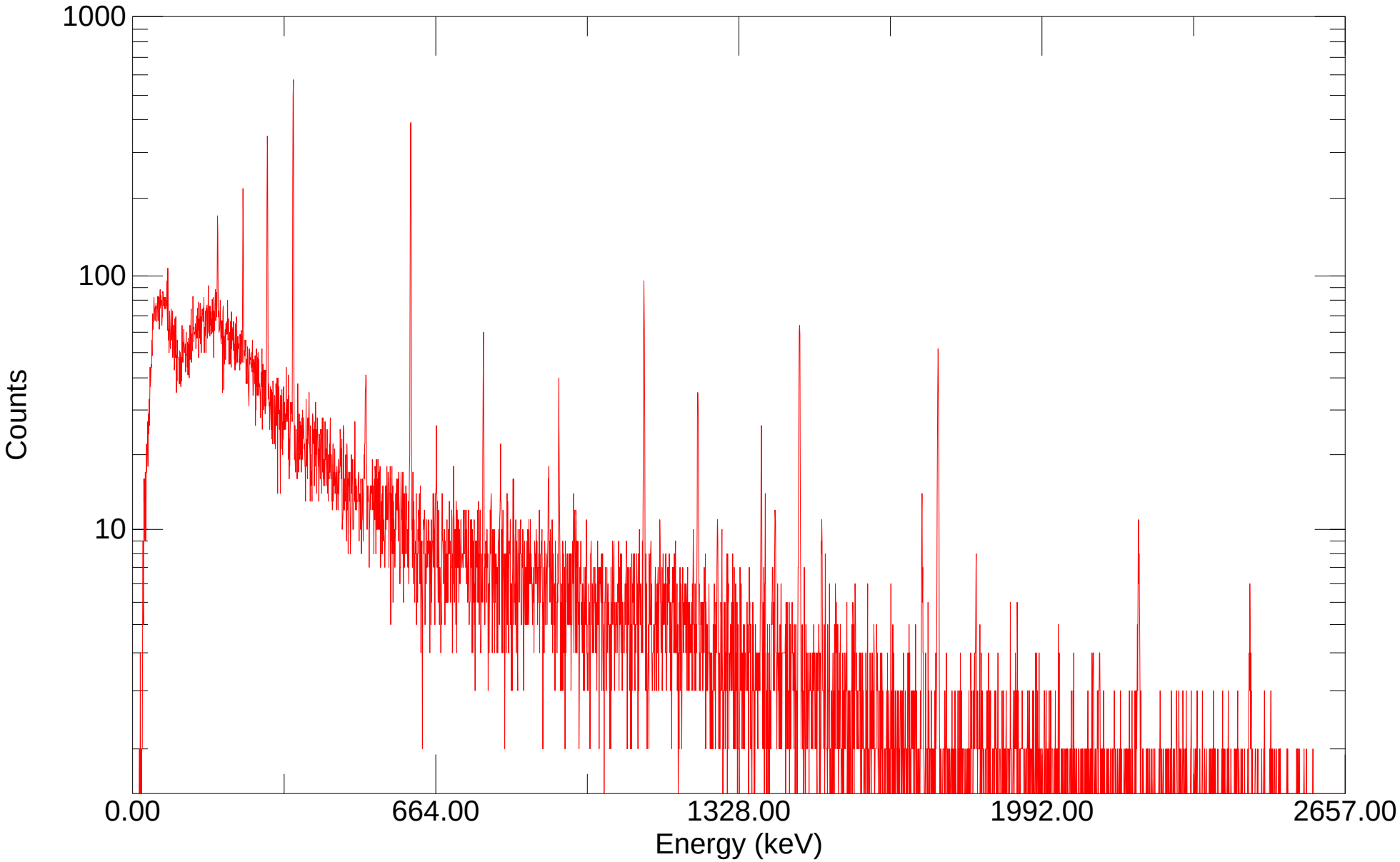
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	72.73	47.14	516.	49.	0.054	313.92	1.555s
Th-234	96.65	62.63	417.	43.	0.048	288.59	2.653s
Th-234	144.89	93.89	312.	110.	0.122	111.45	1.267s
Ra-226	287.39	186.23	580.	278.	0.308	63.69	1.564s
Pb-212	368.26	238.63	273.	0.	0.000	0.00	2.178D
Pb-214	372.95	241.67	322.	364.	0.404	35.09	1.289
Pb-214	455.57	295.21	281.	806.	0.895	13.77	1.356D
Tl-210	459.88	298.00	549.	14.	0.016	693.81	1.358D
Pb-212	463.10	300.09	190.	0.	0.000	5848.08	1.359D
Ac-228	524.76	340.05	161.	44.	0.049	189.01	0.761s
Pb-214	542.52	351.56	300.	1500.	1.667	9.80	1.656s
Tl-208	788.26	510.84	187.	47.	0.053	129.67	1.509D
Tl-208	899.84	583.17	45.	19.	0.021	222.74	1.694
Bi-214	939.33	608.76	113.	1204.	1.338	9.84	1.867
Cs-137	1020.00	661.06	23.	0.	0.000	1762.10	0.000s
Bi-212	1121.12	726.62	63.	17.	0.019	336.45	0.729s
Pa-234m	1182.48	766.41	97.	0.	0.000	0.00	0.000D
Tl-210	1235.00	800.46	23.	1.	0.001	1407.13	0.000s
Tl-208	1324.26	858.34	39.	7.	0.008	404.06	1.167
Ac-228	1404.94	910.66	60.	34.	0.038	119.69	1.982
Ac-228	1494.99	969.05	56.	31.	0.034	136.52	1.776
Pa-234m	1541.31	999.09	17.	11.	0.012	201.07	1.236
Bi-214	1727.51	1119.86	60.	332.	0.369	21.61	2.230
Tl-210	2017.75	1308.13	19.	2.	0.003	870.96	0.782s
K-40	2252.53	1460.46	19.	289.	0.321	19.61	2.720s
Bi-212	2499.80	1620.90	3.	25.	0.028	74.50	1.235s
Bi-214	2720.74	1764.29	8.	236.	0.263	20.99	2.679
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

Detector: #1 digiDart - HP

SMP HS 118 11_20_07



Acquired: 11/20/2007 10:15:07 AM Real Time: 907.98 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 120.An1

Sample description
smp hs 120 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 120.An1

Acquisition information
Start time:	04-Dec-2007 09:30:43
Live time:	900
Real time:	907
Dead time:	0.79 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 120.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 120.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.2000

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.08	74.59	332.	163.	0.181	52.89	1.217	BI-207	D
119.09	77.19	380.	268.	0.298	35.85	1.218	PB-214	D
134.21	86.97	371.	146.	0.162	87.55	1.237	BI-207	s
599.75	388.65	69.	44.	0.049	121.97	1.213	RH-106M	M
787.67	510.39	187.	35.	0.039	173.66	1.509	J-133	D
1146.22	742.90	29.	16.	0.018	168.44	0.888	PA-234	sM
1184.90	767.98	68.	88.	0.098	58.25	1.529	BI-214	
1226.21	794.84	30.	27.	0.030	103.31	1.737	AC-228	D
1440.44	933.68	56.	52.	0.057	88.07	1.692	BI-214	s
1909.31	1237.78	41.	85.	0.094	51.88	1.718	J-133	sM
1975.59	1280.78	12.	22.	0.025	92.69	1.776	BI-214	sM
2124.66	1377.49	29.	59.	0.065	65.93	1.491	BI-214	s
2171.52	1407.89	8.	35.	0.039	65.27	2.412	BI-214	
2849.71	1848.00	4.	34.	0.037	62.85	1.793	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 120.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.46	11.98	170.	314.	0.349	34.90	2.580s
Pb-210	72.59	47.05	192.	46.	0.051	176.83	0.821
Th-234	96.39	62.46	252.	83.	0.092	119.39	2.498s
Th-234	142.38	92.26	348.	37.	0.041	306.50	1.641s
Ra-226	287.24	186.12	490.	278.	0.309	63.37	1.505s
Pb-212	368.26	238.63	262.	67.	0.075	108.24	1.318D
Pb-214	373.43	241.98	220.	288.	0.320	28.07	1.321D
Pb-214	455.57	295.21	121.	634.	0.705	14.01	1.356D
Tl-210	459.88	298.00	439.	22.	0.024	409.82	1.358D
Pb-212	463.10	300.09	183.	32.	0.036	184.28	1.359D
Ac-228	520.41	337.23	148.	66.	0.073	136.04	0.790s
Pb-214	542.74	351.70	180.	1077.	1.197	11.09	1.367
Tl-208	788.26	510.84	158.	64.	0.071	91.34	1.509D
Tl-208	899.28	582.80	60.	22.	0.024	171.13	0.706s
Bi-214	939.70	609.00	81.	955.	1.061	10.80	1.574
Cs-137	1021.00	661.71	15.	11.	0.012	189.93	0.324s
Bi-212	1122.86	727.75	52.	30.	0.033	136.38	2.515s
Pa-234m	1182.48	766.41	72.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	34.	9.	0.010	307.81	1.741D
Tl-208	1327.85	860.67	27.	7.	0.008	338.28	1.207
Ac-228	1404.92	910.64	63.	50.	0.056	94.39	1.922s
Ac-228	1493.87	968.33	37.	21.	0.023	150.70	1.160s
Pa-234m	1544.00	1000.84	14.	1.	0.001	1479.86	0.000s
Bi-214	1728.07	1120.22	40.	212.	0.236	26.23	2.129
Tl-210	2021.41	1310.50	9.	6.	0.006	277.35	1.480
K-40	2253.23	1460.90	15.	267.	0.297	20.32	2.180
Bi-212	2495.39	1618.05	8.	3.	0.003	465.47	0.948s
Bi-214	2721.48	1764.77	10.	160.	0.177	27.04	2.126
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

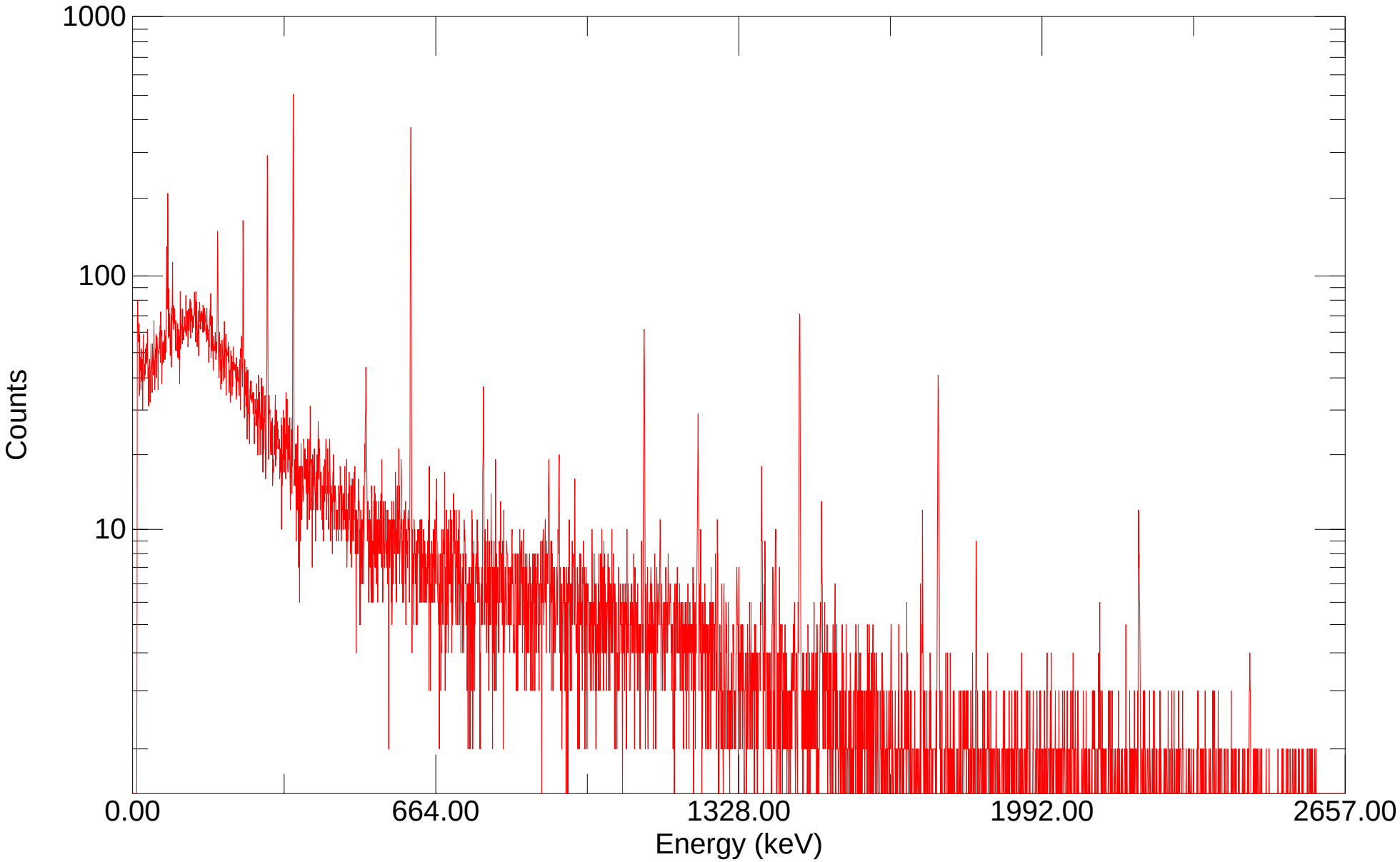
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 120

smp hs 120 12_04_07



Acquired: 12/4/2007 9:30:43 AM Real Time: 907.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 121.An1

Sample description
smp hs 121 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 121.An1

Acquisition information
Start time:	04-Dec-2007 09:57:37
Live time:	900
Real time:	910
Dead time:	1.05 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 121.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 121.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1655

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
114.99	74.31	899.	249.	0.277	54.54	1.217	BI-207	D
119.42	77.17	809.	276.	0.307	47.32	1.218	PB-214	D
134.69	87.38	633.	151.	0.168	74.68	1.224	PB-214	D
182.96	118.56	715.	84.	0.093	181.63	1.351	NP-239	
398.73	258.37	716.	134.	0.148	143.34	1.208	XE-138	s
624.62	404.77	264.	95.	0.106	118.79	1.627	J-134	sM
712.11	461.48	240.	102.	0.113	115.50	1.736	CS-138	sM
787.62	510.50	324.	102.	0.113	80.50	1.509	J-133	D
1026.21	664.88	109.	142.	0.158	40.11	1.629	PA-234	D
1185.08	768.09	152.	359.	0.399	24.19	1.252	BI-214	
1211.82	785.43	113.	85.	0.094	69.70	2.117	BI-212	s
1243.36	806.05	101.	81.	0.090	62.36	1.746	BI-214	D
1294.42	838.99	98.	50.	0.055	106.67	1.305	J-135	M
1440.78	933.90	112.	182.	0.202	37.52	1.572	BI-214	
1487.00	963.79	89.	42.	0.047	105.95	1.887	EU-152	D
1622.23	1051.57	52.	26.	0.029	140.05	1.707	-	
1780.90	1154.49	74.	107.	0.119	50.86	2.050	BI-214	s
1909.80	1238.10	82.	336.	0.374	22.29	2.201	BI-214	
2124.94	1377.67	51.	194.	0.215	29.59	1.472	BI-214	s
2160.90	1400.73	34.	63.	0.070	54.30	2.323	BI-214	D
2172.11	1408.01	31.	116.	0.128	34.65	2.330	BI-214	D
2327.53	1509.12	31.	118.	0.131	39.22	2.058	BI-214	s
2442.69	1583.84	32.	56.	0.062	70.32	2.629	AC-228	
2561.40	1660.88	16.	62.	0.069	52.42	2.015	BI-214	s

ORTEC Spectrum name: SMP HS 121.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2667.25	1729.58	13.	146.	0.162	29.38	2.797	BI-214	s
2848.90	1847.48	12.	68.	0.075	46.88	3.111	BI-214	
3398.87	2204.53	0.	162.	0.180	23.57	3.432	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.14	11.77	525.	449.	0.499	40.08	2.744s
Pb-210	72.39	46.92	452.	78.	0.087	155.81	1.322
Th-234	100.00	64.80	419.	25.	0.028	318.44	0.000s
Th-234	143.21	92.80	876.	30.	0.033	427.32	1.228D
Ra-226	287.11	186.04	1108.	550.	0.611	42.57	1.393
Pb-212	368.26	238.63	687.	129.	0.143	90.51	1.318D
Pb-214	373.43	241.98	646.	973.	1.081	14.68	1.321D
Pb-214	455.57	295.21	453.	2257.	2.508	7.48	1.356D
Tl-210	459.88	298.00	1498.	14.	0.016	1177.79	1.358D
Pb-212	463.10	300.09	526.	25.	0.028	392.96	1.359D
Ac-228	521.75	338.10	410.	107.	0.119	142.05	0.950s
Pb-214	542.74	351.70	521.	3949.	4.388	5.59	1.318
Tl-208	788.26	510.84	353.	73.	0.082	113.89	1.509D
Tl-208	899.56	582.98	132.	43.	0.048	184.98	2.681s
Bi-214	939.73	609.02	245.	3476.	3.862	5.68	1.513
Cs-137	1020.86	661.62	101.	13.	0.015	335.59	1.626D
Bi-212	1124.03	728.51	88.	62.	0.069	121.84	1.102s
Pa-234m	1182.39	766.35	405.	0.	0.000	8538.15	1.713
Tl-210	1233.83	799.70	91.	12.	0.013	345.61	1.741D
Tl-208	1327.90	860.70	52.	10.	0.011	297.57	0.644s
Ac-228	1404.21	910.18	124.	40.	0.044	152.23	0.722s
Ac-228	1495.08	969.11	89.	27.	0.030	160.09	1.891D
Pa-234m	1541.67	999.32	76.	27.	0.030	177.43	1.277
Bi-214	1727.89	1120.10	91.	753.	0.837	12.95	1.907
Tl-210	2016.44	1307.28	41.	28.	0.031	135.57	0.679s
K-40	2253.10	1460.82	35.	317.	0.352	19.84	2.256
Bi-212	2499.56	1620.75	8.	8.	0.009	193.50	0.607s
Bi-214	2721.39	1764.72	15.	578.	0.642	13.11	2.502
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

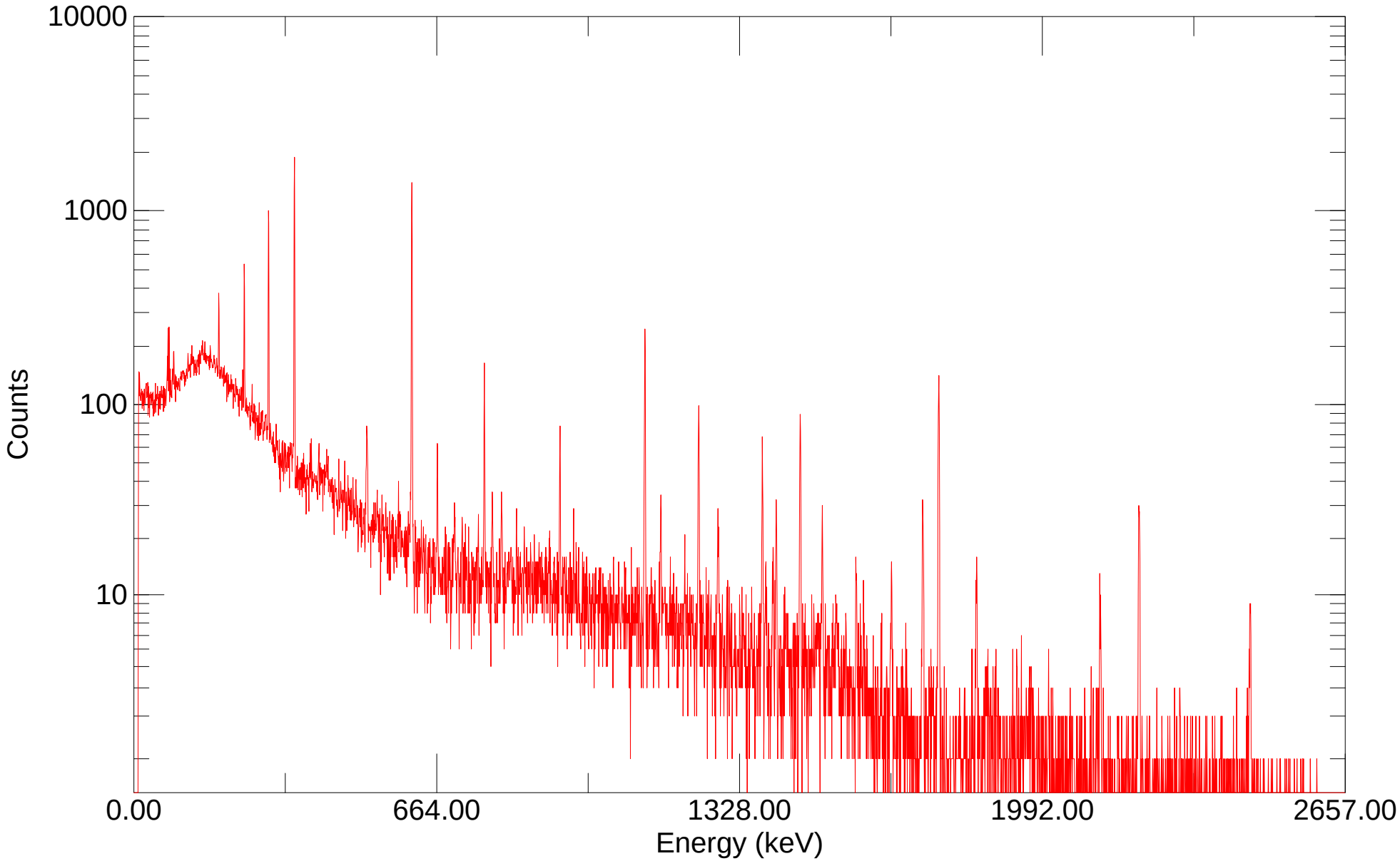
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 121

smp hs 121 12_04_07



Acquired: 12/4/2007 9:57:37 AM Real Time: 909.58 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 122.An1

Sample description
SMP HS 122 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 122.An1

Acquisition information
Start time:	04-Dec-2007 10:33:48
Live time:	900
Real time:	926
Dead time:	2.86 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 122.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 122.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1741

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.97	53.77	4456.	299.	0.332	150.77	1.413	LU-177	s
115.39	74.81	6064.	3004.	3.338	12.28	1.217	BI-207	D
119.11	77.21	5461.	5408.	6.009	7.09	1.218	PB-214	D
134.67	87.26	3650.	2291.	2.545	12.83	1.224	PB-214	D
139.08	90.11	3842.	868.	0.965	31.95	1.226	PB-214	D
185.38	120.12	3372.	194.	0.215	169.82	0.813	NP-239	
382.80	248.00	2142.	161.	0.179	124.49	1.325	EU-154	D
387.30	250.91	2921.	177.	0.196	131.74	1.327	XE-135	D
399.59	258.93	4362.	608.	0.676	83.90	1.508	XE-138	
423.76	274.59	2202.	411.	0.457	70.08	1.456	SR-91	s
598.44	387.80	1895.	620.	0.689	52.98	3.147	RH-106M	sM
626.04	405.69	1544.	237.	0.263	112.91	1.616	J-134	sM
701.08	454.33	1600.	282.	0.314	109.78	2.399	TE-131	sM
712.21	461.54	1076.	206.	0.229	108.84	2.148	CS-138	sM
740.73	479.93	891.	238.	0.264	56.64	1.486	W-187	D
751.00	486.58	916.	273.	0.304	50.36	1.491	LA-140	D
787.48	510.54	1244.	288.	0.320	54.97	1.509	J-133	D
893.65	579.15	775.	278.	0.309	75.76	1.786	KR-89	
1000.73	648.57	249.	107.	0.119	93.12	2.055	J-132	s
1026.26	665.12	530.	723.	0.803	17.53	1.629	BI-214	D
1084.59	702.94	505.	295.	0.328	58.64	1.775	RH-106M	s
1110.35	719.70	479.	198.	0.220	51.39	1.674	SB-126	D
1185.07	768.02	475.	2027.	2.252	8.07	1.714	BI-214	D
1212.13	785.63	682.	468.	0.521	32.84	1.761	BI-212	s

ORTEC Spectrum name: SMP HS 122.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1243.42	805.75	439.	560.	0.622	20.33	1.746	PA-234	D
1274.39	826.00	324.	109.	0.121	114.44	2.307	PA-234	sM
1293.96	838.69	704.	238.	0.264	62.66	1.711	J-135	M
1440.67	933.82	745.	1114.	1.238	16.97	1.917	BI-214	
1486.62	963.90	380.	146.	0.162	61.85	1.886	EU-152	D
1622.90	1052.01	407.	165.	0.183	69.48	1.903	-	s
1650.61	1069.98	433.	82.	0.091	140.07	1.893	J-134	
1747.48	1132.81	331.	158.	0.175	67.60	2.178	J-135	
1781.82	1155.08	355.	527.	0.586	23.52	2.041	BI-214	
1863.22	1207.89	292.	134.	0.149	69.12	1.769	-	
1909.64	1237.99	377.	1761.	1.957	9.64	2.260	BI-214	
1975.68	1280.84	423.	434.	0.482	31.87	1.969	BI-214	
2124.99	1377.63	265.	1061.	1.179	11.28	2.298	BI-214	D
2136.85	1385.32	269.	212.	0.235	38.78	2.306	AG-110M	D
2161.51	1401.36	229.	404.	0.449	21.80	2.323	BI-214	D
2171.81	1408.04	235.	681.	0.757	14.94	2.330	EU-152	D
2327.66	1509.20	400.	520.	0.578	22.79	2.453	BI-214	
2381.06	1543.85	149.	61.	0.067	96.93	2.025	-	s
2441.52	1583.09	218.	200.	0.223	46.40	2.680	AC-228	
2467.53	1599.97	158.	76.	0.085	89.88	1.846	EU-154	
2562.27	1661.45	131.	321.	0.357	26.58	1.995	BI-214	s
2667.36	1729.65	172.	632.	0.703	20.11	2.655	BI-214	
2835.45	1838.68	47.	117.	0.130	37.11	2.830	RH-106M	D
2849.43	1847.75	41.	463.	0.515	15.11	2.841	BI-214	D
3267.31	2119.11	30.	243.	0.270	23.03	3.000	BI-214	
3399.07	2204.66	24.	945.	1.050	10.46	2.952	BI-214	
3774.49	2448.46	0.	293.	0.326	17.53	2.794	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.15	11.77	2815.	2667.	2.963	15.73	2.989s
Pb-210	71.80	46.53	4936.	888.	0.987	56.54	1.533s
Th-234	99.37	64.40	4354.	212.	0.236	199.15	2.443s
Th-234	143.21	92.80	3532.	35.	0.039	725.99	1.228D
Ra-226	287.27	186.14	7120.	5807.	6.452	11.38	1.369
Pb-212	368.26	238.63	3075.	0.	0.000	0.00	0.000D
Pb-214	373.28	241.88	3696.	6933.	7.703	6.90	1.378
Pb-214	455.57	295.21	2268.	15955.	17.728	2.69	1.356D
Tl-210	459.88	298.00	9363.	61.	0.068	672.81	1.358D
Pb-212	463.10	300.09	2445.	23.	0.026	901.24	1.359D
Ac-228	521.81	338.14	1380.	101.	0.112	222.69	0.771s
Pb-214	542.75	351.71	2928.	26746.	29.718	2.11	1.440

ORTEC Spectrum name: SMP HS 122.An1

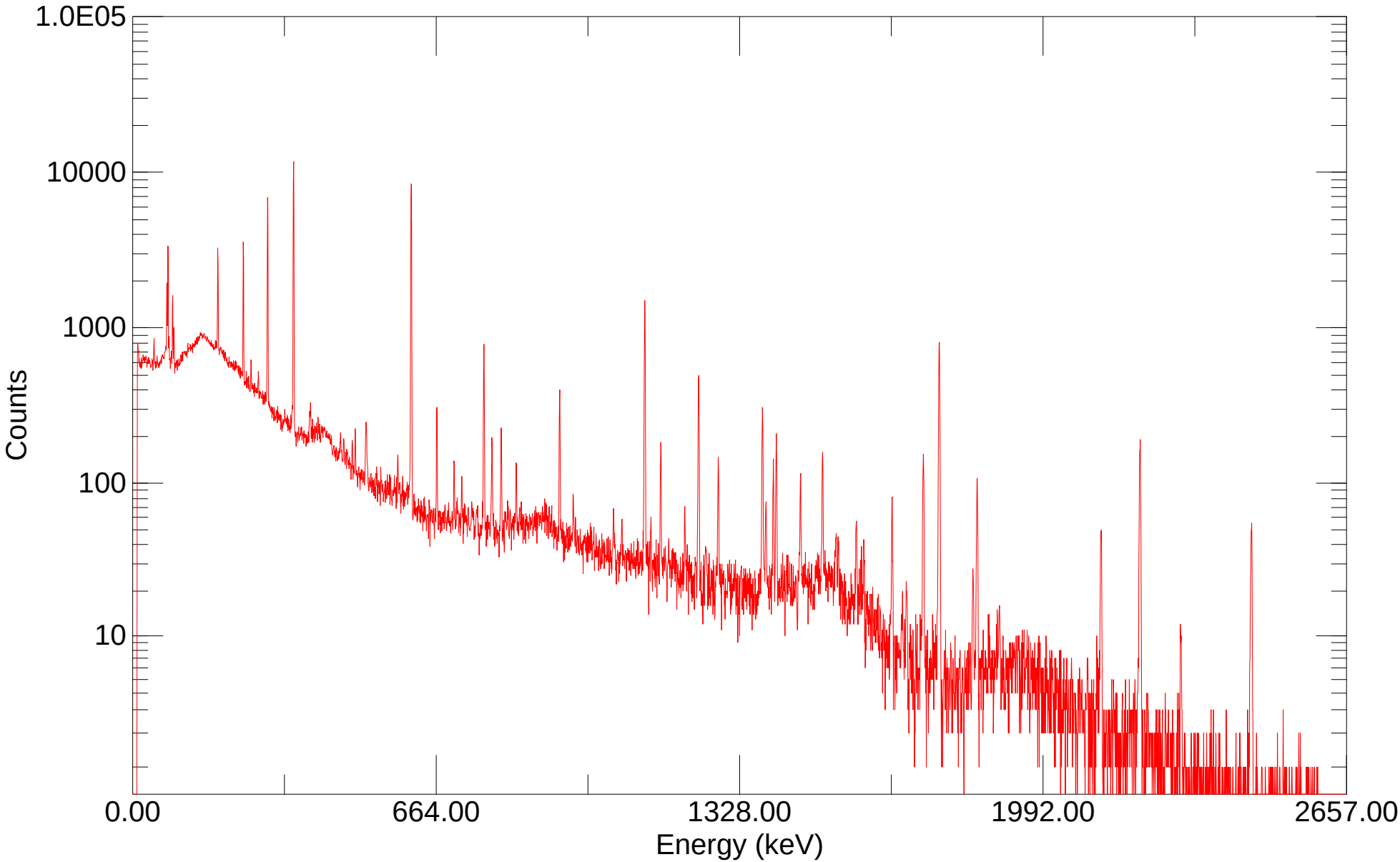
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	788.26	510.84	1353.	179.	0.199	90.06	1.509D
Tl-208	899.80	583.14	600.	0.	0.000	0.00	1.792D
Bi-214	939.68	608.99	1097.	22469.	24.966	2.16	1.617
Cs-137	1020.86	661.62	387.	53.	0.059	163.85	1.626D
Bi-212	1121.96	727.17	451.	44.	0.049	207.53	1.680D
Pa-234m	1182.48	766.41	2318.	68.	0.076	300.37	1.713D
Tl-210	1233.83	799.70	341.	19.	0.021	428.68	1.741D
Tl-208	1328.56	861.13	315.	67.	0.074	172.52	1.370
Ac-228	1405.11	910.77	322.	73.	0.081	160.33	2.106
Ac-228	1495.08	969.11	313.	42.	0.047	183.93	1.891D
Pa-234m	1543.25	1000.35	503.	60.	0.067	202.11	0.738s
Bi-214	1727.85	1120.08	567.	4705.	5.228	5.32	1.953
Tl-210	2018.84	1308.84	93.	13.	0.014	321.07	0.507s
K-40	2252.38	1460.35	309.	416.	0.462	29.31	1.968s
Bi-212	2500.06	1621.07	119.	41.	0.045	150.24	0.863s
Bi-214	2721.48	1764.77	99.	3442.	3.824	5.45	2.588
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 122

SMP HS 122 12_04_07



Acquired: 12/4/2007 10:33:48 AM Real Time: 926.46 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 123.An1

Sample description
SMP HS 123 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 123.An1

Acquisition information
Start time:	04-Dec-2007 10:59:50
Live time:	900
Real time:	912
Dead time:	1.32 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 123.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 123.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1106

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.50	11.35	759.	202.	0.225	61.54	1.180	PB-214	D
95.72	62.03	927.	125.	0.139	148.59	0.931	LU-177	s
115.50	74.87	1304.	677.	0.752	25.39	1.217	BI-207	D
119.13	77.23	1426.	1131.	1.257	16.74	1.218	PB-214	D
134.09	86.89	1480.	586.	0.651	47.87	1.438	BI-207	s
398.48	258.21	742.	204.	0.227	87.53	1.375	XE-138	s
423.17	274.21	860.	166.	0.185	126.05	1.365	SR-91	s
599.36	388.40	550.	153.	0.170	115.22	2.452	RH-106M	sM
740.68	479.99	232.	90.	0.100	117.85	1.374	W-187	sM
751.55	487.04	248.	88.	0.098	124.23	2.135	LA-140	sM
788.24	510.69	433.	58.	0.065	156.78	1.509	TL-208	D
894.63	579.93	179.	54.	0.060	112.57	1.562	KR-89	D
1026.35	665.24	149.	187.	0.208	35.28	1.629	BI-214	D
1085.70	703.66	156.	116.	0.129	92.74	1.339	RH-106M	s
1110.71	719.87	125.	57.	0.064	91.55	1.674	SB-126	D
1185.13	768.05	132.	448.	0.498	17.85	1.714	BI-214	D
1212.19	785.67	180.	139.	0.154	56.24	1.690	BI-212	s
1243.22	805.89	135.	132.	0.147	45.55	1.746	BI-214	D
1294.69	839.16	138.	70.	0.078	91.27	1.067	-	sM
1351.81	876.20	83.	26.	0.029	159.88	1.603	TB-160	sM
1405.33	910.91	152.	62.	0.069	107.72	1.394	AC-228	
1440.96	934.01	144.	310.	0.344	26.36	1.835	BI-214	
1487.24	964.07	97.	47.	0.052	99.65	1.887	EU-152	D
1648.33	1068.50	104.	30.	0.033	183.50	0.965	-	s

ORTEC Spectrum name: SMP HS 123.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1748.30	1133.34	88.	35.	0.039	148.21	1.690	J-135	s
1781.65	1154.97	86.	161.	0.179	39.54	2.070	BI-214	
1909.45	1237.88	92.	402.	0.446	20.12	2.018	BI-214	
1927.68	1249.70	67.	18.	0.020	229.16	1.693	KR-88	s
1975.96	1281.02	52.	121.	0.134	41.26	2.557	BI-214	
2124.86	1377.55	51.	312.	0.347	19.56	2.297	BI-214	D
2137.45	1385.71	69.	46.	0.051	89.36	2.306	AG-110M	D
2161.50	1401.31	55.	99.	0.110	43.70	2.323	BI-214	D
2171.64	1407.89	65.	153.	0.170	33.09	2.330	BI-214	D
2327.06	1508.81	98.	178.	0.198	40.87	2.646	BI-214	s
2442.03	1583.41	42.	37.	0.041	96.62	1.978	-	s
2561.51	1660.95	37.	72.	0.080	60.72	2.886	BI-214	s
2667.83	1729.95	22.	177.	0.197	28.34	2.037	BI-214	s
2849.42	1847.82	7.	117.	0.130	31.25	2.334	BI-214	
3268.33	2119.77	3.	61.	0.068	41.63	2.422	BI-214	
3398.99	2204.61	3.	238.	0.265	19.88	2.605	BI-214	
3773.94	2448.11	0.	86.	0.096	32.35	2.354	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	16.65	10.80	607.	191.	0.212	58.85	1.180	D
Pb-210	70.13	45.45	1318.	122.	0.136	210.30	0.870	s
Th-234	97.87	63.43	895.	0.	0.000	12692.52	1.210	
Th-234	142.45	92.31	848.	38.	0.042	438.45	0.905	
Ra-226	287.34	186.19	1281.	837.	0.930	27.67	1.316	
Pb-212	368.26	238.63	422.	0.	0.000	0.00	0.648	D
Pb-214	373.16	241.80	1590.	1707.	1.897	19.91	1.378	
Pb-214	455.57	295.21	594.	3992.	4.436	5.41	1.356	D
Tl-210	459.88	298.00	2360.	56.	0.063	368.43	1.358	D
Pb-212	463.10	300.09	686.	8.	0.009	1373.95	1.359	D
Ac-228	524.89	340.13	531.	54.	0.060	302.99	1.258	s
Pb-214	542.75	351.71	808.	6616.	7.351	4.31	1.382	
Tl-208	788.26	510.84	388.	103.	0.115	86.17	1.509	D
Tl-208	899.80	583.14	177.	30.	0.034	194.78	1.564	D
Bi-214	939.67	608.98	290.	5572.	6.191	4.32	1.636	
Cs-137	1020.86	661.62	136.	9.	0.010	545.04	1.626	D
Bi-212	1121.96	727.17	129.	25.	0.027	204.67	1.680	D
Pa-234m	1182.48	766.41	512.	30.	0.034	320.33	1.713	D
Tl-210	1233.83	799.70	71.	2.	0.002	2361.66	1.741	D
Tl-208	1325.88	859.39	94.	62.	0.068	117.61	2.841	s
Ac-228	1405.60	911.08	182.	0.	0.000	5723.64	1.839	
Ac-228	1495.08	969.11	85.	7.	0.007	610.74	1.891	D

ORTEC Spectrum name: SMP HS 123.An1

Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pa-234m	1542.76	1000.03	32.	8.	0.009	293.33	0.631s
Bi-214	1727.93	1120.13	112.	1314.	1.460	9.38	2.087
Tl-210	2021.25	1310.40	70.	23.	0.026	208.83	0.543s
K-40	2252.99	1460.75	70.	318.	0.353	22.38	2.129
Bi-212	2499.43	1620.66	42.	39.	0.043	120.34	1.660s
Bi-214	2721.47	1764.77	25.	852.	0.946	10.90	2.423
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

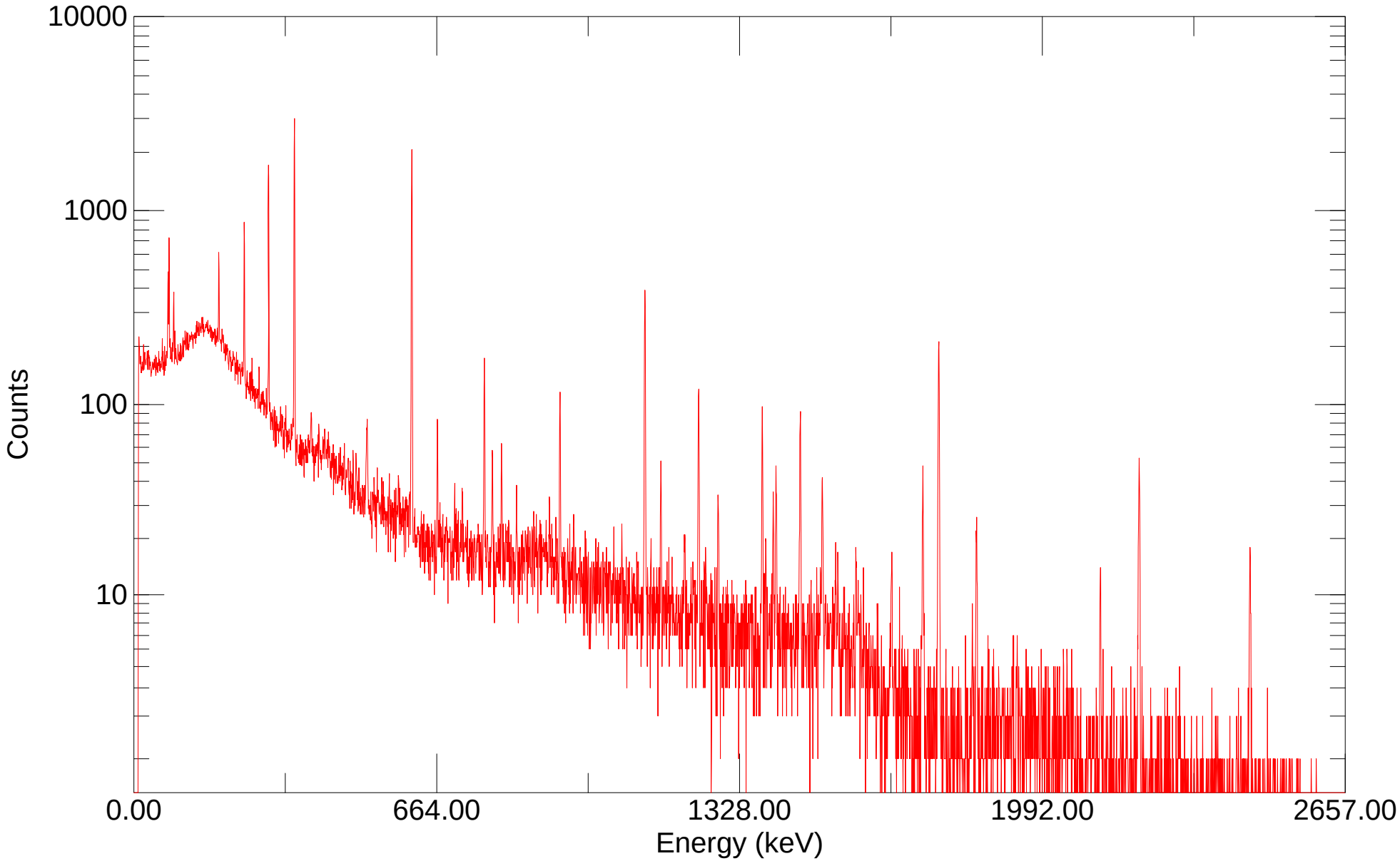
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: ____ _____

Supervisor

SMP HS 123

SMP HS 123 12_04_07



Acquired: 12/4/2007 10:59:50 AM Real Time: 912.02 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 124.An1

Sample description
SMP HS 124 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 124.An1

Acquisition information
Start time:	04-Dec-2007 11:28:35
Live time:	900
Real time:	926
Dead time:	2.79 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 124.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 124.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0953

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	3 Sigma %	FWHM keV	Suspected Nuclide	
82.31	53.34	3602.	296.	0.329	129.98	1.354	LU-177	s
115.44	74.84	5523.	3210.	3.566	11.16	1.217	BI-207	D
119.14	77.24	5981.	5381.	5.979	7.34	1.218	PB-214	D
134.73	87.27	3473.	2005.	2.228	14.15	1.224	PB-214	D
138.93	89.99	3578.	749.	0.832	35.62	1.226	PB-214	D
349.63	226.55	2462.	174.	0.193	162.13	1.308	PA-234	M
399.62	258.95	3294.	572.	0.636	71.70	1.476	XE-138	s
423.39	274.36	2724.	513.	0.570	69.52	1.341	SR-91	s
434.62	281.63	2100.	213.	0.237	138.45	1.508	YB-175	s
499.44	323.64	1890.	211.	0.234	146.42	2.198	CR-51	s
596.80	386.81	1444.	222.	0.247	75.39	1.419	-	D
599.90	388.82	1513.	226.	0.251	75.66	1.420	RH-106M	D
625.40	405.28	1728.	209.	0.232	141.47	2.203	J-134	sM
701.52	454.41	1080.	243.	0.270	60.42	1.467	TE-131	D
711.59	460.94	1030.	145.	0.161	97.48	1.472	CS-138	D
724.14	469.28	707.	215.	0.239	81.32	3.104	RH-106M	sM
741.36	480.46	763.	206.	0.229	60.51	1.486	W-187	D
750.57	486.43	897.	232.	0.258	58.18	1.491	LA-140	D
788.18	510.70	1244.	202.	0.225	76.88	1.509	TL-208	D
798.12	517.14	663.	65.	0.073	170.86	1.514	J-134	D
822.72	533.17	742.	136.	0.151	143.81	0.945	-	sM
894.90	579.97	852.	252.	0.281	90.44	1.967	KR-89	s
1026.28	665.20	475.	691.	0.767	17.60	1.629	BI-214	D
1052.48	682.12	451.	161.	0.179	103.62	1.773	RH-106M	s

ORTEC Spectrum name: SMP HS 124.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1084.55	702.91	447.	234.	0.260	47.13	2.060	RH-106M	s
1108.72	718.59	446.	324.	0.359	52.62	2.243	RH-106M	s
1185.04	768.04	430.	1938.	2.153	8.19	1.714	BI-214	D
1212.21	785.68	550.	445.	0.494	30.86	1.838	BI-212	
1243.45	805.84	429.	473.	0.526	23.13	1.746	BI-214	D
1266.17	820.45	295.	107.	0.118	74.29	1.759	PA-234	D
1274.29	825.72	388.	72.	0.080	121.11	1.763	PA-234	D
1294.11	838.79	505.	238.	0.264	50.18	2.069	J-135	sM
1440.75	933.88	480.	1046.	1.162	14.30	1.970	BI-214	
1486.79	963.99	305.	147.	0.164	56.09	1.886	EU-152	D
1622.15	1051.52	288.	127.	0.141	72.43	2.238	CS-136	
1782.01	1155.21	380.	509.	0.566	25.28	2.144	BI-214	
1862.82	1207.63	310.	165.	0.183	64.28	1.547	-	s
1909.84	1238.13	338.	1594.	1.771	9.92	2.107	BI-214	
1932.72	1252.97	271.	142.	0.158	68.12	2.846	KR-88	s
1976.04	1281.07	293.	406.	0.451	28.46	2.321	BI-214	
2125.05	1377.61	205.	1071.	1.190	10.78	2.298	BI-214	D
2137.42	1385.64	217.	196.	0.218	38.43	2.306	AG-110M	D
2161.62	1401.42	216.	354.	0.394	23.74	2.323	BI-214	D
2171.87	1408.06	228.	660.	0.734	15.18	2.330	EU-152	D
2327.86	1509.33	308.	518.	0.576	20.76	2.307	BI-214	
2349.68	1523.49	178.	62.	0.069	112.76	2.044	K-42	
2372.54	1537.97	244.	128.	0.142	58.07	2.474	RB-89	D
2382.27	1544.28	256.	75.	0.083	97.20	2.481	-	D
2441.72	1583.21	257.	262.	0.291	42.40	1.510	-	s
2465.03	1598.34	231.	144.	0.160	68.08	1.367	EU-154	s
2562.49	1661.59	110.	232.	0.257	33.17	2.135	BI-214	
2667.78	1729.92	127.	610.	0.678	16.58	2.725	BI-214	
2834.75	1838.32	67.	79.	0.087	55.83	2.829	RH-106M	D
2849.56	1847.93	56.	426.	0.473	16.34	2.841	BI-214	D
3267.89	2119.48	21.	216.	0.240	23.85	2.605	BI-214	
3399.20	2204.74	22.	906.	1.007	10.58	2.748	BI-214	
3537.05	2294.26	10.	72.	0.079	44.22	1.691	-	s
3774.54	2448.50	0.	255.	0.283	18.79	2.793	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.87	11.59	2403.	2170.	2.411	17.15	3.001s
Pb-210	71.44	46.30	3588.	598.	0.665	64.86	1.065s
Th-234	96.89	62.79	4512.	258.	0.287	175.65	2.736s
Th-234	143.21	92.80	3776.	118.	0.131	223.39	1.228D
Ra-226	287.36	186.20	6845.	4113.	4.570	15.50	1.354

ORTEC Spectrum name: SMP HS 124.An1

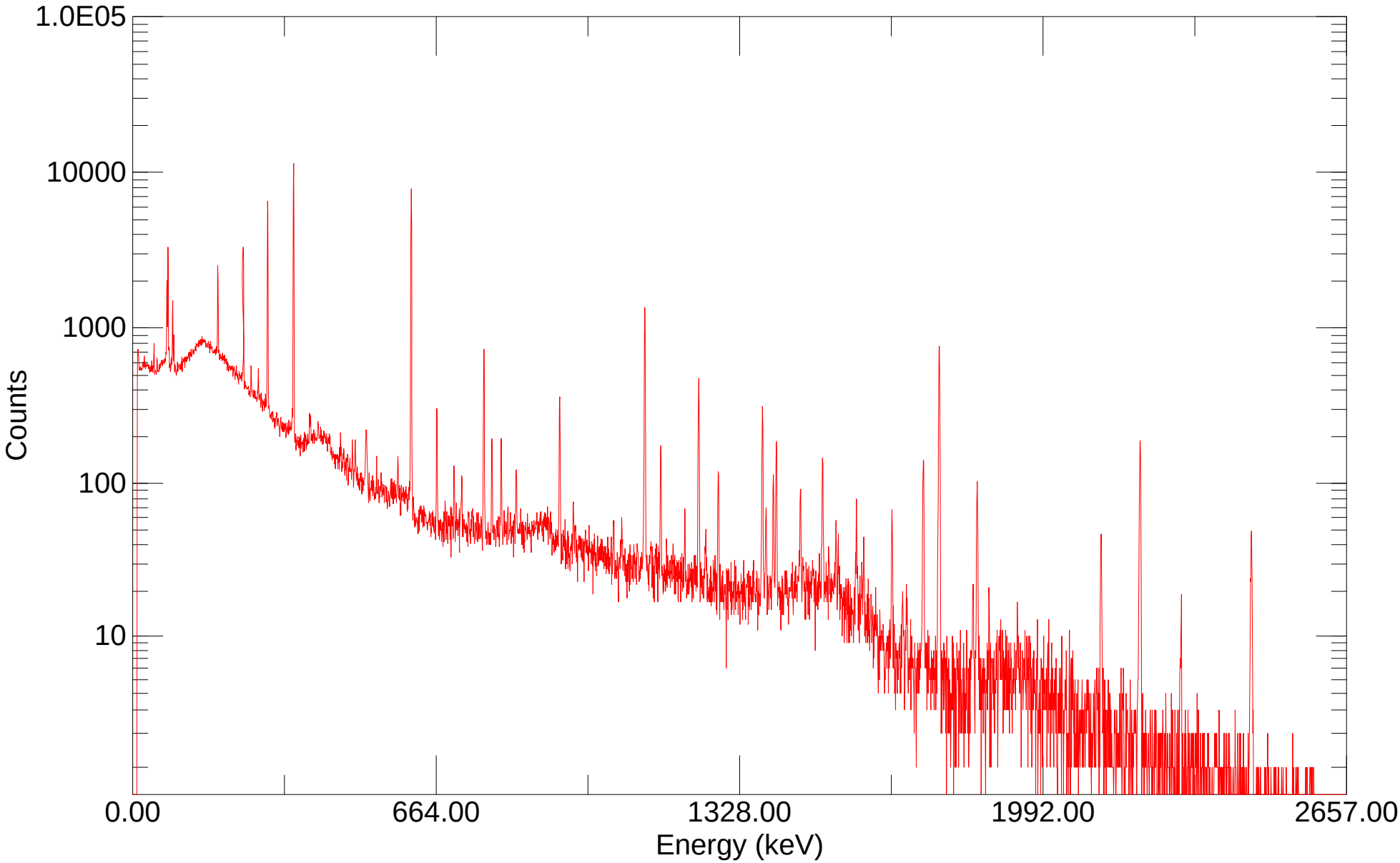
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	368.26	238.63	1438.	0.	0.000	0.00	0.195D
Pb-214	373.28	241.88	4320.	6684.	7.427	8.10	1.405
Pb-214	455.57	295.21	2077.	15042.	16.713	2.76	1.356D
Tl-210	459.88	298.00	8845.	124.	0.138	321.73	1.358D
Pb-212	463.10	300.09	2268.	33.	0.037	614.83	1.359D
Ac-228	521.16	337.72	1822.	146.	0.162	207.92	1.394s
Pb-214	542.77	351.72	2455.	25103.	27.892	2.14	1.388
Tl-208	788.26	510.84	1205.	241.	0.268	64.02	1.509D
Tl-208	899.80	583.14	500.	0.	0.000	0.00	1.131D
Bi-214	939.70	609.01	952.	20767.	23.074	2.22	1.608
Cs-137	1020.86	661.62	437.	21.	0.023	430.90	1.626D
Bi-212	1124.04	728.52	381.	13.	0.014	711.49	1.451
Pa-234m	1182.48	766.41	2108.	57.	0.063	344.93	1.713D
Tl-210	1233.83	799.70	314.	35.	0.039	218.56	1.741D
Tl-208	1325.87	859.38	434.	84.	0.093	193.74	2.961s
Ac-228	1409.49	913.61	615.	56.	0.062	241.27	0.670s
Ac-228	1495.08	969.11	329.	101.	0.112	82.26	1.891D
Pa-234m	1541.11	998.96	370.	46.	0.051	217.38	1.015s
Bi-214	1727.96	1120.15	525.	4383.	4.870	5.51	2.024
Tl-210	2021.00	1310.24	69.	0.	0.000	3214.03	0.000s
K-40	2252.56	1460.47	347.	295.	0.328	40.20	2.302
Bi-212	2497.45	1619.38	58.	14.	0.016	244.32	1.219s
Bi-214	2721.50	1764.79	121.	3234.	3.593	5.72	2.604
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 124

SMP HS 124 12_04_07



Acquired: 12/4/2007 11:28:35 AM Real Time: 925.84 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 125.An1

Sample description
SMP HS 125 12_04_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 125.An1

Acquisition information
Start time:	04-Dec-2007 11:49:37
Live time:	900
Real time:	910
Dead time:	1.06 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 125.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 125.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1582

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
18.68	11.01	236.	256.	0.284	49.72	3.481	PB-214	s
115.05	74.43	303.	129.	0.144	62.80	1.217	BI-207	D
119.57	77.37	455.	187.	0.207	53.27	1.219	BI-207	D
134.76	87.32	324.	82.	0.091	99.22	1.224	PB-214	D
246.42	159.67	354.	68.	0.075	180.98	0.816	-	
581.19	376.62	54.	37.	0.041	128.97	1.819	-	sM
787.90	510.60	139.	120.	0.134	58.97	1.566	TL-208	s
1185.13	768.04	46.	81.	0.090	48.85	1.714	BI-214	D
1212.00	785.55	33.	43.	0.048	81.51	1.257	BI-212	s
1441.47	934.35	36.	65.	0.072	60.71	1.022	BI-214	s
1909.88	1238.15	51.	76.	0.084	65.04	1.853	BI-214	
2124.87	1377.63	20.	51.	0.057	61.97	1.992	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 125.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	159.	0.	0.000	0.00	1.260D
Pb-210	73.12	47.39	256.	60.	0.066	175.33	2.715s
Th-234	99.58	64.53	294.	61.	0.068	182.96	1.020s
Th-234	143.21	92.80	380.	23.	0.026	365.14	1.228D
Ra-226	287.41	186.24	364.	256.	0.284	53.39	1.575s
Pb-212	368.26	238.63	158.	0.	0.000	0.00	1.296D
Pb-214	373.61	242.10	300.	272.	0.302	50.21	1.344s
Pb-214	455.57	295.21	152.	540.	0.600	16.13	1.356D
Tl-210	459.88	298.00	380.	4.	0.004	2263.93	1.358D
Pb-212	463.10	300.09	170.	0.	0.000	5531.73	1.359D
Ac-228	521.15	337.71	138.	74.	0.082	126.94	1.176s
Pb-214	542.72	351.69	176.	865.	0.961	12.81	1.360
Tl-208	788.22	510.81	199.	0.	0.000	5984.98	1.509
Tl-208	899.57	582.99	49.	36.	0.040	133.46	1.860
Bi-214	939.76	609.05	75.	773.	0.859	12.19	1.588
Cs-137	1020.79	661.57	32.	6.	0.007	380.10	0.563s
Bi-212	1121.18	726.66	38.	13.	0.014	217.71	0.749s
Pa-234m	1182.48	766.41	117.	5.	0.006	874.95	1.713D
Tl-210	1232.43	798.79	19.	6.	0.006	329.19	0.621s
Tl-208	1327.22	860.26	42.	17.	0.019	194.92	1.657
Ac-228	1404.65	910.47	40.	34.	0.038	104.65	1.770
Ac-228	1493.98	968.40	62.	36.	0.039	134.75	1.087s
Pa-234m	1542.83	1000.08	22.	27.	0.030	105.02	0.967s
Bi-214	1728.05	1120.21	71.	182.	0.202	35.08	1.965
Tl-210	2020.00	1309.59	5.	0.	0.000	821.58	0.000s
K-40	2253.47	1461.06	13.	299.	0.332	18.51	2.075
Bi-212	2499.00	1620.39	2.	0.	0.000	519.62	0.000s
Bi-214	2721.76	1764.96	3.	150.	0.167	25.25	2.021
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

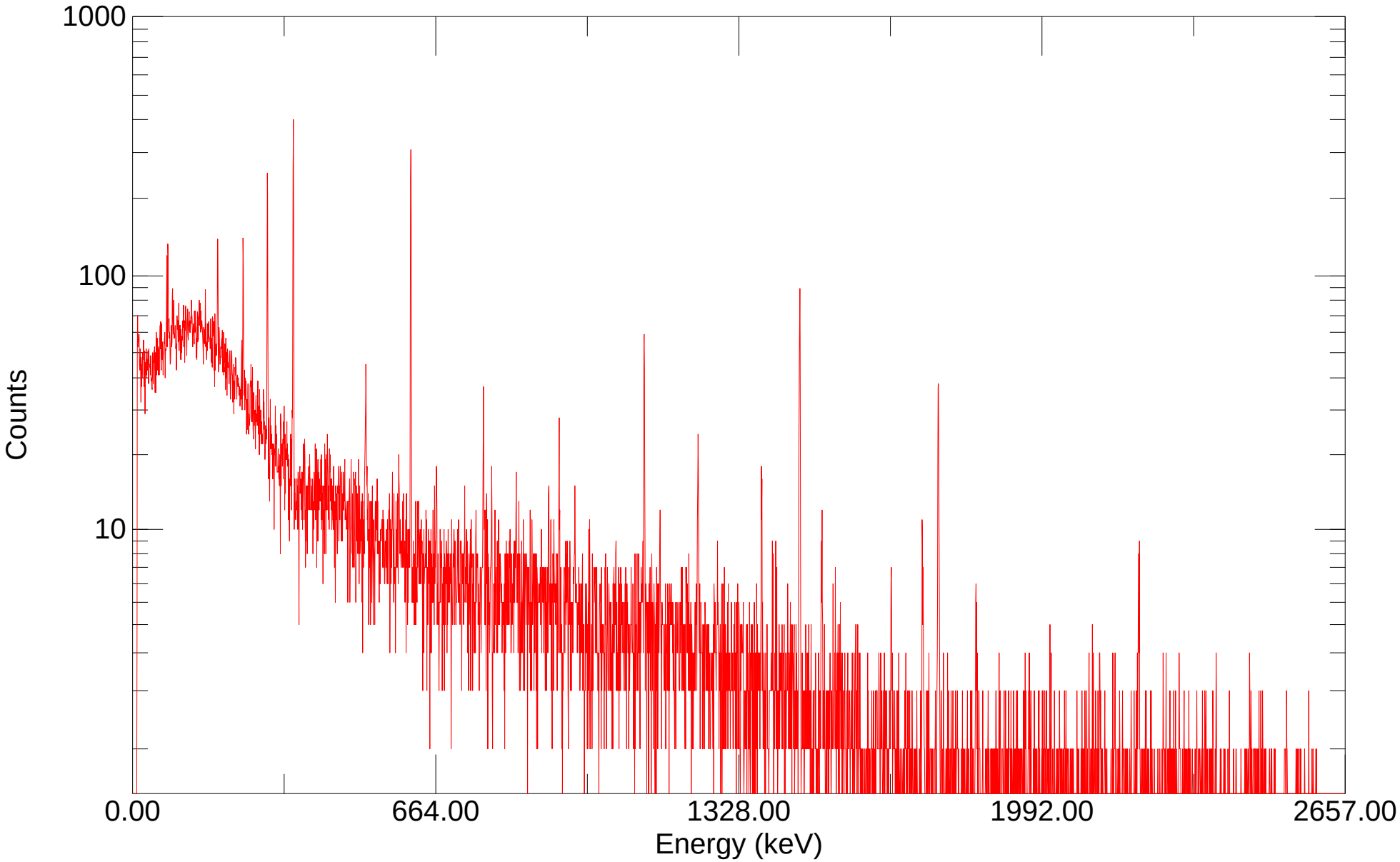
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 125

SMP HS 125 12_04_07



Acquired: 12/4/2007 11:49:37 AM Real Time: 909.68 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 126.An1

Sample description
SMP HS 126 12_06_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 126.An1

Acquisition information
Start time:	06-Dec-2007 10:43:31
Live time:	900
Real time:	912
Dead time:	1.29 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 126.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 126.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1220

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.40	53.40	1242.	222.	0.247	102.81	1.642	LU-177	s
115.45	74.85	1998.	1190.	1.322	18.16	1.217	BI-207	D
119.13	77.24	2142.	2152.	2.391	11.18	1.218	PB-214	D
134.70	87.31	1286.	778.	0.864	22.32	1.224	PB-214	D
138.87	90.02	1342.	299.	0.333	54.74	1.226	PB-214	D
301.94	195.65	1608.	223.	0.248	122.29	1.629	KR-88	sM
366.97	237.86	1099.	118.	0.131	122.02	1.318	PB-212	D
399.27	258.72	1220.	196.	0.218	126.85	1.250	XE-138	
423.89	274.68	777.	261.	0.290	70.46	2.490	SR-91	s
597.57	387.24	720.	168.	0.187	124.01	1.401	-	sM
788.55	511.00	457.	118.	0.131	81.87	1.509	TL-208	D
810.47	525.23	147.	58.	0.064	131.46	1.804	J-135	M
844.09	547.03	129.	55.	0.061	130.34	1.078	J-132	M
894.18	579.46	218.	89.	0.099	77.37	1.561	KR-89	D
1026.40	665.49	153.	290.	0.322	25.23	1.629	BI-214	D
1084.42	702.83	208.	175.	0.194	71.41	1.560	RH-106M	sM
1110.47	719.72	132.	95.	0.106	86.77	1.804	SB-126	s
1185.19	768.16	264.	674.	0.749	17.31	1.978	BI-214	
1212.41	785.81	208.	165.	0.183	51.07	1.862	PB-214	sM
1243.54	806.15	139.	136.	0.151	44.85	1.746	BI-214	D
1293.87	838.63	188.	98.	0.109	78.76	2.110	J-135	sM
1440.63	933.80	180.	360.	0.400	25.40	1.809	BI-214	s
1782.24	1155.36	124.	182.	0.203	40.12	2.093	BI-214	sM
1909.81	1238.10	121.	582.	0.646	16.20	1.850	BI-214	M

ORTEC Spectrum name: SMP HS 126.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1976.34	1281.27	91.	172.	0.191	38.03	2.216	BI-214	M
2125.29	1377.89	64.	400.	0.444	17.23	2.298	BI-214	D
2137.25	1385.65	56.	107.	0.119	41.47	2.306	AG-110M	D
2161.45	1401.24	92.	109.	0.122	46.87	2.323	BI-214	D
2172.07	1408.13	80.	201.	0.223	28.35	2.330	EU-152	D
2328.17	1509.53	96.	173.	0.192	39.73	2.276	BI-214	s
2349.94	1523.66	48.	12.	0.013	278.39	0.859	K-42	s
2441.67	1583.18	48.	96.	0.106	50.82	2.180	-	s
2562.66	1661.70	38.	110.	0.123	45.73	2.631	BI-214	s
2668.32	1730.27	38.	230.	0.255	26.61	2.492	BI-214	
2849.89	1848.12	21.	135.	0.150	32.89	1.931	BI-214	s
3268.04	2119.58	7.	94.	0.105	35.30	3.151	BI-214	
3399.32	2204.82	7.	340.	0.378	17.01	2.460	BI-214	
3775.73	2449.27	0.	82.	0.091	33.13	1.928	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.64	11.44	844.	647.	0.719	32.35	2.175s
Pb-210	71.54	46.37	1638.	386.	0.429	75.33	1.275s
Th-234	103.00	66.75	2319.	95.	0.105	258.28	0.000s
Th-234	143.21	92.80	1186.	48.	0.053	310.62	1.228D
Ra-226	287.24	186.13	1880.	1586.	1.762	19.83	1.378s
Pb-212	368.26	238.63	1220.	0.	0.000	0.00	1.615D
Pb-214	373.43	241.98	1042.	2435.	2.705	8.28	1.321D
Pb-214	455.57	295.21	642.	5297.	5.886	4.59	1.356D
Tl-210	459.88	298.00	3224.	56.	0.062	430.75	1.358D
Pb-212	463.10	300.09	787.	67.	0.074	182.02	1.359D
Ac-228	523.63	339.32	382.	40.	0.044	281.96	0.784
Pb-214	542.81	351.75	886.	8574.	9.526	3.68	1.307
Tl-208	788.26	510.84	466.	105.	0.117	91.78	1.509D
Tl-208	899.80	583.14	252.	42.	0.046	168.07	1.564D
Bi-214	939.78	609.06	366.	7337.	8.152	3.78	1.564
Cs-137	1020.86	661.62	137.	34.	0.038	154.40	1.626D
Bi-212	1121.96	727.17	112.	0.	0.000	0.00	1.297D
Pa-234m	1182.48	766.41	448.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	145.	28.	0.031	193.14	1.741D
Tl-208	1329.08	861.46	225.	73.	0.081	115.76	3.819s
Ac-228	1405.91	911.29	208.	85.	0.094	93.98	0.970s
Ac-228	1494.42	968.68	111.	31.	0.034	169.98	0.819s
Pa-234m	1542.76	1000.04	132.	34.	0.038	182.97	1.617s
Bi-214	1728.12	1120.25	145.	1543.	1.715	8.75	2.084
Tl-210	2019.33	1309.15	72.	18.	0.020	254.95	1.180s

ORTEC Spectrum name: SMP HS 126.An1

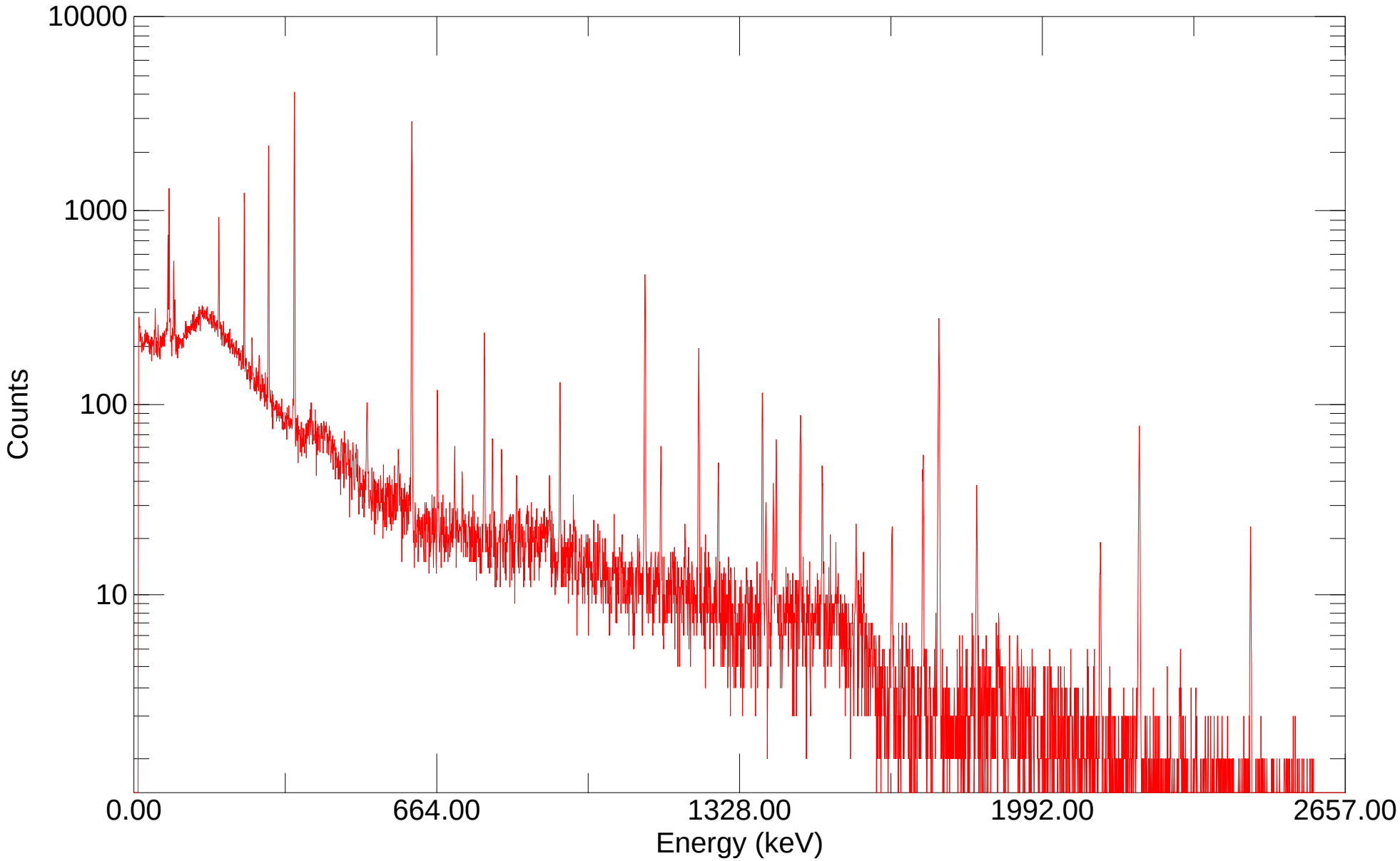
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
K-40	2253.50	1461.08	126.	296.	0.329	28.67	2.039
Bi-212	2505.48	1624.59	39.	12.	0.013	291.01	1.370s
Bi-214	2721.86	1765.02	31.	1131.	1.256	9.38	2.448
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 126

SMP HS 126 12_06_07



Acquired: 12/6/2007 10:43:31 AM Real Time: 911.76 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 127.An1

Sample description
SMP HS 127 12_06_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 127.An1

Acquisition information
Start time:	06-Dec-2007 11:04:12
Live time:	900
Real time:	913
Dead time:	1.39 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 127.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 127.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1346

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.38	74.80	2033.	1133.	1.259	19.09	1.217	BI-207	D
119.11	77.21	1862.	1974.	2.193	11.47	1.218	PB-214	D
128.96	83.54	1161.	129.	0.143	115.54	1.222	HG-203	D
134.74	87.29	1386.	714.	0.793	24.80	1.224	PB-214	D
138.73	89.88	1784.	330.	0.366	56.83	1.226	PB-214	D
150.55	97.53	1231.	107.	0.119	142.08	1.230	GD-153	D
399.60	258.94	1016.	239.	0.266	91.55	1.438	XE-138	s
599.12	388.25	682.	224.	0.249	91.40	1.607	RH-106M	sM
670.97	434.81	332.	92.	0.103	129.27	1.348	XE-138	sM
701.10	454.34	410.	144.	0.160	106.31	2.145	TE-131	sM
732.03	474.51	243.	78.	0.086	91.55	1.482	RH-106M	D
742.09	481.04	311.	116.	0.129	70.37	1.487	HF-181	D
751.27	486.99	225.	135.	0.150	53.82	1.491	LA-140	D
822.56	533.07	266.	68.	0.075	173.72	0.992	-	sM
894.16	579.66	186.	89.	0.099	71.96	1.561	KR-89	D
912.73	591.52	111.	44.	0.049	150.62	1.231	EU-154	
1026.60	665.07	174.	214.	0.238	33.18	1.629	BI-214	D
1084.50	702.88	98.	111.	0.123	63.50	1.919	RH-106M	M
1110.33	719.63	74.	82.	0.091	74.74	1.789	SB-126	
1185.33	768.18	162.	630.	0.700	14.71	1.714	BI-214	D
1211.82	785.43	232.	175.	0.195	51.64	1.518	BI-212	M
1243.42	805.74	161.	186.	0.206	36.45	1.746	PA-234	D
1293.81	838.60	198.	84.	0.093	92.99	1.857	J-135	M
1441.09	934.10	158.	339.	0.377	24.79	1.926	BI-214	

ORTEC Spectrum name: SMP HS 127.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1487.19	963.99	145.	54.	0.060	102.86	1.887	EU-152	D
1781.81	1155.08	147.	178.	0.198	45.02	1.733	BI-214	M
1863.36	1207.97	90.	49.	0.054	104.08	1.531	-	M
1909.88	1238.15	162.	522.	0.579	19.88	2.198	BI-214	M
1975.93	1280.84	92.	147.	0.163	37.25	2.196	BI-214	D
1986.95	1287.99	59.	32.	0.035	116.08	2.203	TA-182	D
2125.29	1377.87	81.	351.	0.390	19.35	2.298	BI-214	D
2136.73	1385.29	80.	75.	0.083	61.64	2.306	AG-110M	D
2162.00	1401.58	77.	134.	0.148	38.16	2.323	BI-214	D
2172.27	1408.24	82.	219.	0.243	26.81	2.330	EU-152	D
2327.94	1509.38	76.	159.	0.177	37.66	2.246	BI-214	
2562.69	1661.72	34.	83.	0.092	52.79	1.469	BI-214	s
2667.99	1730.06	21.	243.	0.270	22.15	2.660	BI-214	
2849.68	1847.98	27.	142.	0.158	33.40	2.097	BI-214	
3399.53	2204.96	3.	286.	0.317	18.19	2.304	BI-214	s
3774.75	2448.63	0.	107.	0.119	29.00	2.842	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.63	11.44	784.	662.	0.736	30.68	2.382s
Pb-210	71.97	46.65	1225.	286.	0.318	79.88	1.393s
Th-234	98.37	63.75	1864.	101.	0.112	288.30	0.990s
Th-234	143.21	92.80	1454.	47.	0.053	344.52	1.228D
Ra-226	287.45	186.26	2563.	1519.	1.688	26.63	1.350s
Pb-212	368.26	238.63	828.	0.	0.000	0.00	1.587D
Pb-214	373.29	241.89	1106.	2146.	2.384	11.80	1.310
Pb-214	455.57	295.21	768.	5100.	5.666	4.79	1.356D
Tl-210	459.88	298.00	3156.	56.	0.062	425.90	1.358D
Pb-212	463.10	300.09	799.	67.	0.074	184.10	1.359D
Ac-228	523.88	339.48	603.	99.	0.110	177.10	1.296s
Pb-214	542.81	351.75	994.	8284.	9.204	3.87	1.401
Tl-208	788.40	510.93	401.	375.	0.417	32.43	2.870s
Tl-208	899.80	583.14	231.	44.	0.049	153.74	1.564D
Bi-214	939.77	609.05	344.	6984.	7.759	3.86	1.518
Cs-137	1020.86	661.62	186.	20.	0.022	293.63	1.626D
Bi-212	1121.96	727.17	116.	0.	0.000	0.00	1.262D
Pa-234m	1182.48	766.41	713.	4.	0.004	3156.43	1.713D
Tl-210	1233.83	799.70	62.	12.	0.014	286.24	1.741D
Tl-208	1322.68	857.31	168.	11.	0.012	602.92	0.611s
Ac-228	1405.18	910.81	160.	48.	0.053	133.79	1.815
Ac-228	1495.08	969.11	134.	30.	0.033	171.99	1.891D
Pa-234m	1545.66	1001.92	76.	19.	0.021	212.01	2.360s

ORTEC Spectrum name: SMP HS 127.An1

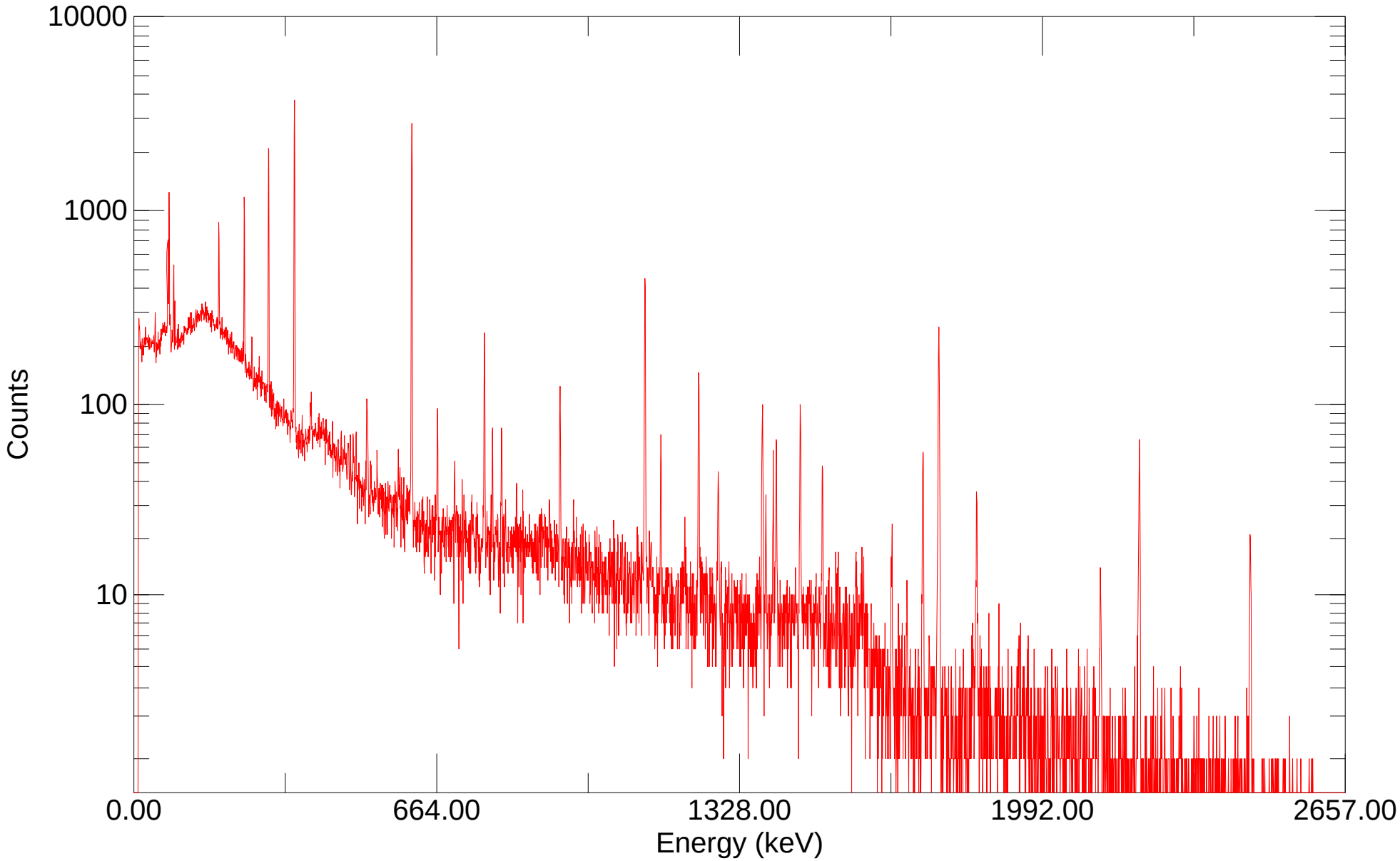
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	1728.20	1120.31	178.	1446.	1.607	9.43	1.995
Tl-210	2021.34	1310.46	82.	20.	0.023	252.36	0.969s
K-40	2253.35	1460.99	105.	328.	0.364	25.01	1.780
Bi-212	2499.00	1620.39	10.	0.	0.001	1152.17	0.000s
Bi-214	2721.82	1764.99	27.	1052.	1.169	9.71	2.583
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 127

SMP HS 127 12_06_07



Acquired: 12/6/2007 11:04:12 AM Real Time: 912.70 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 128.An1

Sample description
SMP HS 128 12_06_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 128.An1

Acquisition information
Start time:	06-Dec-2007 11:24:04
Live time:	900
Real time:	905
Dead time:	0.57 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 128.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 128.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1452

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
18.53	11.92	265.	86.	0.096	86.05	1.181	PB-214	D
115.34	74.75	319.	100.	0.111	81.51	1.217	BI-207	D
119.28	77.30	429.	131.	0.145	72.29	1.218	BI-207	D
134.36	87.07	303.	70.	0.078	153.45	1.037	PB-214	
311.93	202.13	174.	60.	0.067	137.48	1.657	U-235	s
787.42	510.67	130.	56.	0.062	95.14	1.509	TL-208	D
1185.63	768.45	59.	69.	0.077	66.41	1.758	BI-214	
1439.66	933.17	31.	56.	0.062	64.51	1.963	BI-214	s
1909.88	1238.15	30.	78.	0.086	50.91	2.509	BI-214	M
3399.78	2205.12	0.	54.	0.060	40.82	1.948	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	167.	71.	0.079	84.63	1.180D
Pb-210	71.39	46.27	248.	78.	0.086	133.86	2.277s
Th-234	98.00	63.51	120.	19.	0.021	282.01	0.648
Th-234	143.00	92.67	142.	14.	0.016	398.38	0.648
Ra-226	287.19	186.10	369.	195.	0.217	72.56	1.270s

ORTEC Spectrum name: SMP HS 128.An1

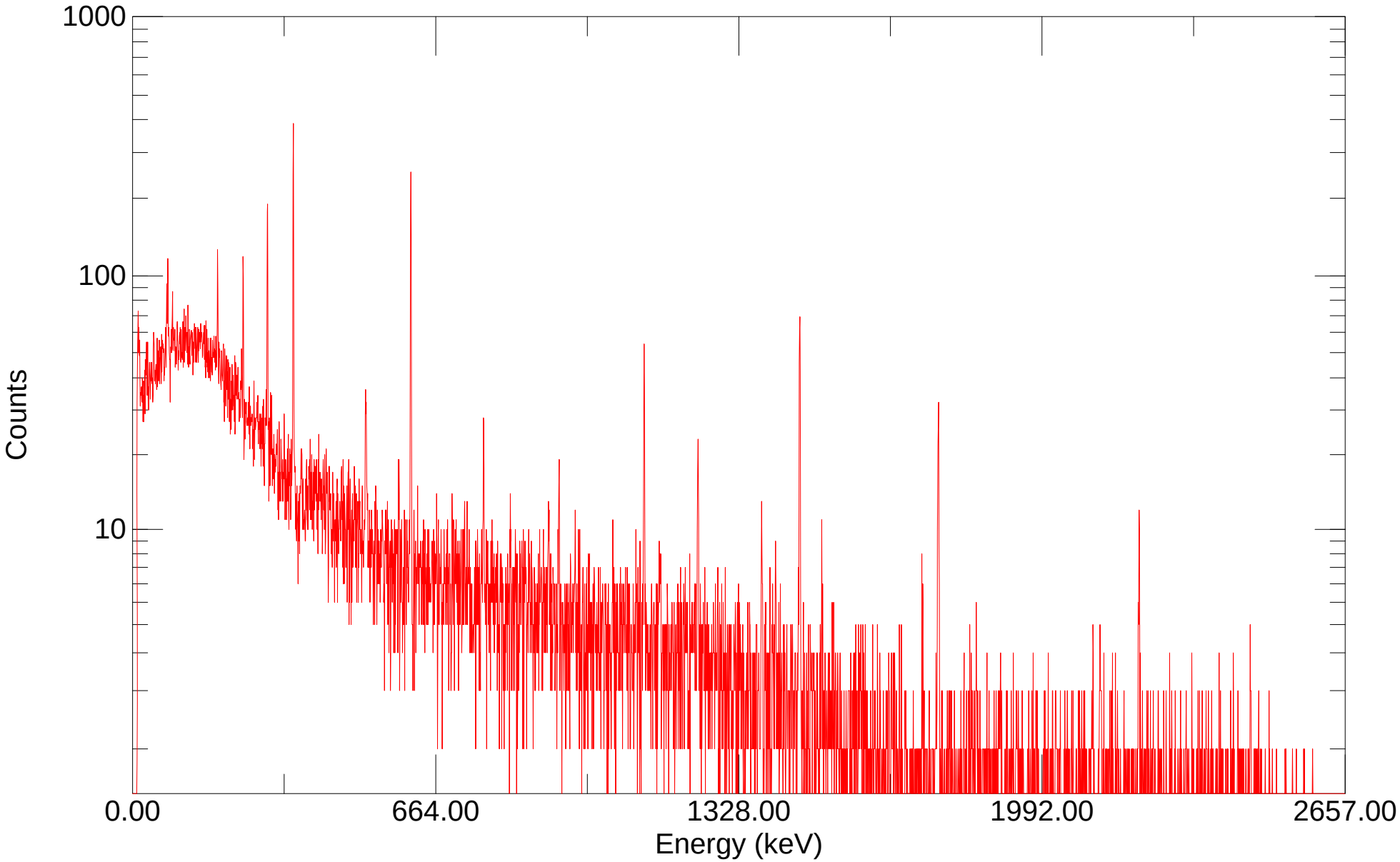
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-212	368.26	238.63	203.	60.	0.066	108.34	1.318D
Pb-214	373.43	241.98	174.	233.	0.259	31.00	1.321D
Pb-214	455.57	295.21	144.	428.	0.476	18.75	1.356D
Tl-210	459.88	298.00	397.	4.	0.004	2384.72	1.358D
Pb-212	463.10	300.09	105.	20.	0.022	232.28	1.359D
Ac-228	524.07	339.60	94.	48.	0.054	147.45	1.208s
Pb-214	542.82	351.76	194.	813.	0.903	13.78	1.313
Tl-208	788.26	510.84	168.	18.	0.020	316.88	1.509D
Tl-208	899.39	582.88	45.	37.	0.041	97.65	0.984
Bi-214	939.79	609.06	72.	669.	0.743	13.53	1.658
Cs-137	1018.15	659.87	44.	7.	0.008	448.81	0.784s
Bi-212	1121.02	726.56	45.	17.	0.019	199.18	1.330
Pa-234m	1182.48	766.41	48.	0.	0.000	0.00	0.928D
Tl-210	1233.35	799.39	29.	10.	0.011	274.28	0.810s
Tl-208	1326.46	859.77	37.	24.	0.027	136.24	1.634s
Ac-228	1404.92	910.65	45.	32.	0.036	115.58	2.356s
Ac-228	1494.42	968.68	38.	26.	0.029	131.82	1.344s
Pa-234m	1539.30	997.79	36.	21.	0.023	162.25	1.008s
Bi-214	1727.89	1120.10	53.	158.	0.175	35.76	1.864
Tl-210	2014.13	1305.78	20.	18.	0.020	156.35	0.912s
K-40	2253.35	1460.99	14.	263.	0.292	20.33	2.392
Bi-212	2500.79	1621.55	2.	13.	0.014	107.09	0.804s
Bi-214	2721.63	1764.87	7.	141.	0.156	28.20	2.584
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 128

SMP HS 128 12_06_07



Acquired: 12/6/2007 11:24:04 AM Real Time: 905.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 129.An1

Sample description
SMP HS 129 12_06_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 129.An1

Acquisition information
Start time: 06-Dec-2007 13:41:53
Live time: 900
Real time: 906
Dead time: 0.70 %
Detector ID: 1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 129.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Efficiency Calibration
Created:
Knee Energy: 0.00 keV
Above the Knee: None Uncertainty = 0.00 %
Below the Knee: None Uncertainty = 0.00 %

Library Files
Main analysis library: Alameda 2007.Lib
Library Match Width: 0.500

Analysis parameters
Analysis engine: wan32 G53W2.07
Start channel: 10 (6.49keV)
Stop channel: 4048 (2626.13keV)
Peak rejection level: 100.000%
Peak search sensitivity: 3
Sample Size: 1.0000E+00
Activity scaling factor: 1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method: Traditional ORTEC method
Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

ORTEC Spectrum name: SMP HS 129.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1144

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.42	74.85	722.	264.	0.293	46.99	1.217	BI-207	D
119.13	77.24	689.	373.	0.415	33.64	1.218	PB-214	D
134.74	87.31	541.	157.	0.175	67.16	1.224	PB-214	D
398.77	258.40	210.	78.	0.087	109.67	1.505	XE-138	
751.84	487.23	81.	96.	0.107	72.72	1.475	LA-140	sM
787.45	510.40	220.	66.	0.074	101.86	1.509	J-133	D
899.74	583.10	44.	26.	0.029	145.04	0.819	TL-208	sM
1026.48	664.94	72.	45.	0.049	92.80	1.629	PA-234	D
1184.54	767.74	108.	162.	0.180	40.12	1.737	BI-214	
1212.76	786.04	87.	67.	0.075	82.37	1.589	PB-214	sM
1243.66	806.06	65.	42.	0.046	94.86	1.746	BI-214	D
1439.71	933.21	64.	118.	0.131	44.07	1.945	BI-214	s
1781.02	1154.57	45.	48.	0.053	81.01	1.703	BI-214	M
1909.79	1238.10	60.	192.	0.213	32.90	1.833	BI-214	sM
2124.97	1377.69	33.	111.	0.124	39.99	2.082	BI-214	
2668.29	1730.25	8.	64.	0.071	45.29	2.033	BI-214	
3399.57	2204.99	4.	111.	0.123	31.14	2.235	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 129.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.79	10.90	210.	73.	0.081	116.82	1.175
Pb-210	72.59	47.05	576.	162.	0.180	106.86	1.113s
Th-234	97.60	63.25	318.	21.	0.023	446.07	1.127
Th-234	143.21	92.80	622.	61.	0.068	177.46	1.228D
Ra-226	287.31	186.17	1012.	729.	0.810	35.18	1.345s
Pb-212	368.26	238.63	416.	22.	0.024	404.67	1.318D
Pb-214	373.43	241.98	428.	600.	0.667	19.06	1.321D
Pb-214	455.57	295.21	236.	1278.	1.420	9.82	1.356D
Tl-210	459.88	298.00	830.	21.	0.023	587.49	1.358D
Pb-212	463.10	300.09	207.	36.	0.040	176.66	1.359D
Ac-228	519.93	336.92	265.	79.	0.088	155.14	1.289s
Pb-214	542.77	351.72	315.	2132.	2.369	7.60	1.334
Tl-208	788.26	510.84	240.	46.	0.051	148.61	1.509D
Tl-208	899.80	583.14	44.	0.	0.000	0.00	0.819D
Bi-214	939.69	609.00	192.	1848.	2.053	8.15	1.613
Cs-137	1020.86	661.62	71.	7.	0.007	555.16	1.626D
Bi-212	1121.70	727.00	29.	7.	0.007	335.41	0.495s
Pa-234m	1182.48	766.41	76.	0.	0.000	0.00	0.412D
Tl-210	1233.83	799.70	48.	4.	0.004	833.00	1.741D
Tl-208	1323.41	857.79	50.	35.	0.039	116.58	2.076s
Ac-228	1406.07	911.39	57.	34.	0.038	118.99	1.398s
Ac-228	1493.73	968.23	48.	20.	0.022	177.48	1.139s
Pa-234m	1544.00	1000.84	16.	1.	0.001	1577.97	0.000s
Bi-214	1727.88	1120.09	54.	454.	0.505	16.62	1.972
Tl-210	2021.36	1310.47	11.	1.	0.001	1179.16	1.874
K-40	2252.95	1460.73	30.	318.	0.353	19.74	1.932
Bi-212	2496.00	1618.44	6.	10.	0.012	159.29	0.529s
Bi-214	2721.80	1764.98	3.	339.	0.376	16.61	2.471
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

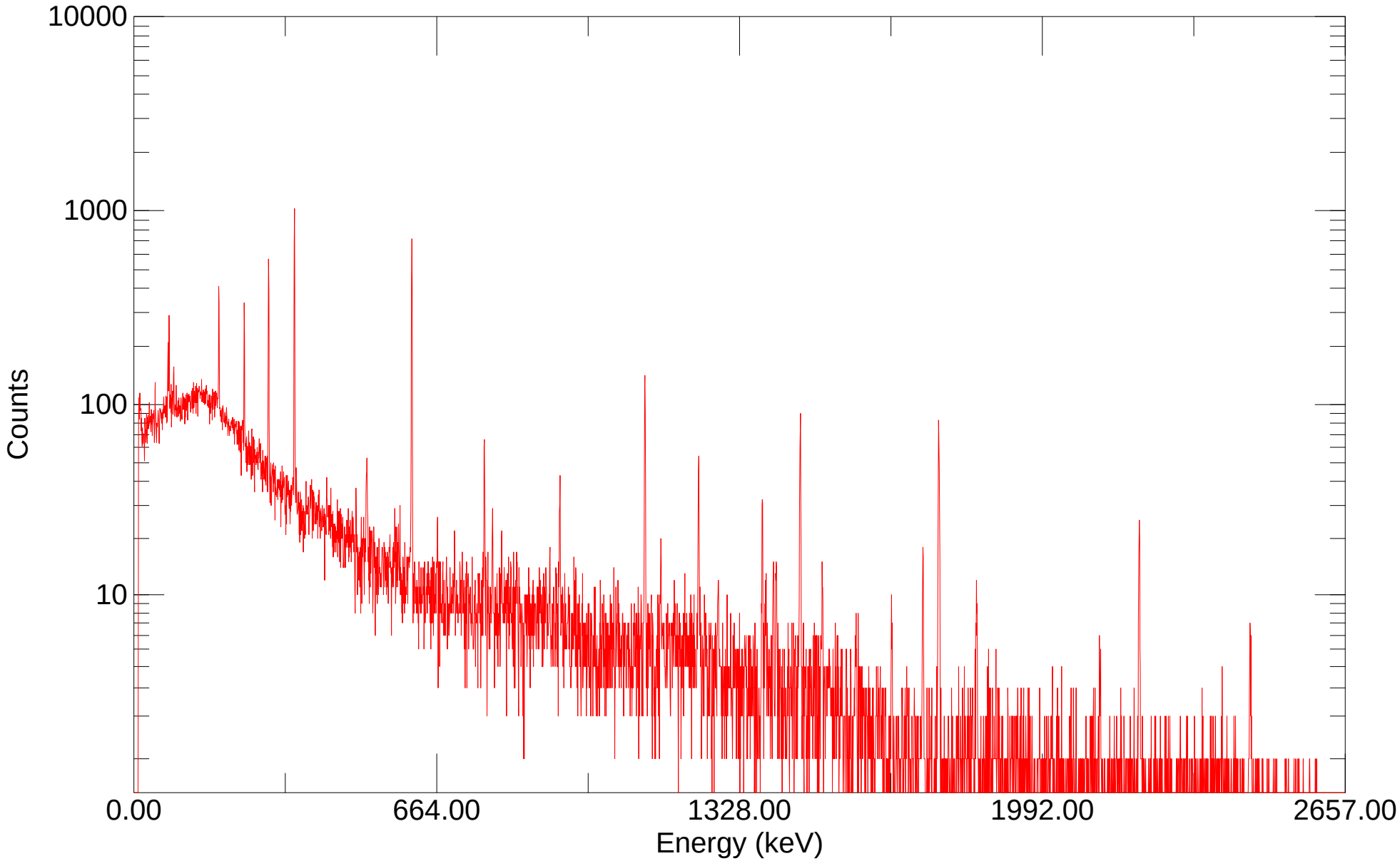
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 129

SMP HS 129 12_06_07



Acquired: 12/6/2007 1:41:53 PM Real Time: 906.30 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 130.An1

Sample description
SMP HS 130 12_06_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 130.An1

Acquisition information
Start time:	06-Dec-2007 14:08:38
Live time:	900
Real time:	921
Dead time:	2.30 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 130.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 130.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1325

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
81.52	52.83	2961.	389.	0.432	90.31	1.898	LU-177	s
115.42	74.82	4894.	2431.	2.701	13.64	1.217	BI-207	D
119.12	77.21	4467.	4045.	4.494	8.45	1.218	PB-214	D
134.64	87.26	2987.	1516.	1.684	17.13	1.224	PB-214	D
138.90	90.02	3123.	623.	0.692	39.92	1.226	PB-214	D
399.54	258.90	2010.	429.	0.477	64.35	1.451	XE-138	
423.72	274.57	2146.	364.	0.405	82.38	1.112	SR-91	s
484.02	313.65	2360.	200.	0.223	186.51	1.004	-	s
596.20	386.31	1332.	223.	0.248	72.36	1.418	-	D
599.94	388.73	1481.	281.	0.313	60.70	1.420	RH-106M	D
626.05	405.70	927.	133.	0.148	139.80	1.023	J-134	M
701.31	454.48	1030.	214.	0.238	107.27	1.264	TE-131	sM
711.96	461.38	888.	157.	0.174	129.56	1.152	CS-138	sM
724.25	469.32	838.	83.	0.093	150.90	1.478	-	D
732.12	474.42	806.	121.	0.135	102.91	1.482	RH-106M	D
740.87	480.09	768.	230.	0.255	54.91	1.486	W-187	D
751.15	486.76	754.	269.	0.299	47.03	1.491	LA-140	D
787.90	510.70	987.	281.	0.312	50.67	1.509	TL-208	D
893.94	579.34	549.	222.	0.247	76.94	1.407	KR-89	s
1026.25	665.10	388.	514.	0.571	20.95	1.629	BI-214	D
1084.48	702.87	516.	256.	0.284	72.88	1.894	RH-106M	sM
1111.04	720.09	374.	186.	0.206	76.54	1.903	SB-126	s
1185.02	767.98	375.	1533.	1.703	9.35	1.714	BI-214	D
1212.09	785.61	511.	386.	0.429	34.83	1.821	BI-212	sM

ORTEC Spectrum name: SMP HS 130.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1243.39	805.81	373.	394.	0.438	25.69	1.746	PA-234	D
1265.77	820.25	333.	68.	0.075	120.04	1.759	PA-234	D
1274.56	825.95	368.	76.	0.085	111.93	1.764	PA-234	D
1294.54	839.07	388.	196.	0.217	53.80	1.682	J-135	M
1440.71	933.85	502.	874.	0.971	17.31	1.763	BI-214	
1487.63	964.25	294.	107.	0.119	73.68	1.887	EU-152	D
1519.12	984.70	114.	65.	0.072	105.35	1.670	KR-88	
1622.95	1052.04	200.	63.	0.070	109.59	2.384	CS-136	s
1650.84	1070.13	296.	113.	0.126	84.00	2.343	J-134	
1702.72	1103.78	244.	60.	0.067	136.64	0.977	-	s
1781.94	1155.16	327.	337.	0.375	33.59	2.148	BI-214	M
1863.03	1207.76	273.	98.	0.109	97.19	1.473	-	M
1886.84	1223.21	140.	29.	0.032	188.59	1.162	RH-106M	sM
1909.71	1238.04	230.	1436.	1.596	9.89	2.161	BI-214	M
1975.73	1280.87	264.	378.	0.421	29.54	2.432	BI-214	sM
2125.06	1377.70	182.	829.	0.921	12.50	2.298	BI-214	D
2137.35	1385.68	180.	159.	0.176	43.03	2.306	AG-110M	D
2161.76	1401.51	158.	299.	0.332	24.86	2.323	BI-214	D
2171.99	1408.14	160.	561.	0.623	15.88	2.330	EU-152	D
2327.86	1509.33	318.	415.	0.461	29.69	1.869	BI-214	
2372.69	1538.43	180.	115.	0.128	56.80	2.474	RB-89	D
2380.90	1543.76	203.	62.	0.069	104.46	2.480	-	D
2442.34	1583.62	147.	141.	0.157	77.21	2.033	-	
2460.49	1595.28	148.	60.	0.067	94.49	2.539	LA-140	D
2466.57	1599.23	176.	84.	0.093	74.53	2.544	EU-154	D
2562.15	1661.37	90.	194.	0.215	32.92	2.266	BI-214	
2667.70	1729.87	72.	519.	0.577	16.42	1.979	BI-214	
2849.43	1847.83	74.	339.	0.377	22.04	2.424	BI-214	
3267.24	2119.06	9.	206.	0.229	22.65	2.346	BI-214	
3399.30	2204.81	18.	722.	0.802	11.71	2.829	BI-214	
3774.78	2448.65	0.	210.	0.233	20.70	1.749	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.22	11.82	2495.	2044.	2.271	19.14	2.457s
Pb-210	72.12	46.74	3178.	312.	0.347	116.23	1.380s
Th-234	96.37	62.45	3105.	46.	0.051	728.16	3.100s
Th-234	143.21	92.80	3404.	106.	0.118	234.31	1.228D
Ra-226	287.25	186.13	5265.	3958.	4.398	13.75	1.341
Pb-212	368.26	238.63	2412.	148.	0.164	143.00	1.318D
Pb-214	373.43	241.98	2561.	5458.	6.064	5.65	1.321D
Pb-214	455.57	295.21	1808.	11926.	13.251	3.14	1.356D

ORTEC Spectrum name: SMP HS 130.An1

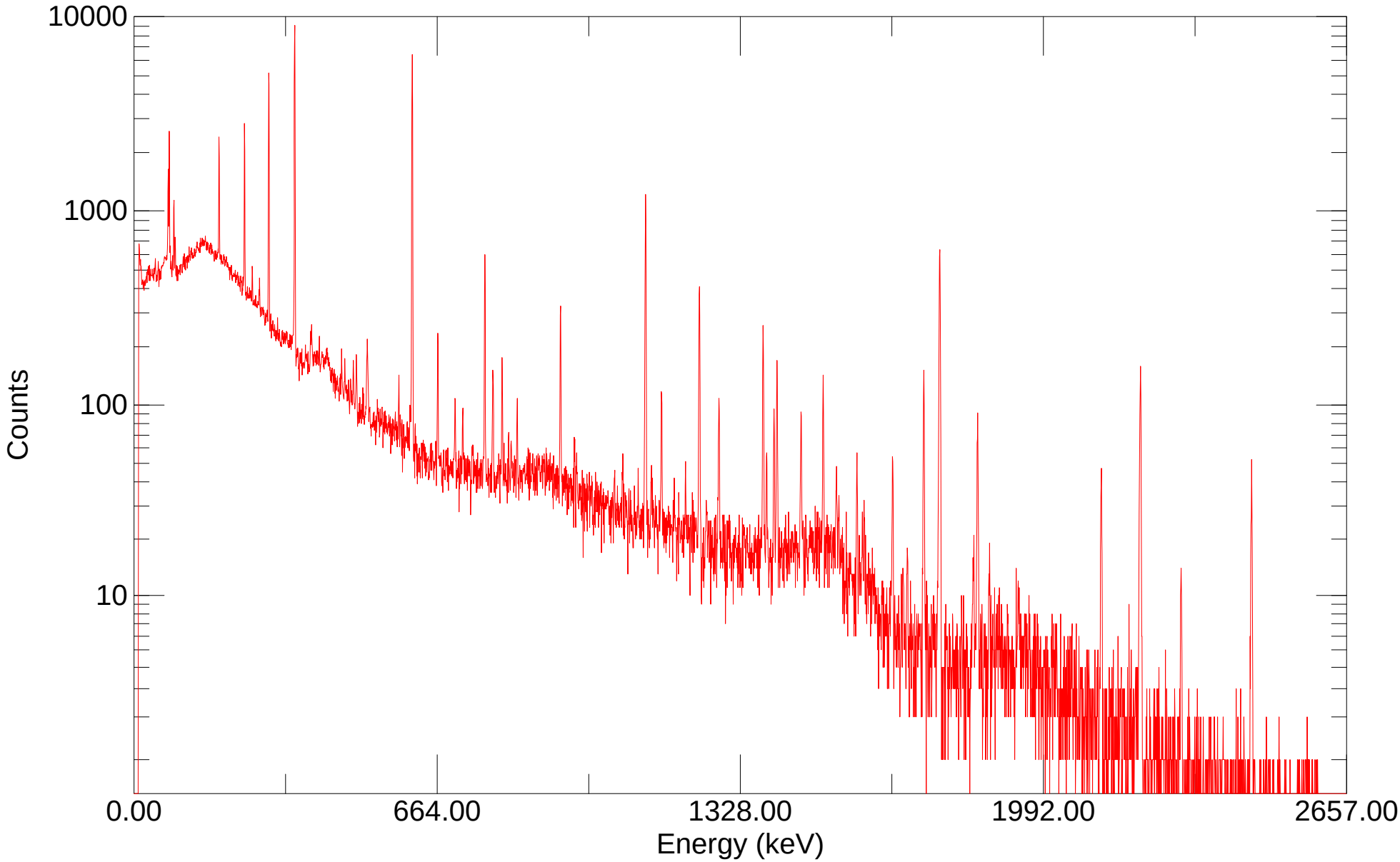
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-210	459.88	298.00	7151.	106.	0.118	339.37	1.358D
Pb-212	463.10	300.09	1492.	81.	0.090	204.43	1.359D
Ac-228	522.57	338.63	992.	38.	0.043	461.80	1.270
Pb-214	542.75	351.71	2400.	20435.	22.706	2.44	1.416
Tl-208	788.26	510.84	1166.	102.	0.113	145.50	1.509D
Tl-208	899.80	583.14	464.	0.	0.000	0.00	2.242D
Bi-214	939.68	608.99	844.	17148.	19.053	2.45	1.644
Cs-137	1020.86	661.62	435.	9.	0.010	1024.73	1.626D
Bi-212	1121.96	727.17	126.	0.	0.000	0.00	0.756D
Pa-234m	1182.48	766.41	1790.	3.	0.003	5963.05	1.713D
Tl-210	1233.83	799.70	333.	24.	0.026	333.20	1.741D
Tl-208	1330.28	862.24	537.	61.	0.067	207.59	0.601s
Ac-228	1405.62	911.10	228.	42.	0.047	220.62	1.410
Ac-228	1495.08	969.11	319.	75.	0.084	106.14	1.891D
Pa-234m	1545.24	1001.64	320.	74.	0.082	130.36	1.978s
Bi-214	1727.97	1120.15	365.	3727.	4.141	5.73	1.885
Tl-210	2024.68	1312.63	126.	16.	0.018	341.13	0.478s
K-40	2253.55	1461.11	249.	326.	0.362	32.98	2.137s
Bi-212	2493.48	1616.81	140.	28.	0.031	238.30	1.311s
Bi-214	2721.45	1764.76	52.	2732.	3.035	5.98	2.581
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 130

SMP HS 130 12_06_07



Acquired: 12/6/2007 2:08:38 PM Real Time: 921.22 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 131.An1

Sample description
SMP HS 131 12_10_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 131.An1

Acquisition information
Start time:	10-Dec-2007 11:36:44
Live time:	900
Real time:	922
Dead time:	2.43 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 131.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 131.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1280

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.77	53.64	1172.	180.	0.199	109.38	1.581	LU-177	s
115.48	74.88	2184.	1593.	1.770	14.54	1.217	BI-207	D
119.13	77.24	2503.	2797.	3.107	9.48	1.218	PB-214	D
134.73	87.29	1683.	926.	1.029	21.23	1.224	PB-214	D
139.05	90.10	1716.	353.	0.392	52.32	1.226	PB-214	D
178.31	115.54	1734.	183.	0.203	138.32	1.335	TE-132	s
399.34	258.77	1498.	346.	0.384	80.46	1.520	XE-138	s
423.74	274.55	914.	231.	0.257	58.80	1.342	SR-91	D
432.90	280.49	1025.	101.	0.112	137.93	1.346	SE-75	D
485.15	314.38	535.	103.	0.114	129.46	1.767	NP-239	s
599.88	388.74	785.	282.	0.313	75.16	2.947	RH-106M	sM
627.32	406.52	770.	170.	0.189	122.13	2.241	RH-106M	sM
712.47	461.71	408.	140.	0.156	100.05	2.003	CS-138	sM
741.59	480.46	379.	119.	0.132	74.54	1.486	W-187	D
751.55	486.92	410.	159.	0.176	59.21	1.491	LA-140	D
788.37	510.90	601.	175.	0.194	63.80	1.509	TL-208	D
837.36	542.66	262.	52.	0.057	204.53	0.931	-	M
895.23	580.09	303.	102.	0.114	78.12	1.562	TL-208	D
1026.54	665.46	199.	324.	0.360	24.86	1.629	BI-214	D
1084.49	702.87	202.	114.	0.127	65.28	1.354	RH-106M	M
1111.68	720.50	220.	122.	0.136	96.87	1.663	SB-126	s
1185.41	768.30	375.	890.	0.989	15.82	1.695	BI-214	
1212.75	786.03	284.	207.	0.230	47.16	1.892	PB-214	s
1243.94	806.24	176.	236.	0.262	30.89	1.747	BI-214	D

ORTEC Spectrum name: SMP HS 131.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1294.27	838.89	187.	124.	0.138	60.18	2.378	J-135	sM
1441.09	934.10	252.	465.	0.517	23.31	1.862	BI-214	
1487.41	964.10	155.	65.	0.072	90.02	1.887	EU-152	D
1782.12	1155.28	161.	251.	0.279	33.54	1.600	BI-214	
1863.33	1207.96	121.	85.	0.094	73.00	1.426	-	
1910.19	1238.35	145.	709.	0.788	14.47	2.051	CO-56	
1976.28	1281.23	117.	189.	0.210	37.55	2.013	BI-214	
2125.67	1378.09	87.	462.	0.514	16.36	2.298	BI-214	D
2137.39	1385.69	98.	110.	0.122	47.68	2.306	AG-110M	D
2162.38	1401.90	83.	169.	0.188	32.45	2.324	BI-214	D
2172.27	1408.32	87.	269.	0.299	23.42	2.330	EU-152	D
2328.47	1509.73	146.	284.	0.316	31.50	1.918	BI-214	
2442.81	1583.92	80.	138.	0.153	48.77	2.182	AC-228	s
2467.45	1599.91	76.	37.	0.041	131.99	1.372	EU-154	s
2563.20	1662.05	56.	119.	0.132	45.40	2.419	BI-214	
2668.30	1730.26	23.	292.	0.324	20.38	2.453	BI-214	
2850.34	1848.41	32.	172.	0.191	30.37	2.342	BI-214	
3268.20	2119.68	5.	101.	0.112	32.68	2.031	BI-214	s
3400.22	2205.41	7.	389.	0.432	15.87	2.126	BI-214	s
3775.86	2449.35	5.	120.	0.134	29.06	2.997	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.25	11.84	1485.	1081.	1.201	27.74	2.272s
Pb-210	72.02	46.68	2106.	398.	0.442	82.51	1.469s
Th-234	96.66	62.64	1620.	161.	0.179	151.85	1.600s
Th-234	143.21	92.80	1611.	59.	0.066	290.46	1.228D
Ra-226	287.35	186.20	2244.	1680.	1.866	19.38	1.335
Pb-212	368.26	238.63	1602.	89.	0.099	193.03	1.318D
Pb-214	373.43	241.98	1466.	3003.	3.336	7.70	1.321D
Pb-214	455.57	295.21	968.	6916.	7.684	4.08	1.356D
Tl-210	459.88	298.00	4605.	10.	0.011	3021.40	1.358D
Pb-212	463.10	300.09	949.	30.	0.033	442.03	1.359D
Ac-228	522.10	338.32	940.	149.	0.166	153.19	2.952s
Pb-214	542.94	351.84	1177.	10973.	12.192	3.27	1.203
Tl-208	788.26	510.84	660.	116.	0.129	97.67	1.509D
Tl-208	899.80	583.14	370.	33.	0.036	254.79	1.564D
Bi-214	940.00	609.20	466.	9356.	10.396	3.34	1.521
Cs-137	1020.86	661.62	206.	27.	0.030	236.06	1.626D
Bi-212	1121.96	727.17	147.	0.	0.000	0.00	0.938D
Pa-234m	1182.52	766.43	972.	0.	0.000	13227.25	1.713
Tl-210	1233.83	799.70	199.	34.	0.038	183.86	1.741D

ORTEC Spectrum name: SMP HS 131.An1

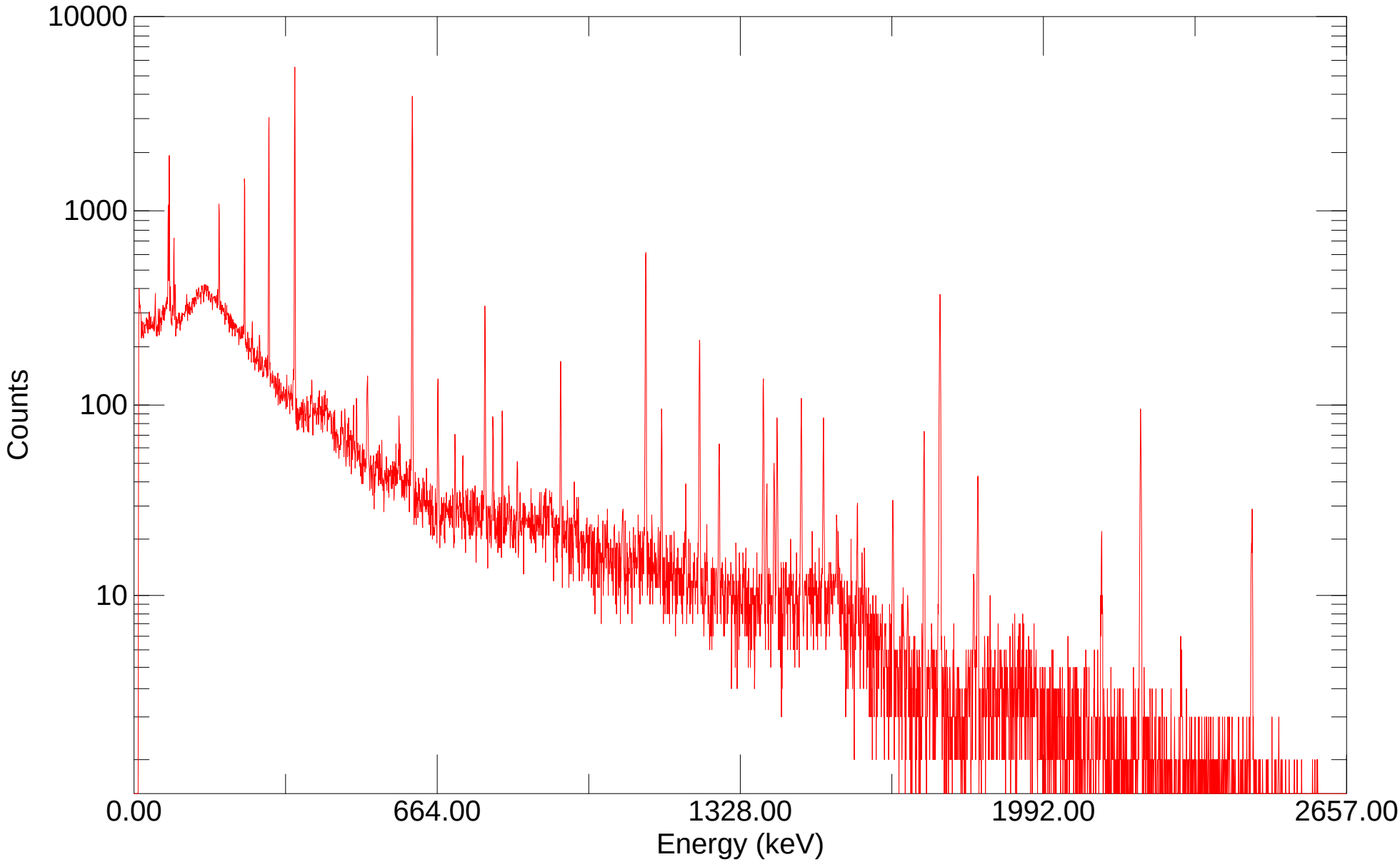
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Tl-208	1327.20	860.24	164.	8.	0.009	965.76	2.476s
Ac-228	1406.83	911.88	242.	89.	0.099	137.42	4.133s
Ac-228	1495.08	969.11	181.	47.	0.052	129.93	1.891D
Pa-234m	1546.42	1002.41	79.	5.	0.005	760.12	0.650s
Bi-214	1728.45	1120.47	217.	1987.	2.208	7.86	2.003
Tl-210	2024.36	1312.42	78.	36.	0.040	136.93	1.575s
K-40	2253.70	1461.21	132.	360.	0.400	24.83	1.947
Bi-212	2496.46	1618.74	33.	15.	0.017	197.48	0.734s
Bi-214	2722.33	1765.33	44.	1521.	1.690	8.15	2.459
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 131

SMP HS 131 12_10_07



Acquired: 12/10/2007 11:36:44 AM Real Time: 922.38 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 132.An1

Sample description
SMP HS 132 12_10_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 132.An1

Acquisition information
Start time:	10-Dec-2007 11:59:18
Live time:	900
Real time:	955
Dead time:	5.73 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 132.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 132.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1340

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.24	53.30	6573.	570.	0.633	86.26	1.386	LU-177	
115.48	74.88	12265.	6918.	7.687	7.69	1.217	BI-207	D
119.19	77.28	13498.	12679.	14.088	4.71	1.218	BI-207	D
129.54	83.94	6806.	652.	0.725	54.94	1.222	TA-182	D
134.76	87.32	8215.	5019.	5.576	8.75	1.224	PB-214	D
138.95	90.04	7434.	1891.	2.101	20.54	1.226	PB-214	D
147.25	95.42	7448.	319.	0.354	116.12	1.229	NP-237	D
171.78	111.31	7023.	340.	0.378	148.78	1.952	PA-234	s
399.56	258.91	6849.	1322.	1.469	44.81	1.478	XE-138	s
423.87	274.67	5764.	970.	1.078	53.38	1.916	SR-91	s
598.85	388.07	3753.	986.	1.096	44.75	2.172	RH-106M	sM
625.71	405.48	4105.	426.	0.473	111.47	1.530	J-134	sM
701.58	454.65	2780.	692.	0.769	57.14	1.747	TE-131	sM
712.42	461.68	2372.	406.	0.451	85.80	2.245	CS-138	sM
725.35	470.06	1512.	347.	0.386	69.14	1.800	-	sM
741.63	480.58	2030.	415.	0.461	48.35	1.486	W-187	D
751.61	487.05	1851.	497.	0.552	39.11	1.491	LA-140	D
788.37	510.91	2578.	323.	0.359	68.77	1.509	TL-208	D
796.80	516.38	1377.	112.	0.124	143.40	1.513	J-134	D
823.11	533.43	1660.	314.	0.349	92.72	1.898	ND-147	sM
882.48	571.91	1138.	170.	0.189	127.97	2.226	PA-234	sM
895.24	580.18	1526.	404.	0.449	69.55	1.595	TL-208	
1003.03	650.06	791.	75.	0.083	241.15	1.145	J-132	
1026.80	665.46	915.	1596.	1.773	11.01	1.629	BI-214	D

ORTEC Spectrum name: SMP HS 132.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1085.00	703.21	1443.	569.	0.632	56.27	1.753	RH-106M	sM
1110.61	719.81	1100.	381.	0.423	65.79	1.698	SB-126	
1145.27	742.28	891.	215.	0.239	99.80	1.481	PA-234	sM
1185.56	768.41	1387.	4559.	5.066	6.23	1.777	BI-214	
1212.70	786.00	1462.	984.	1.094	22.84	1.912	PB-214	sM
1244.04	806.29	1088.	1171.	1.301	14.83	1.747	BI-214	D
1266.87	821.36	860.	110.	0.123	116.36	1.759	PA-234	D
1275.33	826.85	966.	148.	0.164	92.69	1.764	PA-234	D
1294.47	839.02	1332.	522.	0.579	39.61	1.859	J-135	sM
1441.21	934.17	1408.	2576.	2.863	10.09	1.970	BI-214	
1487.67	963.82	895.	317.	0.352	43.51	1.887	EU-152	D
1559.40	1010.82	516.	49.	0.055	207.70	1.174	CS-138	s
1623.15	1052.17	845.	204.	0.227	78.92	2.032	-	s
1652.09	1070.94	821.	214.	0.238	74.43	1.653	J-134	
1703.86	1104.52	632.	132.	0.147	96.63	2.429	J-135	s
1749.75	1134.28	542.	216.	0.239	55.15	2.227	J-132	M
1782.58	1155.58	949.	1146.	1.273	17.81	2.214	BI-214	M
1864.02	1208.40	621.	370.	0.411	40.01	2.214	-	M
1910.47	1238.53	755.	3804.	4.227	6.39	2.182	CO-56	M
1933.96	1253.77	594.	217.	0.241	63.22	3.460	KR-88	sM
1976.49	1281.36	688.	982.	1.091	18.09	1.760	BI-214	M
2011.94	1304.90	394.	103.	0.115	86.59	2.220	-	D
2125.91	1378.25	521.	2473.	2.747	7.19	2.298	BI-214	D
2137.76	1385.93	500.	495.	0.550	23.45	2.307	AG-110M	D
2162.38	1401.96	427.	809.	0.899	15.12	2.324	BI-214	D
2172.69	1408.65	432.	1453.	1.615	9.94	2.331	EU-152	D
2328.79	1509.93	675.	1300.	1.444	14.18	2.112	BI-214	
2374.45	1539.64	510.	238.	0.264	44.80	2.475	RB-89	D
2382.03	1544.55	490.	239.	0.265	43.90	2.481	-	D
2442.43	1583.67	462.	485.	0.539	29.37	2.551	AC-228	
2461.01	1595.86	441.	200.	0.222	49.43	2.539	LA-140	D
2467.69	1600.20	383.	196.	0.218	47.35	2.544	EU-154	D
2563.08	1661.97	262.	602.	0.669	20.77	2.522	BI-214	
2599.26	1685.48	179.	129.	0.143	51.43	2.644	-	D
2612.54	1694.10	198.	147.	0.163	47.66	2.654	PA-234	D
2668.75	1730.55	231.	1460.	1.622	9.79	2.188	BI-214	
2836.02	1839.12	119.	178.	0.198	34.43	2.830	RH-106M	D
2850.71	1848.65	110.	996.	1.107	10.50	2.842	BI-214	D
2890.30	1874.35	176.	127.	0.141	66.67	2.881	-	
3268.61	2119.95	93.	477.	0.530	18.68	2.880	BI-214	
3400.48	2205.57	68.	1892.	2.103	7.58	2.838	BI-214	
3538.04	2294.90	9.	170.	0.189	26.38	3.148	-	s
3776.23	2449.60	4.	613.	0.681	12.35	2.723	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 132.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.15	11.78	6450.	5119.	5.688	12.27	2.663s
Pb-210	71.90	46.60	6651.	1082.	1.202	46.13	0.951
Th-234	95.15	61.66	8862.	151.	0.168	276.38	1.301
Th-234	143.21	92.80	7898.	211.	0.234	179.93	1.228D
Ra-226	287.46	186.27	15852.	10096.	11.218	10.34	1.429
Pb-212	368.26	238.63	6496.	68.	0.075	505.31	1.319D
Pb-214	373.43	241.98	6044.	15582.	17.314	3.20	1.321D
Pb-214	455.57	295.21	4443.	34580.	38.422	1.81	1.356D
Tl-210	459.88	298.00	23923.	232.	0.258	283.69	1.358D
Pb-212	463.10	300.09	3670.	121.	0.134	214.95	1.359D
Ac-228	519.83	336.86	3479.	123.	0.137	306.37	0.750s
Pb-214	543.05	351.90	6491.	57328.	63.697	1.46	1.343
Tl-208	788.26	510.84	2382.	519.	0.576	42.05	1.509D
Tl-208	899.80	583.14	1155.	0.	0.000	0.00	1.258D
Bi-214	940.11	609.27	2508.	48482.	53.869	1.48	1.597
Cs-137	1020.86	661.62	959.	89.	0.098	151.71	1.626D
Bi-212	1121.96	727.17	579.	0.	0.000	0.00	1.937D
Pa-234m	1182.48	766.41	2070.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	788.	61.	0.068	198.93	1.741D
Tl-208	1326.67	859.90	668.	138.	0.154	121.51	1.595
Ac-228	1406.00	911.34	658.	80.	0.089	206.79	1.833
Ac-228	1495.08	969.11	767.	75.	0.084	159.80	1.892D
Pa-234m	1545.00	1001.49	378.	2.	0.002	5267.19	0.000s
Bi-214	1728.68	1120.61	1168.	10470.	11.634	3.55	2.037
Tl-210	2020.63	1310.00	496.	16.	0.018	596.62	2.225D
K-40	2254.20	1461.54	776.	262.	0.291	65.24	2.051
Bi-212	2494.94	1617.75	297.	49.	0.055	191.90	1.576s
Bi-214	2722.60	1765.50	346.	7414.	8.238	3.87	2.480
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

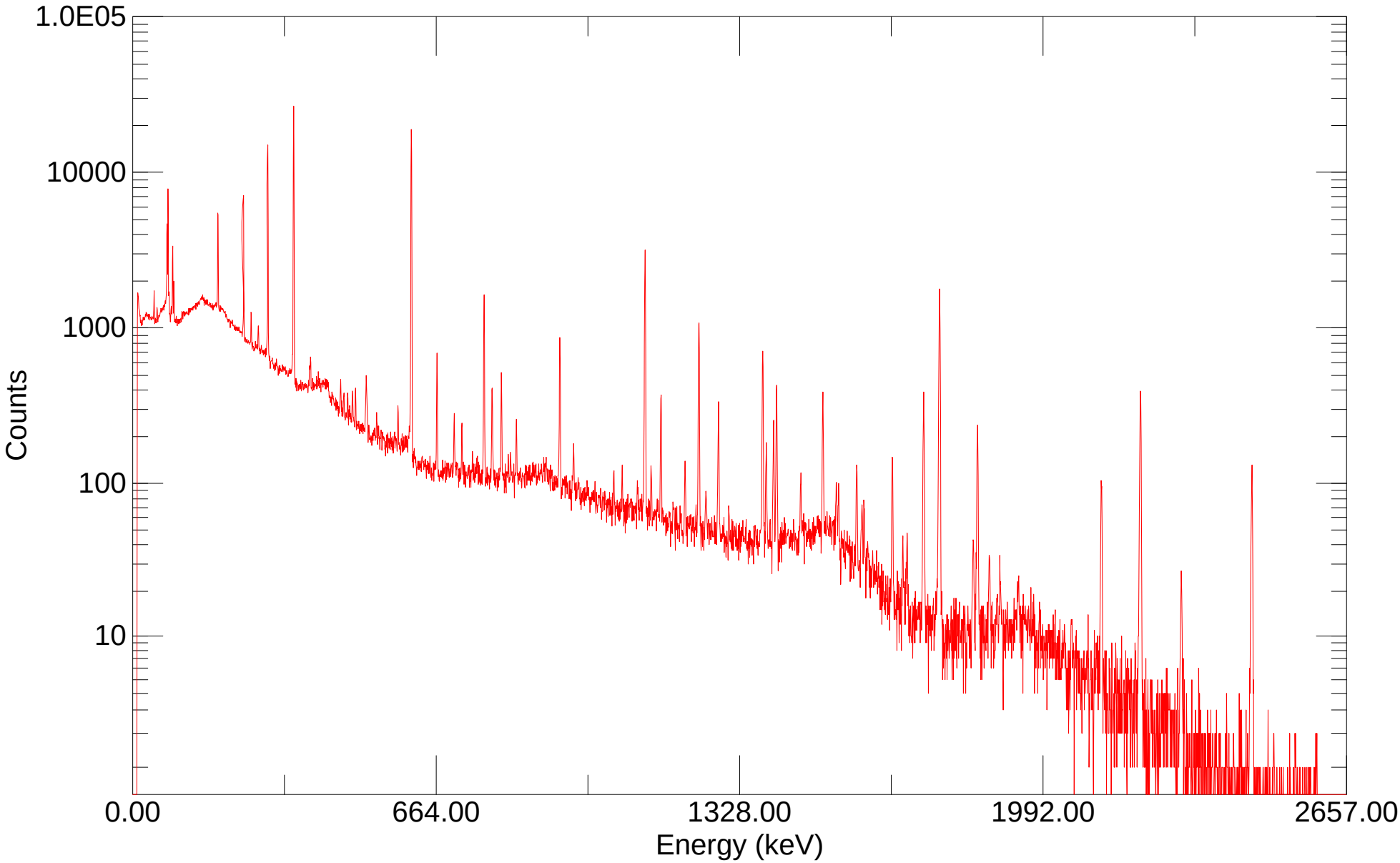
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 132

SMP HS 132 12_10_07



Acquired: 12/10/2007 11:59:18 AM Real Time: 954.74 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 133.An1

Sample description
SMP HS 133 12_10_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 133.An1

Acquisition information
Start time:	10-Dec-2007 12:40:07
Live time:	900
Real time:	915
Dead time:	1.61 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 133.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 133.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1645

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
82.55	53.50	2048.	224.	0.249	137.00	1.869	LU-177	s
115.51	74.89	2672.	1261.	1.402	19.33	1.217	BI-207	D
119.20	77.28	3292.	2176.	2.418	12.90	1.218	BI-207	D
134.86	87.91	2294.	829.	0.921	26.64	1.224	PB-214	D
400.06	259.24	1608.	268.	0.298	102.03	1.474	XE-138	s
422.54	273.81	1634.	312.	0.346	92.86	2.722	CS-136	s
506.82	328.42	685.	77.	0.086	193.81	1.067	RH-106M	M
702.67	455.36	580.	148.	0.164	111.91	1.496	-	sM
725.04	469.86	396.	160.	0.178	82.33	2.380	RH-106M	sM
751.91	487.28	666.	166.	0.185	120.76	1.808	LA-140	sM
788.57	511.04	585.	361.	0.401	51.70	2.868	TL-208	s
855.73	554.57	270.	63.	0.070	160.99	1.687	AS-76	M
895.42	580.30	264.	116.	0.129	88.54	1.897	TL-208	s
1026.65	665.44	291.	336.	0.373	27.08	1.629	BI-214	D
1085.47	703.51	336.	164.	0.183	88.32	1.167	RH-106M	sM
1110.76	719.91	175.	122.	0.136	74.16	1.750	SB-126	
1185.77	768.50	283.	1003.	1.114	11.85	1.714	BI-214	D
1213.37	786.44	288.	271.	0.301	37.29	1.756	PA-234	sM
1243.89	806.23	362.	302.	0.336	38.53	1.937	BI-214	s
1267.86	821.76	200.	76.	0.084	129.48	1.596	PA-234	M
1294.71	839.18	292.	162.	0.179	58.37	2.350	J-135	sM
1416.30	918.02	240.	99.	0.110	127.81	1.422	LA-140	s
1441.46	934.34	312.	580.	0.644	20.48	2.029	BI-214	
1488.57	964.66	245.	95.	0.105	76.70	1.887	AC-228	D

ORTEC Spectrum name: SMP HS 133.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1782.22	1155.35	258.	290.	0.322	37.61	1.652	BI-214	sM
1864.32	1208.60	125.	89.	0.099	70.65	2.869	EU-152	sM
1910.69	1238.68	133.	864.	0.960	12.55	2.098	CO-56	M
1977.11	1281.77	192.	242.	0.269	39.40	1.956	BI-214	M
2125.99	1378.27	111.	581.	0.646	14.63	2.298	BI-214	D
2137.93	1386.02	109.	134.	0.148	42.15	2.307	AG-110M	D
2162.61	1402.03	102.	213.	0.236	28.79	2.324	BI-214	D
2172.85	1408.67	115.	359.	0.399	20.27	2.331	EU-152	D
2254.81	1461.98	147.	293.	0.325	24.83	2.389	K-40	D
2329.36	1510.30	210.	292.	0.324	31.20	1.717	BI-214	
2373.66	1539.05	112.	44.	0.048	124.28	1.264	RB-89	s
2442.29	1583.59	154.	116.	0.129	73.56	2.533	AC-228	s
2563.72	1662.39	62.	154.	0.171	41.16	1.599	BI-214	s
2669.02	1730.73	35.	351.	0.390	18.60	2.537	BI-214	
2850.94	1848.80	57.	222.	0.247	28.97	2.911	BI-214	
3268.73	2120.03	5.	124.	0.137	29.03	2.463	BI-214	
3400.73	2205.74	9.	455.	0.506	14.81	3.053	BI-214	
3776.41	2449.71	3.	143.	0.159	26.24	2.538	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.42	11.95	1650.	1330.	1.478	23.90	3.120s
Pb-210	71.63	46.42	1802.	246.	0.273	111.71	1.396s
Th-234	98.00	63.51	882.	61.	0.068	234.11	0.324s
Th-234	143.21	92.80	1445.	67.	0.074	244.48	1.227D
Ra-226	287.57	186.34	2720.	1987.	2.208	18.85	1.476
Pb-212	368.26	238.63	1499.	27.	0.030	613.29	1.318D
Pb-214	373.43	241.98	1680.	3106.	3.451	7.77	1.321D
Pb-214	455.57	295.21	1164.	7263.	8.070	4.05	1.356D
Tl-210	459.88	298.00	5427.	41.	0.046	756.59	1.358D
Pb-212	463.10	300.09	917.	24.	0.027	542.18	1.359D
Ac-228	522.83	338.80	750.	60.	0.067	276.59	0.899
Pb-214	543.07	351.92	1630.	12151.	13.501	3.22	1.353
Tl-208	788.26	510.84	585.	0.	0.000	0.00	2.868D
Tl-208	899.80	583.14	230.	0.	0.000	0.00	1.073D
Bi-214	940.18	609.32	637.	10443.	11.603	3.22	1.661
Cs-137	1020.86	661.62	209.	46.	0.051	141.03	1.626D
Bi-212	1121.96	727.17	172.	0.	0.000	0.00	3.326D
Pa-234m	1182.48	766.41	959.	40.	0.045	328.33	1.713D
Tl-210	1233.97	799.79	134.	0.	0.000	4907.98	1.741
Tl-208	1327.20	860.24	240.	58.	0.064	200.19	1.213s
Ac-228	1405.58	911.07	276.	0.	0.000	0.00	3.180D

ORTEC Spectrum name: SMP HS 133.An1

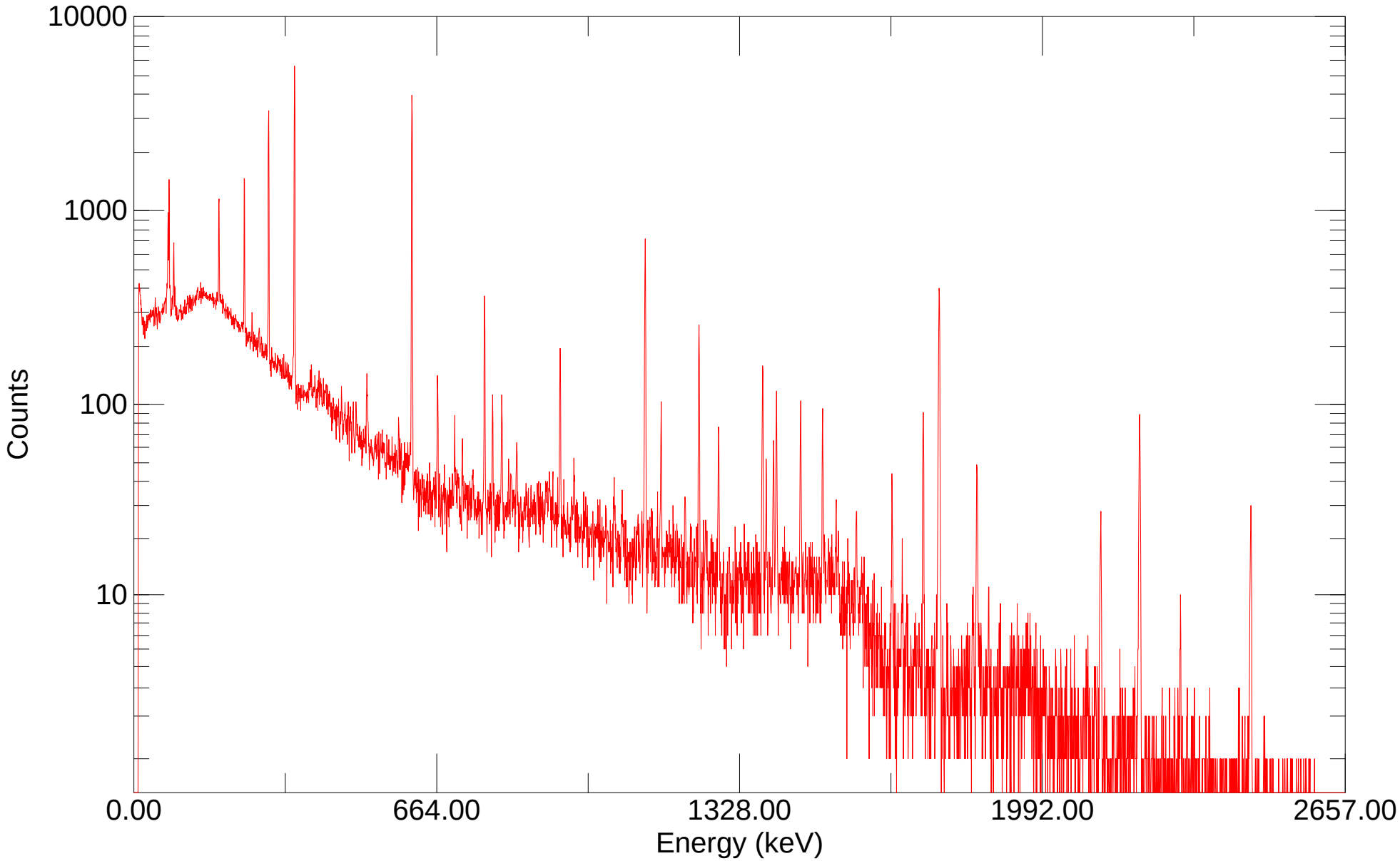
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Ac-228	1495.08	969.11	217.	46.	0.051	143.83	1.892D
Pa-234m	1543.66	1000.62	191.	26.	0.029	271.17	3.171s
Bi-214	1728.72	1120.64	246.	2376.	2.641	7.28	2.051
Tl-210	2022.00	1310.89	26.	2.	0.002	960.47	0.000s
K-40	2253.07	1460.80	396.	42.	0.047	204.76	2.388D
Bi-212	2501.86	1622.24	46.	21.	0.024	174.18	0.651s
Bi-214	2722.77	1765.61	40.	1774.	1.971	7.49	2.710
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 133

SMP HS 133 12_10_07



Acquired: 12/10/2007 12:40:07 PM Real Time: 914.70 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 134 1_11_08.An1

Sample description
SMP HS 134 01_11_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 134 1_11_08.An1

Acquisition information
Start time:	11-Jan-2008 13:24:22
Live time:	900
Real time:	908
Dead time:	0.88 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 134 1_11_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 134 1_11_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1192

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	3 Sigma %	FWHM keV	Suspected Nuclide	
79.12	51.28	1035.	168.	0.187	136.70	2.391	EU-155	s
115.39	74.80	1233.	187.	0.207	82.75	1.217	BI-207	D
119.12	77.22	1028.	249.	0.277	57.76	1.218	PB-214	D
321.60	208.39	945.	191.	0.212	104.70	1.981	LU-177	s
637.80	413.31	326.	58.	0.064	203.56	0.911	SB-126	M
787.25	510.27	381.	87.	0.097	100.25	1.508	J-133	D
894.36	579.38	197.	60.	0.066	107.38	1.561	KR-89	D
1026.90	665.57	123.	116.	0.128	49.41	1.629	BI-214	D
1083.64	702.32	176.	104.	0.115	109.22	1.889	NB-94	sM
1110.32	719.62	88.	66.	0.074	96.78	2.003	SB-126	
1185.42	768.31	126.	353.	0.392	20.91	1.714	BI-214	D
1211.47	785.20	182.	85.	0.094	88.66	1.889	BI-212	s
1243.97	806.17	134.	85.	0.094	66.60	1.747	BI-214	D
1440.66	933.82	138.	202.	0.224	36.86	1.844	BI-214	s
1782.14	1155.29	84.	96.	0.107	58.30	1.972	BI-214	s
1863.03	1207.76	64.	50.	0.056	93.34	1.926	-	
1910.16	1238.33	76.	329.	0.366	21.52	2.116	CO-56	
1976.88	1281.61	87.	105.	0.117	60.81	1.939	BI-214	s
2125.13	1377.79	55.	198.	0.220	29.94	2.412	BI-214	
2162.26	1401.98	51.	88.	0.098	46.92	2.323	BI-214	D
2172.26	1408.47	48.	117.	0.130	37.40	2.330	EU-152	D
2328.08	1509.47	70.	152.	0.169	42.65	2.944	BI-214	s
2373.04	1538.65	57.	30.	0.034	137.51	1.511	RB-89	s
2563.03	1661.94	19.	87.	0.097	44.45	2.681	BI-214	

ORTEC Spectrum name: SMP HS 134 1_11_08.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2668.48	1730.37	23.	135.	0.150	33.05	1.836	BI-214
2850.49	1848.51	15.	128.	0.142	32.14	2.528	BI-214
3268.28	2119.73	3.	57.	0.063	44.64	2.812	BI-214
3400.19	2205.39	9.	181.	0.201	24.96	2.546	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.69	10.83	573.	299.	0.332	51.07	2.192s
Pb-210	71.09	46.08	490.	0.	0.000	9386.69	1.200
Th-234	95.25	61.73	862.	44.	0.049	286.69	0.524s
Th-234	143.62	93.07	730.	29.	0.032	487.31	1.090
Ra-226	287.34	186.19	1089.	342.	0.380	60.12	1.460
Pb-212	368.26	238.63	915.	116.	0.129	113.84	1.318D
Pb-214	373.43	241.98	799.	682.	0.758	20.99	1.321D
Pb-214	455.57	295.21	678.	1578.	1.753	10.30	1.356D
Tl-210	459.88	298.00	1442.	32.	0.036	506.24	1.358D
Pb-212	463.10	300.09	550.	64.	0.071	159.25	1.359D
Ac-228	520.51	337.29	730.	78.	0.087	256.80	3.115s
Pb-214	542.81	351.75	947.	2754.	3.060	8.26	1.384
Tl-208	788.26	510.84	431.	47.	0.052	191.41	1.509D
Tl-208	899.80	583.14	203.	31.	0.034	205.34	1.564D
Bi-214	939.86	609.11	380.	2867.	3.186	6.78	1.603
Cs-137	1020.86	661.62	125.	5.	0.006	896.56	1.626D
Bi-212	1121.96	727.17	66.	0.	0.000	0.00	2.233D
Pa-234m	1182.48	766.41	403.	8.	0.009	1080.53	1.713D
Tl-210	1233.83	799.70	133.	9.	0.010	577.56	1.741D
Tl-208	1326.79	859.98	124.	64.	0.071	148.63	1.333s
Ac-228	1405.29	910.88	82.	26.	0.029	159.05	1.187
Ac-228	1495.72	969.53	48.	20.	0.022	209.68	0.902s
Pa-234m	1540.52	998.58	92.	19.	0.021	252.02	1.184s
Bi-214	1728.22	1120.32	119.	772.	0.858	13.18	1.829
Tl-210	2015.88	1306.92	44.	22.	0.024	165.14	1.020s
K-40	2253.47	1461.06	43.	276.	0.306	22.11	2.151
Bi-212	2494.47	1617.45	38.	25.	0.028	162.48	3.569s
Bi-214	2722.01	1765.12	31.	677.	0.752	12.51	2.440
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

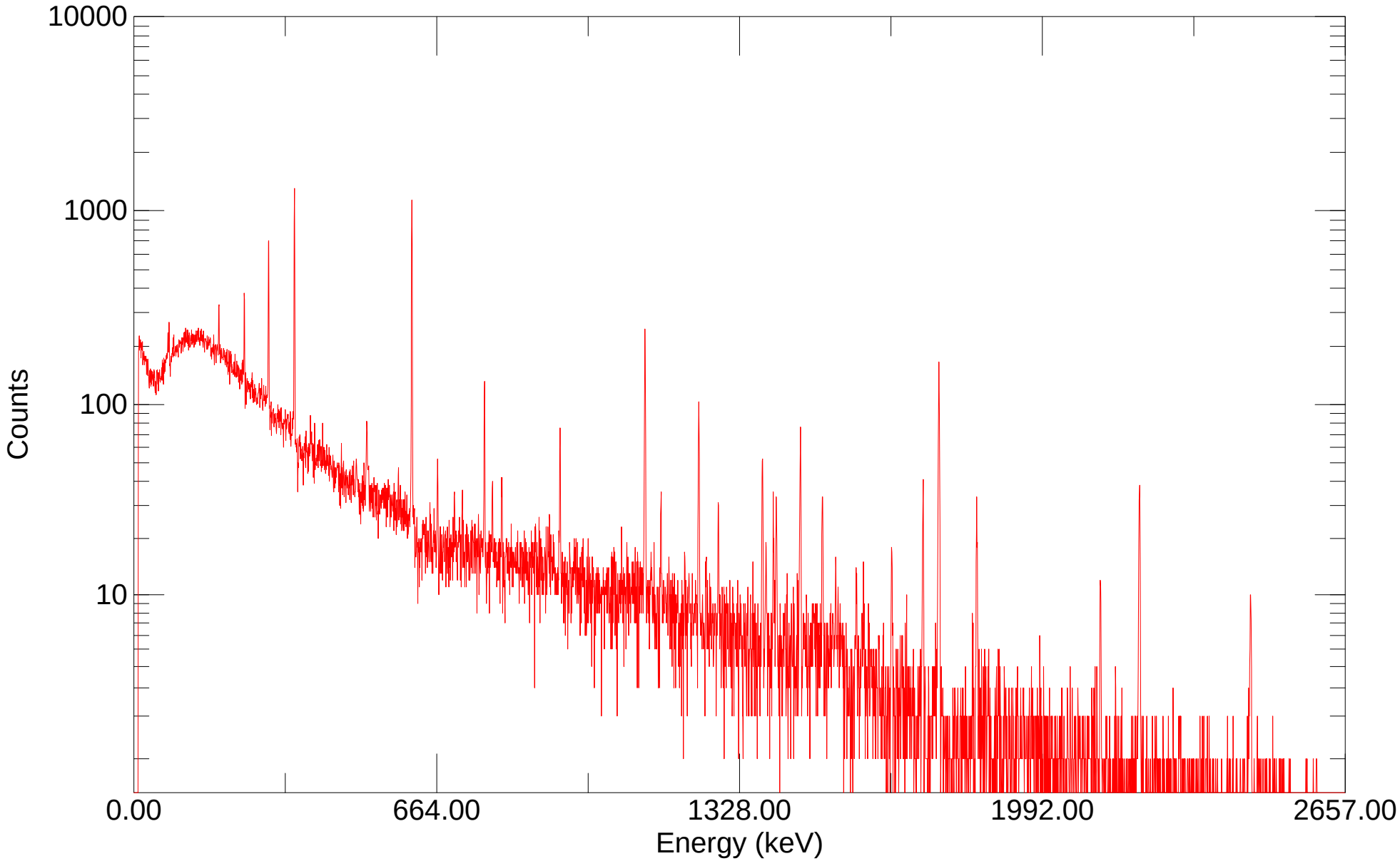
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 134 1_11_08

SMP HS 134 01_11_08



Acquired: 1/11/2008 1:24:22 PM Real Time: 907.98 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 135 12_12_07.An1

Sample description
smp hs 135 12_12_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 135 12_12_07.An1

Acquisition information
Start time:	12-Dec-2007 16:15:26
Live time:	900
Real time:	908
Dead time:	0.88 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 135 12_12_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 135 12_12_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1131

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.48	74.85	804.	408.	0.453	33.01	1.217	BI-207	D
119.15	77.23	740.	737.	0.818	19.18	1.218	PB-214	D
134.67	87.15	610.	268.	0.298	43.17	1.224	BI-207	D
140.10	90.67	542.	95.	0.106	108.39	1.226	PB-214	D
368.08	238.53	302.	101.	0.112	78.68	1.318	PB-212	D
399.14	258.64	378.	115.	0.128	122.19	2.132	XE-138	s
422.98	274.09	412.	152.	0.168	105.39	2.548	CS-136	s
599.31	388.37	194.	94.	0.105	108.06	1.572	RH-106M	sM
687.16	445.30	72.	32.	0.036	167.71	1.103	EU-152	M
739.62	479.31	126.	122.	0.136	77.92	2.111	W-187	sM
788.19	510.79	135.	140.	0.156	66.05	2.184	TL-208	s
899.14	582.71	58.	35.	0.039	104.32	1.564	TL-208	D
1026.83	665.20	80.	86.	0.096	54.59	1.629	BI-214	D
1085.42	703.48	63.	45.	0.050	131.91	1.382	RH-106M	s
1185.42	768.12	66.	212.	0.236	26.19	1.714	BI-214	D
1211.78	785.40	63.	50.	0.056	86.43	2.076	BI-212	sM
1243.53	805.91	63.	75.	0.083	56.81	1.746	BI-214	D
1441.13	934.13	66.	104.	0.116	49.21	1.943	BI-214	
1781.55	1154.91	51.	73.	0.081	64.46	1.117	BI-214	sM
1909.89	1238.16	65.	218.	0.242	29.78	2.227	BI-214	sM
1975.48	1280.71	38.	64.	0.071	62.54	2.147	BI-214	sM
2124.99	1377.70	40.	132.	0.147	37.48	1.966	BI-214	
2172.23	1408.35	39.	74.	0.082	56.97	1.718	EU-152	
2329.17	1510.18	32.	69.	0.077	59.35	1.952	BI-214	s

ORTEC Spectrum name: SMP HS 135 12_12_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
2667.51	1729.75	10.	112.	0.125	32.89	3.069	BI-214 s
3399.83	2205.15	5.	111.	0.123	30.93	2.429	BI-214

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

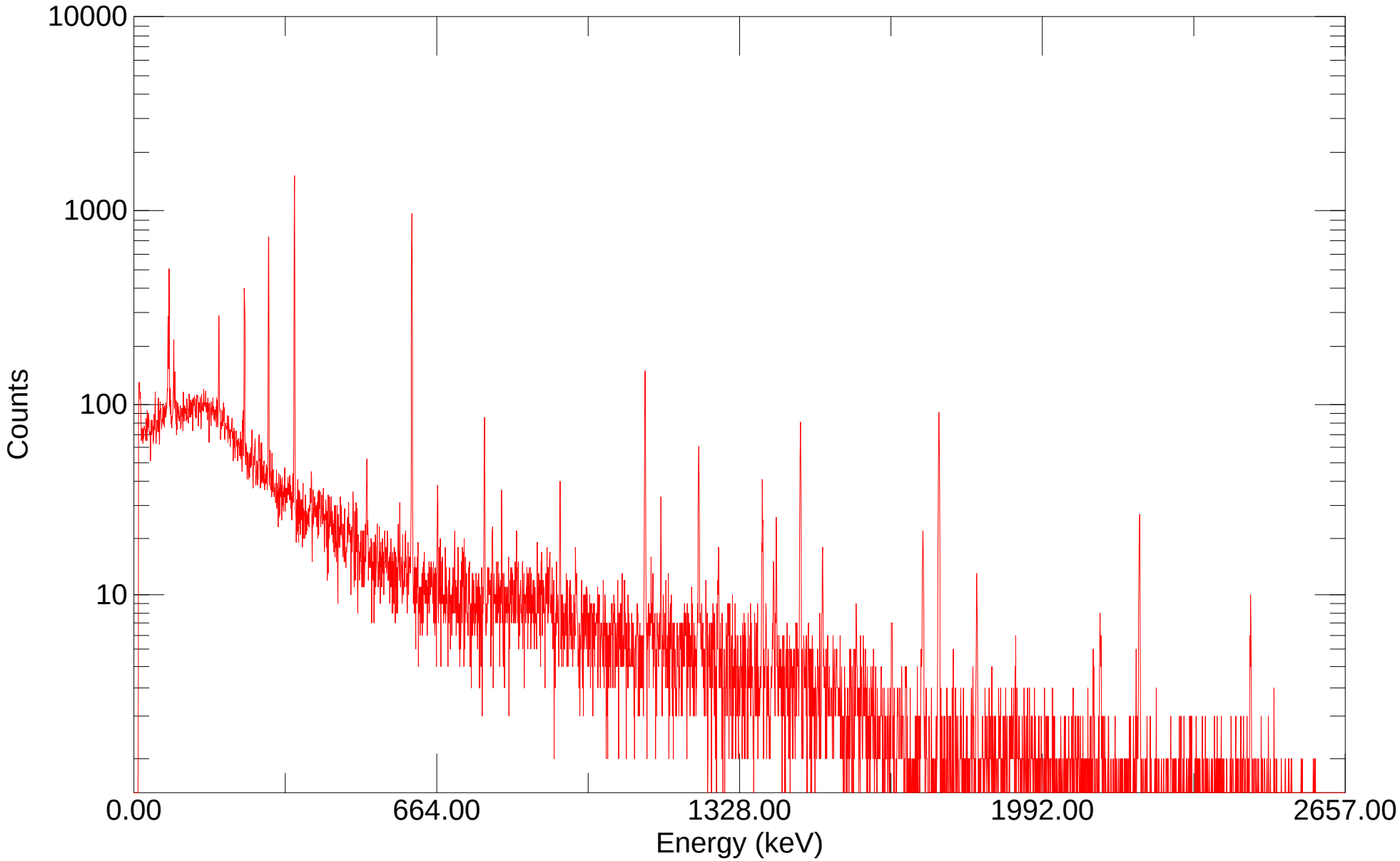
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.45	11.97	490.	411.	0.457	42.25	2.626s
Pb-210	70.95	45.98	576.	154.	0.171	112.28	1.096s
Th-234	97.05	62.89	462.	42.	0.047	310.53	0.730s
Th-234	143.21	92.80	406.	41.	0.046	211.18	1.228D
Ra-226	287.74	186.45	715.	618.	0.687	34.01	1.514s
Pb-212	368.26	238.63	297.	0.	0.000	0.00	1.910D
Pb-214	373.43	241.98	331.	826.	0.917	14.02	1.321D
Pb-214	455.57	295.21	246.	1791.	1.990	8.00	1.356D
Tl-210	459.88	298.00	1126.	36.	0.040	400.83	1.358D
Pb-212	463.10	300.09	323.	10.	0.011	756.94	1.359D
Ac-228	527.00	341.50	378.	28.	0.031	350.92	0.000s
Pb-214	542.88	351.79	378.	2948.	3.276	6.50	1.153
Tl-208	788.12	510.75	244.	0.	0.000	6627.22	1.509
Tl-208	899.80	583.14	89.	1.	0.001	4016.78	1.564D
Bi-214	939.93	609.15	146.	2434.	2.704	6.61	1.626
Cs-137	1020.86	661.62	70.	4.	0.005	876.74	1.626D
Bi-212	1122.38	727.44	66.	39.	0.043	166.41	0.794s
Pa-234m	1182.48	766.41	242.	9.	0.010	715.93	1.713D
Tl-210	1233.83	799.70	41.	6.	0.007	475.23	1.741D
Tl-208	1328.78	861.27	48.	27.	0.030	181.56	1.078s
Ac-228	1405.92	911.29	63.	23.	0.026	164.73	1.896
Ac-228	1495.08	969.11	78.	43.	0.048	118.81	1.633s
Pa-234m	1543.00	1000.19	50.	16.	0.017	228.40	0.181s
Bi-214	1728.44	1120.46	58.	500.	0.555	15.72	2.120
Tl-210	2023.32	1311.74	25.	16.	0.018	170.48	0.547s
K-40	2253.95	1461.38	30.	299.	0.332	20.17	2.249
Bi-212	2499.56	1620.75	13.	21.	0.023	121.06	0.988s
Bi-214	2722.04	1765.14	12.	388.	0.431	16.37	2.527
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 135 12_12_07

smp hs 135 12_12_07



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File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 136 12_12_07.An1

Sample description
smp hs 136 12_12_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 136 12_12_07.An1

Acquisition information
Start time:	12-Dec-2007 16:47:45
Live time:	900
Real time:	907
Dead time:	0.72 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 136 12_12_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 136 12_12_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1443

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
18.52	11.48	248.	270.	0.301	48.08	2.406	PB-214	s
115.19	74.70	388.	165.	0.183	55.74	1.217	BI-207	D
119.12	77.25	408.	292.	0.324	34.22	1.218	BI-207	D
134.43	87.11	350.	177.	0.197	70.94	1.516	BI-207	s
688.42	446.13	52.	22.	0.024	153.07	1.337	AG-110M	M
1026.13	664.79	42.	44.	0.048	78.02	1.629	PA-234	D
1185.36	768.16	46.	95.	0.105	43.35	1.714	BI-214	D
1243.94	805.82	47.	22.	0.024	149.42	1.747	PA-234	D
1441.10	934.10	32.	53.	0.059	66.03	1.569	BI-214	
1910.54	1238.58	51.	108.	0.120	48.39	1.531	CO-56	M
2125.26	1377.88	18.	53.	0.059	56.03	2.374	BI-214	
2162.53	1401.63	13.	16.	0.018	120.06	2.324	BI-214	D
2172.16	1407.88	16.	43.	0.047	61.30	2.330	BI-214	D
2328.64	1509.84	10.	34.	0.038	70.59	2.377	BI-214	
2668.34	1730.28	6.	30.	0.033	71.97	1.378	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 136 12_12_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	220.	0.	0.000	0.00	2.087D
Pb-210	73.03	47.33	252.	47.	0.052	219.36	2.126s
Th-234	99.00	64.16	245.	14.	0.016	481.07	0.000s
Th-234	147.00	95.26	401.	5.	0.005	1900.76	0.000s
Ra-226	287.14	186.06	400.	254.	0.282	58.65	1.461s
Pb-212	368.26	238.63	297.	0.	0.000	0.00	1.683D
Pb-214	373.39	241.95	248.	276.	0.306	40.65	1.393
Pb-214	455.57	295.21	177.	708.	0.786	13.81	1.356D
Tl-210	459.88	298.00	472.	14.	0.016	664.38	1.358D
Pb-212	463.10	300.09	179.	12.	0.013	484.25	1.359D
Ac-228	520.70	337.42	166.	44.	0.049	208.91	0.774s
Pb-214	542.78	351.73	262.	1197.	1.330	11.29	1.287
Tl-208	788.31	510.87	126.	122.	0.136	54.99	2.334s
Tl-208	900.48	583.58	55.	66.	0.073	93.54	1.078s
Bi-214	939.90	609.13	98.	1020.	1.133	10.85	1.470
Cs-137	1020.86	661.62	23.	3.	0.004	629.55	1.626D
Bi-212	1122.00	727.19	35.	8.	0.009	331.19	1.737
Pa-234m	1182.48	766.41	116.	2.	0.003	2026.44	1.713D
Tl-210	1233.83	799.70	44.	4.	0.005	676.91	1.741D
Tl-208	1324.27	858.34	42.	10.	0.011	321.71	0.559s
Ac-228	1406.68	911.79	46.	52.	0.058	79.52	1.416
Ac-228	1495.67	969.50	25.	16.	0.018	170.48	0.938s
Pa-234m	1543.00	1000.19	35.	6.	0.007	442.39	0.693s
Bi-214	1728.48	1120.49	54.	240.	0.267	26.69	1.511
Tl-210	2026.05	1313.51	16.	19.	0.021	137.42	1.311s
K-40	2253.37	1461.00	27.	306.	0.340	19.95	2.169
Bi-212	2492.20	1615.97	6.	11.	0.012	161.35	0.721s
Bi-214	2722.21	1765.25	0.	209.	0.232	20.75	1.985
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

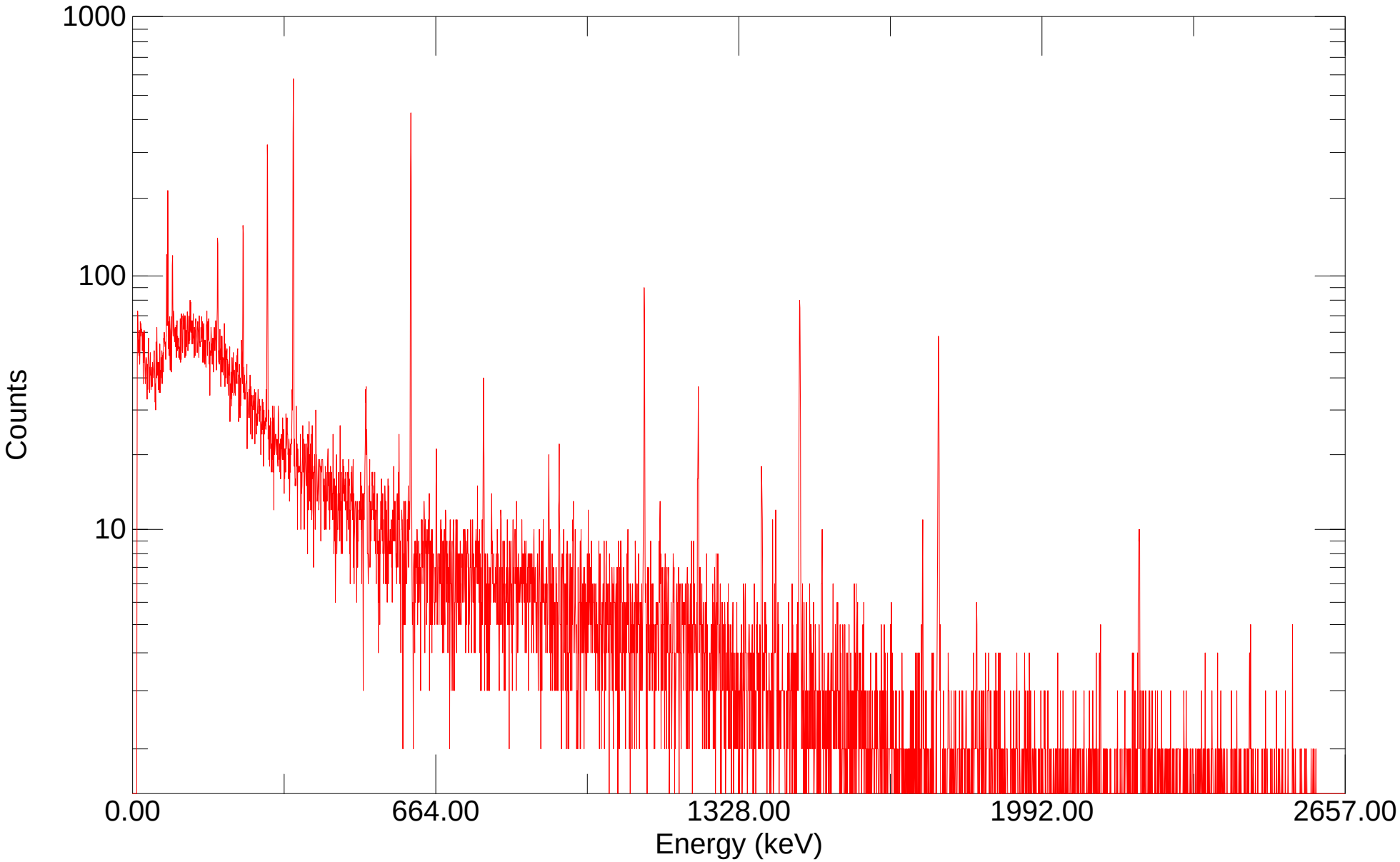
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 136 12_12_07

smp hs 136 12_12_07



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File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 137 12_13_07.An1

Sample description
smp hs 137 12_13_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 137 12_13_07.An1

Acquisition information
Start time:	13-Dec-2007 16:54:52
Live time:	900
Real time:	905
Dead time:	0.59 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 137 12_13_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 137 12_13_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1370

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
17.23	11.17	189.	51.	0.057	121.97	1.180	PB-214	D
118.03	76.49	535.	216.	0.240	81.29	1.158	PB-214	s
393.92	255.26	132.	46.	0.052	145.73	1.455	SN-113	
899.07	582.66	86.	21.	0.024	196.35	1.564	TL-208	D
1026.74	665.38	50.	25.	0.028	131.99	1.629	BI-214	D
1185.00	768.04	67.	82.	0.091	58.77	1.643	BI-214	
1440.94	934.00	40.	72.	0.080	57.08	1.920	BI-214	s
1909.98	1238.22	42.	69.	0.077	62.86	2.003	CO-56	s
2125.02	1377.72	23.	52.	0.058	67.64	1.484	BI-214	s
2171.63	1407.96	10.	43.	0.048	59.61	1.720	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.65	10.80	213.	27.	0.030	239.81	1.180D
Pb-210	73.13	47.40	326.	20.	0.023	563.98	1.430s
Th-234	99.17	64.27	205.	29.	0.032	282.64	1.456s
Th-234	145.00	93.96	282.	16.	0.017	447.02	0.000s
Ra-226	287.52	186.31	210.	108.	0.120	75.46	1.262
Pb-212	368.26	238.63	360.	0.	0.000	0.00	1.758D

ORTEC Spectrum name: SMP HS 137 12_13_07.An1

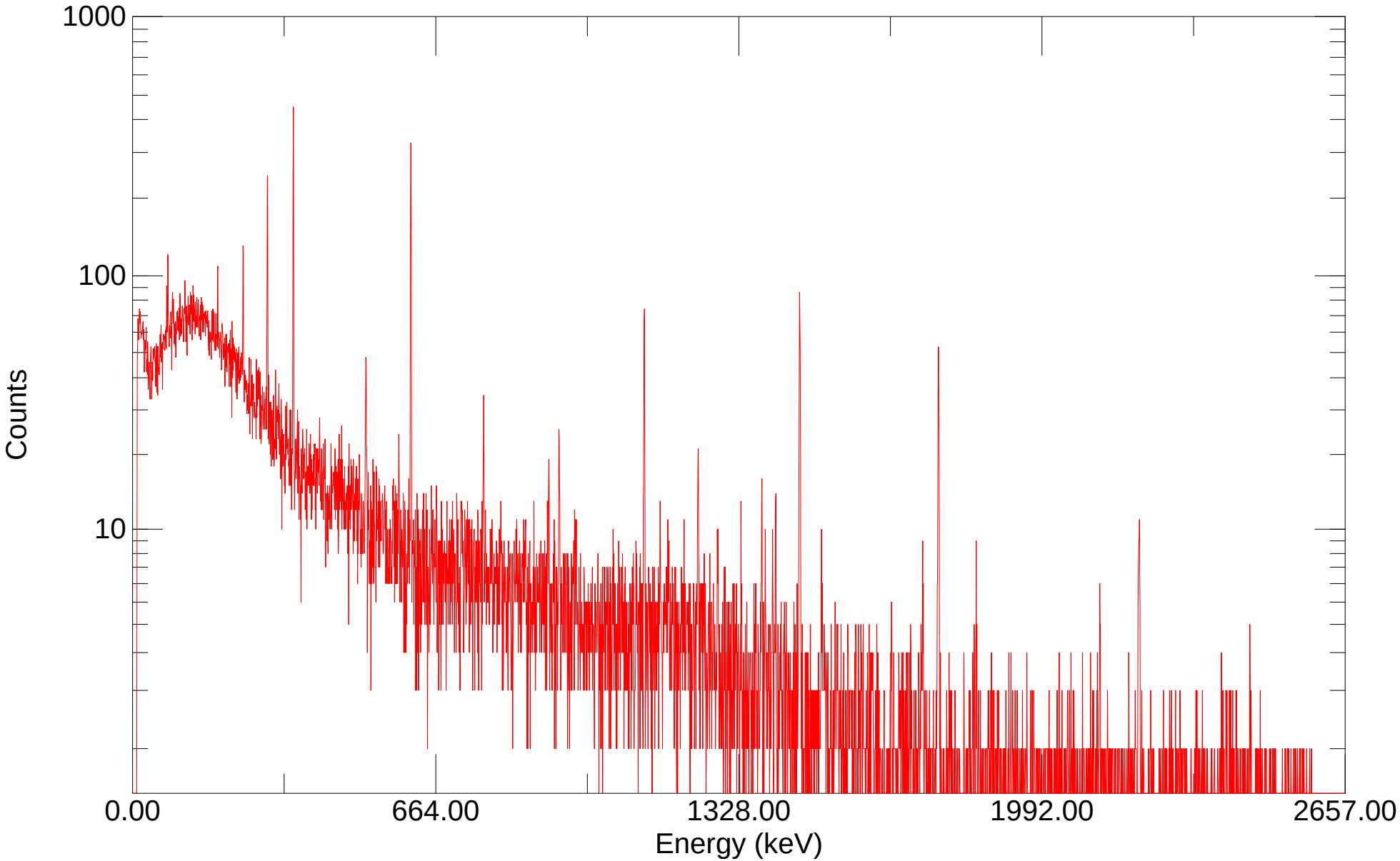
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Pb-214	373.44	241.98	256.	224.	0.248	49.74	1.456s
Pb-214	455.57	295.21	166.	565.	0.628	15.90	1.356D
Tl-210	459.88	298.00	447.	39.	0.043	234.42	1.358D
Pb-212	463.10	300.09	194.	28.	0.031	219.87	1.359D
Ac-228	522.18	338.38	185.	37.	0.041	274.60	0.937s
Pb-214	542.85	351.77	188.	894.	0.993	12.81	1.226
Tl-208	788.37	510.91	102.	146.	0.162	43.69	1.963s
Tl-208	899.80	583.14	73.	30.	0.033	133.52	1.564D
Bi-214	939.89	609.13	72.	740.	0.822	12.30	1.429
Cs-137	1020.86	661.62	42.	10.	0.012	277.24	1.626D
Bi-212	1122.49	727.51	37.	16.	0.017	188.16	1.224
Pa-234m	1182.48	766.41	29.	0.	0.000	0.00	0.224D
Tl-210	1234.33	800.03	28.	4.	0.004	580.95	0.802s
Tl-208	1326.82	860.00	47.	16.	0.018	217.93	1.344
Ac-228	1405.34	910.91	58.	64.	0.071	76.87	1.848s
Ac-228	1494.40	968.67	37.	11.	0.012	269.11	0.757s
Pa-234m	1544.00	1000.84	11.	0.	0.000	1218.61	0.000s
Bi-214	1728.23	1120.33	33.	217.	0.241	24.36	1.776
Tl-210	2020.86	1310.14	10.	10.	0.011	188.81	1.018s
K-40	2253.59	1461.14	19.	303.	0.337	18.91	2.120
Bi-212	2492.89	1616.42	5.	19.	0.021	95.39	0.664s
Bi-214	2722.12	1765.19	8.	203.	0.226	22.88	2.096
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 137 12_13_07

smp hs 137 12_13_07



Acquired: 12/13/2007 4:54:52 PM Real Time: 905.36 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 138 12_13_07.An1

Sample description
smp hs 138 12_13_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 138 12_13_07.An1

Acquisition information
Start time:	13-Dec-2007 17:23:20
Live time:	900
Real time:	904
Dead time:	0.46 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 138 12_13_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 138 12_13_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0923

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.20	76.60	648.	242.	0.269	76.48	1.022	PB-214	s
134.46	87.13	603.	128.	0.142	137.55	2.159	BI-207	s
197.22	127.80	572.	86.	0.096	189.34	1.701	AC-228	s
600.02	388.82	126.	56.	0.062	133.71	2.143	RH-106M	sM
788.12	510.74	156.	127.	0.141	57.62	2.502	TL-208	s
1026.20	665.58	63.	43.	0.047	91.86	1.629	BI-214	D
1185.07	768.09	72.	115.	0.128	47.46	2.306	BI-214	s
1212.67	785.98	56.	42.	0.046	106.81	2.065	PB-214	M
1440.09	933.45	48.	78.	0.087	57.31	1.701	BI-214	s
1909.58	1237.96	82.	99.	0.110	63.90	1.925	BI-214	M
2125.00	1377.71	23.	89.	0.099	44.58	1.991	BI-214	
2161.95	1402.13	14.	30.	0.033	76.63	2.323	BI-214	D
2171.98	1408.64	19.	34.	0.038	75.23	2.330	EU-152	D
2668.10	1730.13	6.	47.	0.052	54.95	1.888	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 138 12_13_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.45	10.67	145.	58.	0.064	123.00	1.376
Pb-210	72.50	46.99	270.	76.	0.085	140.81	2.860s
Th-234	94.66	61.35	322.	71.	0.079	164.73	1.760s
Th-234	143.52	93.00	258.	28.	0.031	303.42	1.325
Ra-226	287.57	186.34	575.	278.	0.309	65.89	1.675s
Pb-212	368.26	238.63	245.	0.	0.000	0.00	1.404D
Pb-214	373.92	242.30	451.	366.	0.407	47.07	1.398s
Pb-214	455.57	295.21	187.	713.	0.792	13.87	1.356D
Tl-210	459.88	298.00	550.	16.	0.018	632.53	1.358D
Pb-212	463.10	300.09	234.	9.	0.010	735.30	1.359D
Ac-228	522.83	338.80	76.	26.	0.029	183.89	0.729s
Pb-214	542.86	351.78	190.	1192.	1.325	10.28	1.411
Tl-208	788.08	510.72	225.	0.	0.000	6363.96	1.509
Tl-208	899.87	583.19	76.	34.	0.038	185.54	2.025s
Bi-214	939.82	609.09	77.	1051.	1.168	10.17	1.526
Cs-137	1020.86	661.62	38.	1.	0.001	2638.47	1.626D
Bi-212	1121.78	727.05	40.	9.	0.010	314.47	1.216
Pa-234m	1182.48	766.41	77.	0.	0.000	0.00	0.000D
Tl-210	1233.74	799.64	32.	8.	0.008	348.14	1.637
Tl-208	1324.18	858.29	33.	13.	0.014	225.24	1.251
Ac-228	1405.84	911.24	48.	58.	0.064	71.06	1.227
Ac-228	1495.17	969.17	27.	24.	0.027	112.62	0.929s
Pa-234m	1543.00	1000.19	11.	0.	0.000	1276.71	0.000s
Bi-214	1728.13	1120.26	43.	264.	0.294	23.28	1.762
Tl-210	2017.47	1307.94	20.	11.	0.012	218.75	0.947s
K-40	2253.46	1461.06	28.	340.	0.377	18.45	2.382
Bi-212	2492.00	1615.84	6.	1.	0.001	1200.00	0.200s
Bi-214	2722.12	1765.19	10.	223.	0.248	21.95	2.531
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

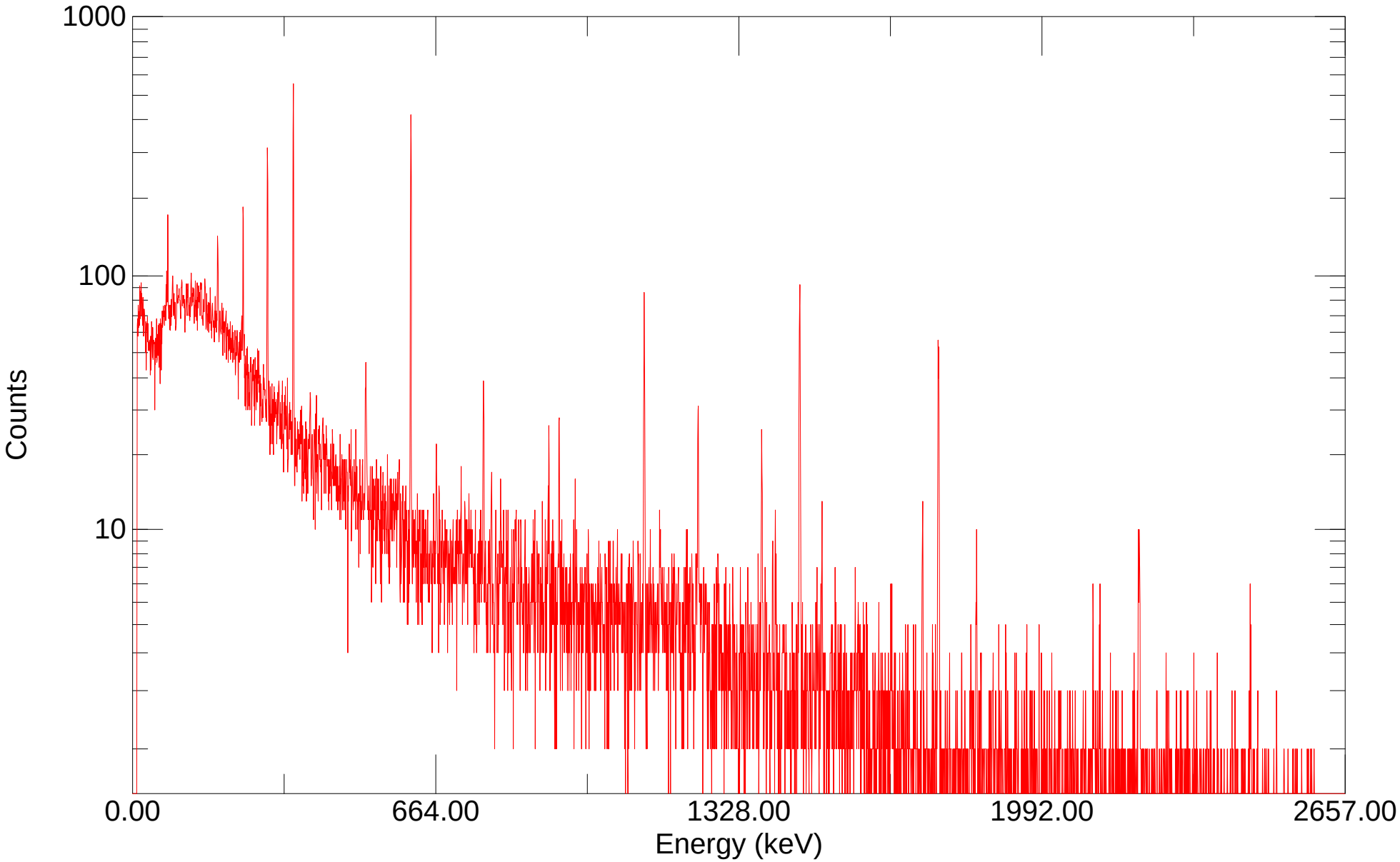
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 138 12_13_07

smp hs 138 12_13_07



Acquired: 12/13/2007 5:23:20 PM Real Time: 904.18 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 139 12_13_07.An1

Sample description
smp hs 139 12_13_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 139 12_13_07.An1

Acquisition information
Start time:	13-Dec-2007 17:45:49
Live time:	900
Real time:	906
Dead time:	0.65 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 139 12_13_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 139 12_13_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1460

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.06	74.58	641.	381.	0.423	32.13	1.217	BI-207	D
119.24	77.29	867.	777.	0.864	19.34	1.218	BI-207	D
135.89	88.06	743.	127.	0.141	95.05	1.225	PB-214	D
328.94	213.15	352.	80.	0.089	135.10	1.886	TB-160	sM
367.50	238.23	354.	102.	0.113	84.04	1.318	PB-212	D
399.17	258.66	416.	120.	0.133	117.26	1.546	XE-138	s
751.55	487.04	94.	52.	0.058	124.90	1.926	LA-140	sM
787.56	510.38	248.	54.	0.060	130.55	1.509	J-133	D
829.29	537.44	88.	34.	0.037	185.10	0.870	BA-140	sM
1026.48	665.24	91.	105.	0.116	48.61	1.629	BI-214	D
1084.18	702.67	62.	48.	0.053	89.60	1.866	NB-94	
1185.14	768.13	110.	287.	0.319	26.68	1.995	BI-214	s
1212.39	785.80	67.	71.	0.079	66.38	1.198	PB-214	s
1243.81	806.44	80.	50.	0.056	86.11	1.747	BI-214	D
1440.42	933.66	93.	125.	0.139	50.23	2.004	BI-214	s
1910.14	1238.32	60.	230.	0.256	27.36	1.819	CO-56	s
1976.94	1281.66	52.	64.	0.072	73.28	1.650	BI-214	
2125.33	1377.92	35.	156.	0.173	31.76	2.395	BI-214	s
2162.10	1401.54	31.	40.	0.044	76.68	2.323	BI-214	D
2172.19	1408.09	36.	60.	0.067	57.10	2.330	EU-152	D
2328.04	1509.45	32.	72.	0.079	57.11	1.985	BI-214	s
2441.10	1582.81	21.	43.	0.047	77.31	1.642	-	s
2668.18	1730.18	9.	75.	0.083	41.32	2.109	BI-214	
3399.90	2205.20	3.	121.	0.134	28.74	2.529	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

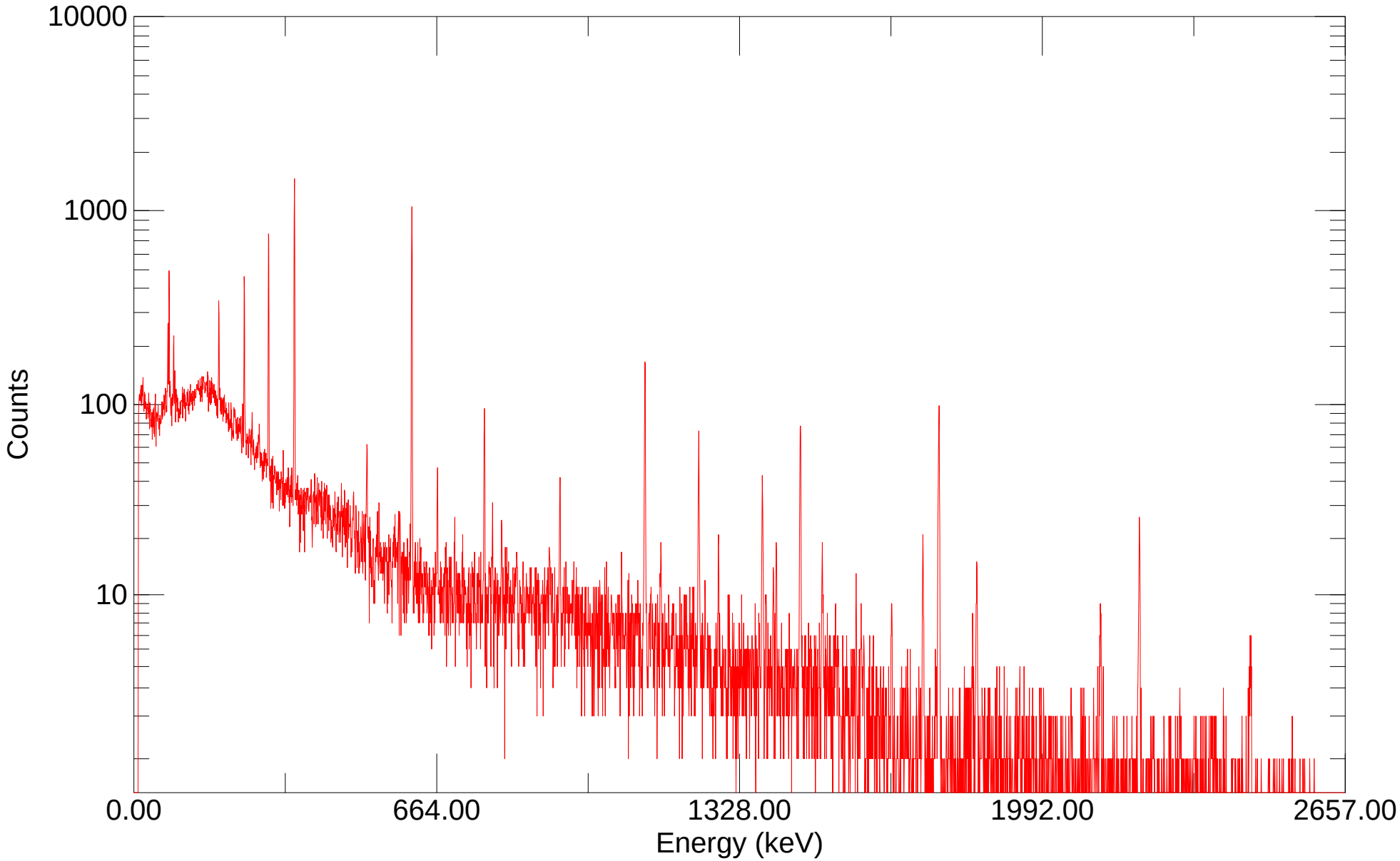
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.20	11.16	368.	178.	0.197	72.33	2.785s
Pb-210	72.24	46.82	387.	135.	0.150	91.17	1.897s
Th-234	94.64	61.33	642.	16.	0.018	688.86	0.657
Th-234	143.21	92.80	656.	49.	0.055	225.30	1.228D
Ra-226	287.18	186.09	764.	554.	0.616	35.81	1.327s
Pb-212	368.26	238.63	348.	0.	0.000	0.00	1.628D
Pb-214	373.43	241.98	426.	873.	0.970	14.28	1.321D
Pb-214	455.57	295.21	315.	1818.	2.020	8.16	1.356D
Tl-210	459.88	298.00	1115.	10.	0.011	1469.50	1.358D
Pb-212	463.10	300.09	239.	0.	0.000	6558.96	1.359D
Ac-228	523.80	339.43	196.	52.	0.058	176.32	0.868s
Pb-214	542.86	351.78	420.	3053.	3.392	6.51	1.271
Tl-208	788.26	510.84	213.	89.	0.098	76.82	1.509D
Tl-208	899.71	583.08	42.	87.	0.097	57.29	2.917s
Bi-214	939.79	609.06	171.	2518.	2.798	6.59	1.498
Cs-137	1020.86	661.62	80.	24.	0.026	172.73	1.626D
Bi-212	1116.00	723.30	90.	18.	0.020	272.70	0.246s
Pa-234m	1182.48	766.41	133.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	41.	0.	0.000	2713.72	1.741D
Tl-208	1327.33	860.33	45.	12.	0.013	346.41	1.303
Ac-228	1406.40	911.61	82.	48.	0.054	103.92	2.574s
Ac-228	1493.94	968.37	53.	10.	0.011	359.40	1.053s
Pa-234m	1541.79	999.41	46.	10.	0.012	321.67	1.129s
Bi-214	1728.03	1120.20	60.	593.	0.659	14.60	2.075s
Tl-210	2020.00	1309.59	10.	0.	0.000	1224.74	0.000s
K-40	2253.65	1461.18	45.	318.	0.353	21.05	2.345
Bi-212	2499.56	1620.75	15.	19.	0.021	133.51	1.323s
Bi-214	2721.90	1765.05	20.	414.	0.460	16.21	2.375
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 139 12_13_07

smp hs 139 12_13_07



Acquired: 12/13/2007 5:45:49 PM Real Time: 905.86 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 140 12_18_07.An1

Sample description
SMP HS 140 12_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 140 12_18_07.An1

Acquisition information
Start time:	18-Dec-2007 15:49:57
Live time:	900
Real time:	907
Dead time:	0.74 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 140 12_18_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 140 12_18_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0996

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
50.79	32.92	261.	72.	0.080	139.19	1.176	XE-138	s
119.16	77.22	484.	108.	0.120	139.66	1.213	PB-214	
134.30	87.03	260.	87.	0.097	108.88	1.380	BI-207	
229.66	148.81	570.	110.	0.122	141.75	1.246	TE-131	s
788.94	511.15	203.	52.	0.058	123.31	1.509	TL-208	D
1026.38	665.26	63.	53.	0.059	75.53	1.629	BI-214	D
1185.08	768.09	68.	152.	0.169	36.59	1.933	BI-214	
1440.78	933.90	69.	102.	0.113	55.67	1.574	BI-214	s
1782.63	1155.61	75.	49.	0.054	108.06	2.100	BI-214	M
1910.15	1238.33	51.	165.	0.183	34.93	2.287	CO-56	sM
2124.59	1377.44	21.	109.	0.121	36.82	2.824	BI-214	s
2171.94	1408.16	22.	60.	0.067	56.12	1.763	EU-152	
2327.99	1509.41	19.	65.	0.073	53.11	2.399	BI-214	
3399.08	2204.67	0.	73.	0.081	35.11	2.227	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 140 12_18_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.46	11.98	11.	2.	0.002	649.85	0.754
Pb-210	70.00	45.37	546.	25.	0.028	417.08	0.281s
Th-234	98.70	63.96	258.	36.	0.041	251.69	0.353s
Th-234	142.95	92.63	408.	96.	0.107	144.43	2.558s
Ra-226	287.30	186.16	616.	448.	0.498	41.45	1.356s
Pb-212	368.26	238.63	383.	0.	0.000	0.00	0.744D
Pb-214	373.47	242.00	382.	444.	0.493	31.44	1.354
Pb-214	455.57	295.21	197.	1055.	1.172	10.83	1.356D
Tl-210	459.88	298.00	784.	7.	0.008	1599.12	1.358D
Pb-212	463.10	300.09	279.	32.	0.036	226.64	1.359D
Ac-228	522.96	338.88	98.	15.	0.017	351.57	0.425s
Pb-214	542.80	351.74	314.	1763.	1.959	8.85	1.334
Tl-208	788.26	510.84	200.	51.	0.057	124.79	1.509D
Tl-208	900.28	583.45	76.	78.	0.086	86.41	2.527s
Bi-214	939.85	609.11	138.	1570.	1.745	8.61	1.738
Cs-137	1020.86	661.62	46.	9.	0.010	350.90	1.626D
Bi-212	1123.00	727.84	39.	8.	0.009	347.76	0.540s
Pa-234m	1182.48	766.41	28.	0.	0.000	0.00	0.758D
Tl-210	1232.25	798.68	41.	11.	0.012	291.08	0.675s
Tl-208	1327.90	860.70	30.	21.	0.023	169.63	1.349
Ac-228	1405.70	911.15	74.	43.	0.048	113.57	1.613
Ac-228	1495.09	969.12	68.	26.	0.029	169.42	2.371s
Pa-234m	1545.87	1002.05	58.	14.	0.016	293.81	2.870s
Bi-214	1728.31	1120.38	52.	362.	0.402	19.38	1.899
Tl-210	2016.63	1307.40	18.	17.	0.019	145.74	0.910s
K-40	2253.72	1461.22	31.	276.	0.306	21.62	2.208
Bi-212	2497.82	1619.62	7.	9.	0.010	167.36	0.631s
Bi-214	2722.03	1765.13	17.	247.	0.275	21.68	2.433
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

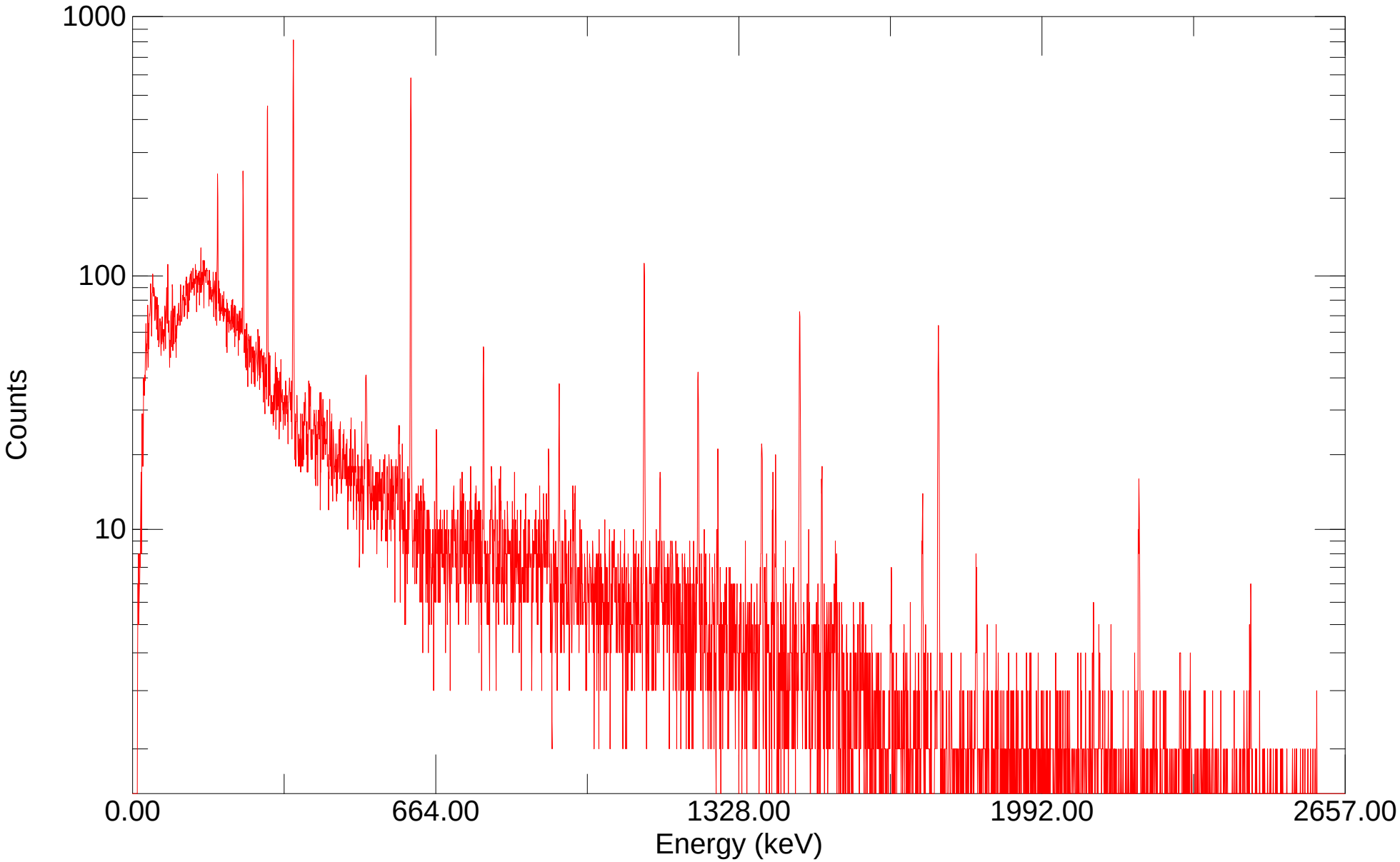
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 140 12_18_07

SMP HS 140 12_18_07



Acquired: 12/18/2007 3:49:57 PM Real Time: 906.74 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 141 12_18_07.An1

Sample description
SMP HS 141 12_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 141 12_18_07.An1

Acquisition information
Start time:	18-Dec-2007 15:18:22
Live time:	900
Real time:	909
Dead time:	0.96 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 141 12_18_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 141 12_18_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1263

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.10	74.54	435.	237.	0.263	42.11	1.217	BI-207	D
119.13	77.15	507.	341.	0.379	32.36	1.218	PB-214	D
135.88	88.05	519.	111.	0.124	91.39	1.225	PB-214	D
751.82	487.22	135.	68.	0.076	130.73	1.142	LA-140	sM
787.98	510.69	210.	82.	0.091	82.01	1.509	TL-208	D
1026.54	665.30	68.	92.	0.103	52.42	1.928	BI-214	
1058.37	685.94	54.	20.	0.023	172.45	1.672	W-187	
1185.34	768.25	86.	235.	0.261	25.71	1.714	BI-214	D
1212.28	785.73	60.	48.	0.053	83.89	1.733	PB-214	
1243.36	805.89	65.	64.	0.071	65.77	1.746	BI-214	D
1441.08	934.09	66.	158.	0.176	35.83	2.057	BI-214	
1781.60	1154.94	76.	78.	0.087	76.41	2.973	BI-214	s
1910.27	1238.40	87.	208.	0.231	34.01	2.129	CO-56	
1977.20	1281.82	32.	74.	0.082	55.85	1.389	BI-214	s
2125.28	1377.89	40.	133.	0.148	38.01	2.192	BI-214	
2172.63	1408.61	37.	77.	0.085	57.18	1.682	EU-152	
2327.45	1509.07	48.	64.	0.071	72.62	2.338	BI-214	
2562.28	1661.45	10.	51.	0.057	57.13	1.293	BI-214	s
2668.10	1730.13	7.	77.	0.086	39.03	1.587	BI-214	s
3399.43	2204.90	4.	110.	0.123	30.51	2.320	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 141 12_18_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.00	11.03	7.	1.	0.001	828.40	0.720
Pb-210	70.98	46.00	972.	127.	0.141	166.82	1.919s
Th-234	101.00	65.45	510.	14.	0.016	689.05	0.000s
Th-234	143.21	92.80	388.	47.	0.052	184.53	1.228D
Ra-226	287.21	186.11	688.	1011.	1.123	19.80	1.387s
Pb-212	368.26	238.63	458.	0.	0.000	0.00	1.309D
Pb-214	373.38	241.95	590.	847.	0.941	23.46	1.404
Pb-214	455.57	295.21	254.	1736.	1.928	8.19	1.356D
Tl-210	459.88	298.00	1107.	22.	0.024	653.83	1.358D
Pb-212	463.10	300.09	252.	2.	0.002	3904.90	1.359D
Ac-228	524.02	339.57	244.	44.	0.049	242.41	0.986s
Pb-214	542.88	351.80	464.	3073.	3.415	6.58	1.366
Tl-208	788.26	510.84	256.	36.	0.040	195.57	1.509D
Tl-208	898.38	582.22	84.	118.	0.131	67.55	0.767s
Bi-214	939.87	609.12	154.	2441.	2.712	6.62	1.554
Cs-137	1020.88	661.64	59.	0.	0.000	3266.36	1.626
Bi-212	1125.44	729.42	106.	22.	0.024	259.99	0.620s
Pa-234m	1182.48	766.41	249.	21.	0.024	318.09	1.713D
Tl-210	1233.83	799.70	53.	2.	0.002	1833.17	1.741D
Tl-208	1329.03	861.43	66.	46.	0.051	99.55	0.925s
Ac-228	1406.50	911.67	89.	70.	0.078	80.16	2.046s
Ac-228	1494.76	968.91	46.	44.	0.049	85.47	1.808
Pa-234m	1545.46	1001.78	42.	11.	0.012	293.74	1.207
Bi-214	1728.35	1120.40	58.	502.	0.557	15.68	1.976
Tl-210	2019.12	1309.02	24.	17.	0.019	166.48	0.595s
K-40	2253.69	1461.21	41.	320.	0.355	20.79	1.728
Bi-212	2499.48	1620.70	14.	11.	0.012	198.55	0.934s
Bi-214	2721.85	1765.02	6.	404.	0.449	15.36	2.362
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

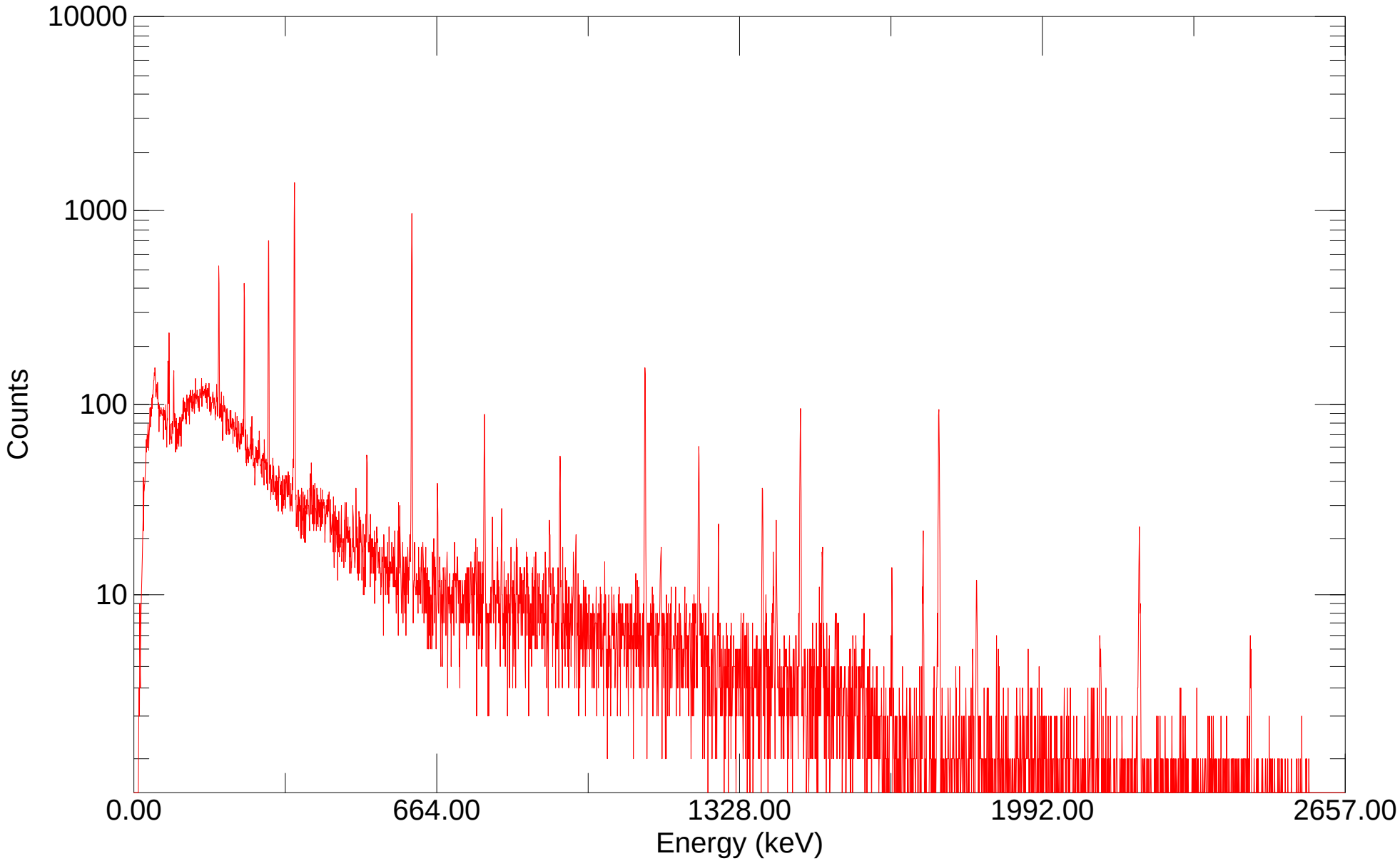
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 141 12_18_07

SMP HS 141 12_18_07



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File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 142 12_18_07.An1

Sample description
SMP HS 142 12_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 142 12_18_07.An1

Acquisition information
Start time:	18-Dec-2007 14:48:23
Live time:	900
Real time:	906
Dead time:	0.68 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 142 12_18_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 142 12_18_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1341

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.02	74.50	366.	135.	0.150	65.22	1.217	BI-207	D
119.29	77.26	380.	189.	0.210	48.91	1.218	BI-207	D
134.63	87.14	297.	125.	0.139	64.13	1.224	BI-207	D
139.61	90.37	362.	77.	0.086	109.96	1.226	PB-214	D
399.31	258.75	252.	74.	0.082	140.90	0.944	XE-138	s
788.51	510.97	153.	76.	0.084	77.56	1.509	TL-208	D
899.73	583.10	68.	37.	0.041	157.43	1.366	TL-208	s
1026.60	665.16	67.	57.	0.063	73.07	1.629	BI-214	D
1185.33	768.25	92.	119.	0.133	48.95	1.792	BI-214	
1212.84	786.09	66.	31.	0.034	135.48	1.850	PB-214	M
1440.97	934.02	84.	94.	0.104	60.97	1.651	BI-214	
1782.74	1155.68	31.	47.	0.052	74.47	1.660	BI-214	M
1862.79	1207.61	22.	22.	0.024	123.04	1.139	-	sM
1910.15	1238.33	57.	181.	0.201	33.52	1.975	CO-56	M
1976.07	1281.09	22.	44.	0.049	71.92	1.532	BI-214	M
2327.43	1509.05	22.	72.	0.080	53.51	1.878	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 142 12_18_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

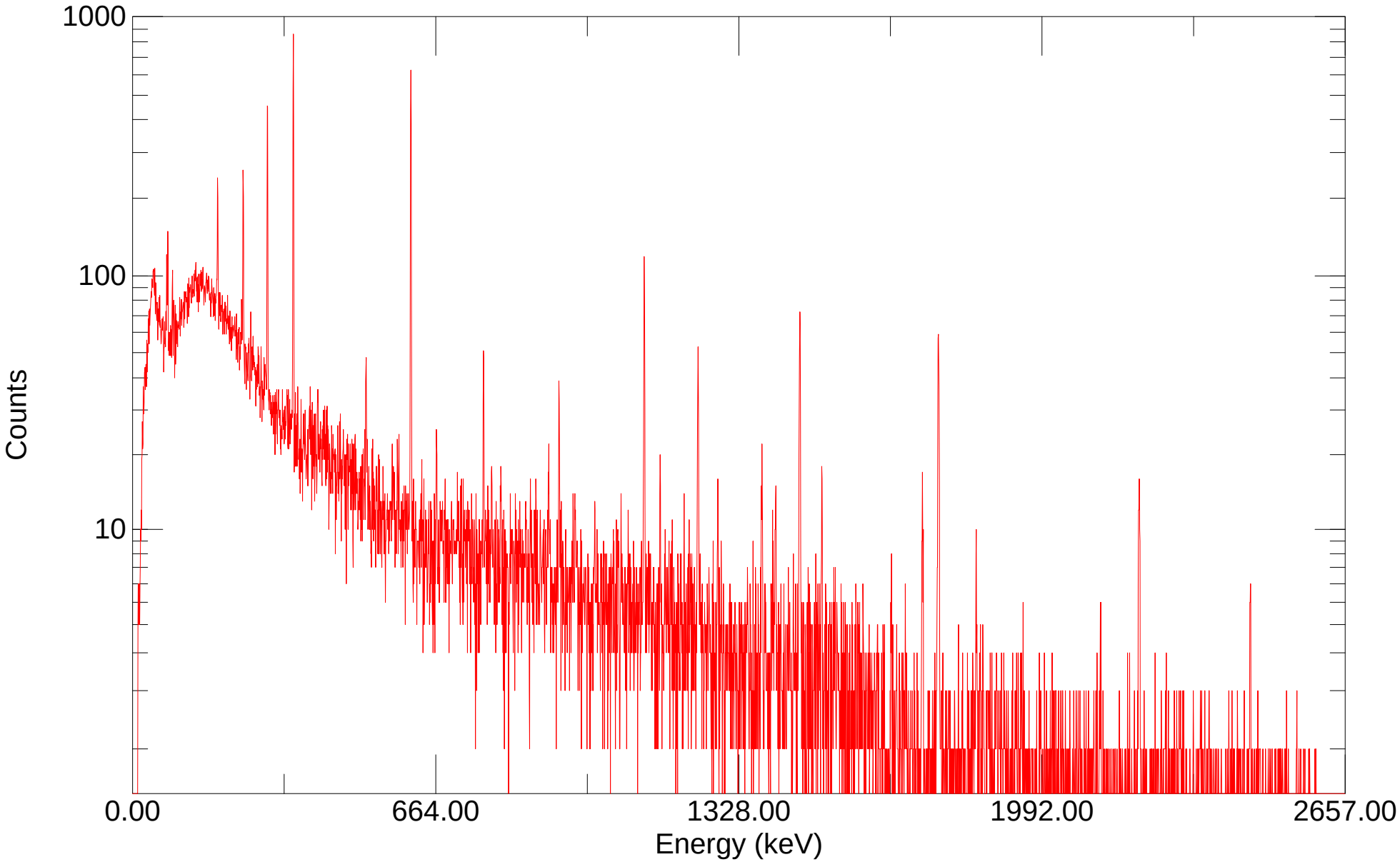
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	7.	3.	0.004	342.05	0.000s
Pb-210	75.03	48.63	966.	64.	0.071	248.74	0.632
Th-234	99.39	64.41	402.	22.	0.024	597.36	1.047s
Th-234	143.21	92.80	312.	39.	0.044	196.78	1.228D
Ra-226	287.18	186.09	725.	450.	0.500	46.19	1.467s
Pb-212	368.26	238.63	361.	72.	0.080	117.49	1.318D
Pb-214	373.43	241.98	319.	525.	0.583	19.50	1.321D
Pb-214	455.57	295.21	241.	1088.	1.209	10.92	1.356D
Tl-210	459.88	298.00	791.	6.	0.007	1864.75	1.358D
Pb-212	463.10	300.09	216.	13.	0.015	478.86	1.359D
Ac-228	521.57	337.98	188.	42.	0.047	223.83	2.309s
Pb-214	542.83	351.76	282.	1854.	2.060	8.34	1.372
Tl-208	788.26	510.84	208.	21.	0.023	298.17	1.509D
Tl-208	899.86	583.18	96.	0.	0.000	4156.92	1.564
Bi-214	939.90	609.14	121.	1663.	1.847	8.20	1.710
Cs-137	1020.86	661.62	59.	7.	0.007	515.04	1.626D
Bi-212	1116.57	723.67	102.	32.	0.035	188.14	0.564s
Pa-234m	1182.48	766.41	54.	0.	0.000	0.00	0.589D
Tl-210	1233.00	799.16	34.	7.	0.008	371.15	0.977s
Tl-208	1328.01	860.77	80.	28.	0.031	180.90	2.420s
Ac-228	1405.62	911.09	88.	64.	0.071	90.85	1.931s
Ac-228	1494.46	968.71	57.	26.	0.029	149.78	2.390s
Pa-234m	1543.00	1000.19	11.	3.	0.004	413.52	0.000s
Bi-214	1728.17	1120.29	54.	344.	0.382	19.81	1.842
Tl-210	2023.40	1311.79	12.	4.	0.005	376.73	0.631s
K-40	2253.88	1461.33	28.	295.	0.328	20.87	2.384
Bi-212	2500.00	1621.03	3.	0.	0.000	636.40	0.000s
Bi-214	2722.08	1765.16	11.	284.	0.316	19.34	2.985
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 142 12_18_07

SMP HS 142 12_18_07



Acquired: 12/18/2007 2:48:23 PM Real Time: 906.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 143 12_18_07.An1

Sample description
SMP HS 143 12_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 143 12_18_07.An1

Acquisition information
Start time:	18-Dec-2007 16:21:31
Live time:	900
Real time:	908
Dead time:	0.89 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 143 12_18_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 143 12_18_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1026

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
70.05	45.64	1256.	138.	0.154	111.69	1.200	EU-152	D
117.72	76.29	976.	441.	0.490	49.62	0.901	PB-214	s
134.60	87.22	714.	114.	0.127	143.42	1.356	BI-207	
362.31	234.83	908.	72.	0.081	179.83	1.316	J-134	D
400.71	259.65	1050.	162.	0.180	148.86	1.437	XE-138	
741.00	480.20	168.	53.	0.059	152.41	0.815	W-187	sM
787.61	510.66	334.	153.	0.170	56.32	1.509	TL-208	D
1026.45	665.17	152.	151.	0.168	42.35	1.629	BI-214	D
1085.01	703.21	158.	60.	0.066	153.41	1.370	RH-106M	s
1110.47	719.71	112.	62.	0.069	81.79	1.674	SB-126	D
1185.36	768.08	144.	446.	0.496	18.22	1.714	BI-214	D
1212.22	785.69	102.	102.	0.113	55.57	1.541	PB-214	M
1243.31	806.20	125.	100.	0.111	56.35	1.746	BI-214	D
1293.81	838.60	128.	98.	0.109	65.97	1.879	J-135	sM
1441.14	934.13	196.	332.	0.369	29.68	1.950	BI-214	
1781.93	1155.15	142.	138.	0.154	56.61	2.532	BI-214	sM
1909.79	1238.09	82.	340.	0.378	21.36	1.797	BI-214	M
1975.68	1280.84	72.	96.	0.107	55.20	1.792	BI-214	sM
2125.26	1377.84	70.	230.	0.255	25.12	2.298	BI-214	D
2137.45	1385.75	39.	53.	0.059	64.15	2.306	AG-110M	D
2161.81	1401.40	64.	86.	0.096	50.80	2.323	BI-214	D
2172.40	1408.27	63.	143.	0.159	34.37	2.331	EU-152	D
2327.88	1509.34	71.	145.	0.161	42.19	2.176	BI-214	s
2668.13	1730.15	16.	142.	0.158	30.44	2.479	BI-214	

ORTEC Spectrum name: SMP HS 143 12_18_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2850.21	1848.33	13.	108.	0.120	35.15	2.723	BI-214	
3267.06	2118.94	0.	52.	0.058	41.60	1.434	BI-214	s
3399.52	2204.96	10.	215.	0.239	22.43	2.470	BI-214	
3774.50	2448.47	0.	72.	0.080	35.36	1.763	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

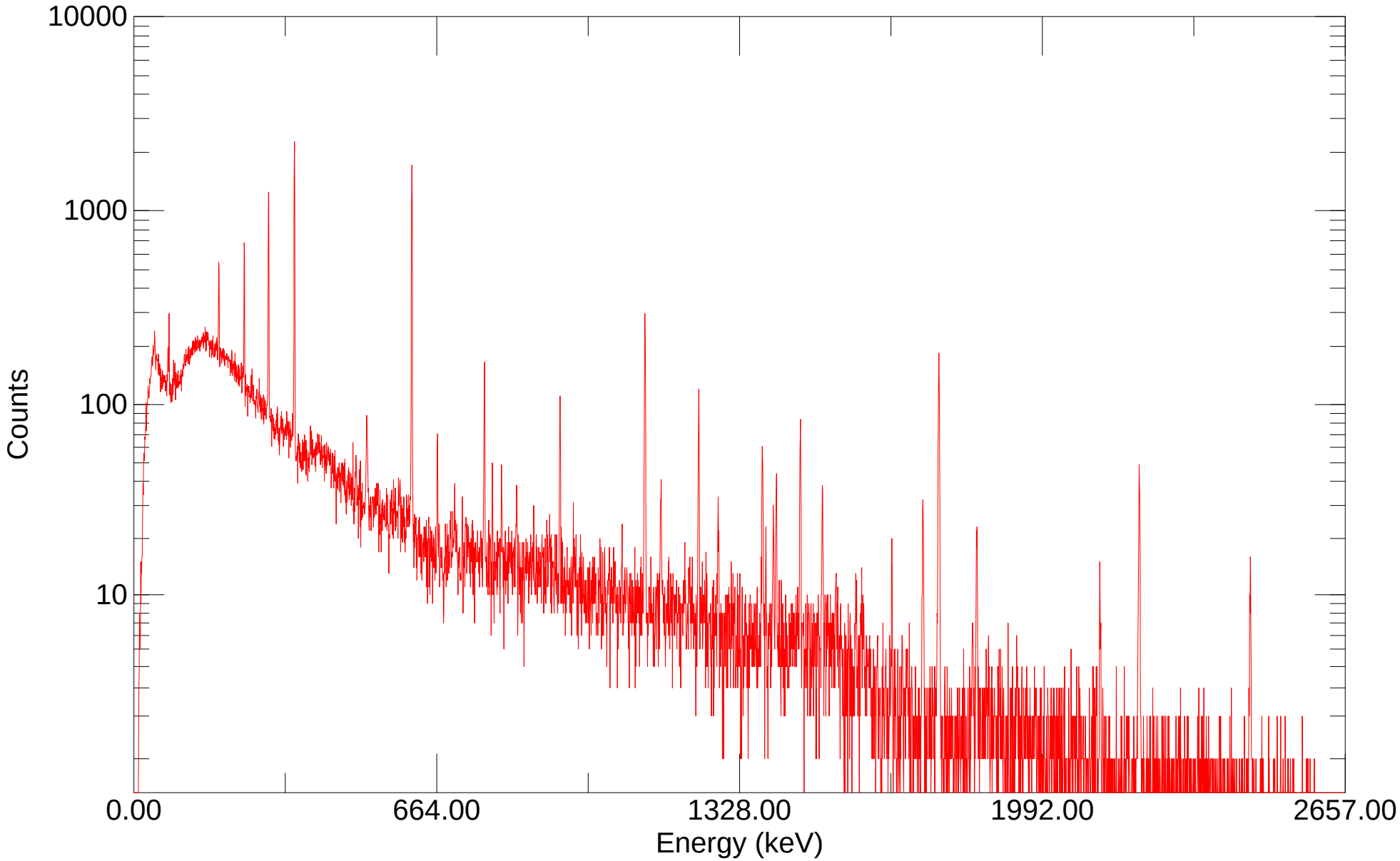
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	
Pb-210	19.00	12.33	13.	3.	0.003	585.77	0.000	s
Pb-210	71.75	46.50	1304.	61.	0.068	252.46	1.200	D
Th-234	96.61	62.61	492.	43.	0.048	271.91	1.108	
Th-234	144.18	93.43	912.	114.	0.127	179.91	1.231	s
Ra-226	287.16	186.07	1308.	1054.	1.171	24.80	1.573	s
Pb-212	368.26	238.63	759.	0.	0.000	0.00	1.870	D
Pb-214	373.43	241.98	789.	1399.	1.554	11.70	1.321	D
Pb-214	455.57	295.21	639.	3007.	3.341	6.53	1.356	D
Tl-210	459.88	298.00	1996.	66.	0.073	291.44	1.358	D
Pb-212	463.10	300.09	588.	64.	0.071	164.96	1.359	D
Ac-228	522.41	338.53	244.	31.	0.034	267.31	1.151	
Pb-214	542.84	351.76	691.	5045.	5.605	4.98	1.381	
Tl-208	788.26	510.84	467.	20.	0.023	456.99	1.509	D
Tl-208	899.85	583.17	141.	54.	0.060	138.11	1.897	s
Bi-214	939.82	609.09	329.	4623.	5.137	4.91	1.711	
Cs-137	1020.86	661.62	105.	9.	0.010	488.09	1.626	D
Bi-212	1121.96	727.17	116.	41.	0.045	121.72	1.680	D
Pa-234m	1182.48	766.41	513.	34.	0.037	291.05	1.713	D
Tl-210	1233.83	799.70	130.	22.	0.025	224.05	1.741	D
Tl-208	1324.78	858.67	100.	18.	0.020	264.22	0.602	s
Ac-228	1405.97	911.32	141.	46.	0.051	138.20	1.048	s
Ac-228	1495.65	969.48	42.	18.	0.021	209.72	0.741	s
Pa-234m	1543.11	1000.26	49.	9.	0.010	344.80	0.975	s
Bi-214	1728.13	1120.26	118.	1000.	1.111	11.27	2.109	
Tl-210	2020.66	1310.02	60.	26.	0.029	159.26	0.995	s
K-40	2253.48	1461.07	60.	276.	0.307	22.96	2.138	
Bi-212	2500.86	1621.59	20.	13.	0.014	197.17	1.658	s
Bi-214	2721.88	1765.04	32.	760.	0.845	11.79	2.401	
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000	s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____ _____
Supervisor

SMP HS 143 12_18_07

SMP HS 143 12_18_07



Acquired: 12/18/2007 4:21:31 PM Real Time: 908.10 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 144 12_18_07.An1

Sample description
SMP HS 144 12_18_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 144 12_18_07.An1

Acquisition information
Start time:	18-Dec-2007 14:25:08
Live time:	900
Real time:	909
Dead time:	1.03 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 144 12_18_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 144 12_18_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1444

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.63	74.98	516.	146.	0.162	70.40	1.217	BI-207	D
119.21	77.30	560.	178.	0.198	60.78	1.218	BI-207	D
134.25	86.99	518.	112.	0.124	132.39	1.218	BI-207	s
425.02	275.41	600.	128.	0.142	149.26	1.821	ND-147	s
750.90	486.62	95.	40.	0.044	144.75	1.605	LA-140	M
767.17	497.17	78.	46.	0.051	123.40	1.387	RU-103	M
788.01	510.89	195.	199.	0.221	61.45	2.468	TL-208	s
887.79	575.35	80.	36.	0.041	164.13	1.352	PA-234	M
900.77	583.75	119.	17.	0.019	285.63	1.565	TL-208	D
1026.16	665.36	85.	85.	0.094	56.64	1.629	BI-214	D
1085.05	703.24	69.	61.	0.068	75.15	1.909	RH-106M	s
1185.19	767.95	87.	217.	0.241	27.32	1.714	BI-214	D
1212.18	785.67	60.	44.	0.049	88.78	1.782	BI-212	M
1243.71	806.33	64.	80.	0.088	54.48	1.747	BI-214	D
1441.04	934.07	105.	140.	0.156	48.27	1.901	BI-214	s
1782.20	1155.33	42.	65.	0.073	60.99	1.954	BI-214	M
1910.20	1238.36	54.	220.	0.244	27.00	2.331	CO-56	M
1975.85	1280.95	32.	63.	0.070	57.58	2.598	BI-214	M
2125.69	1378.16	35.	144.	0.160	34.24	1.648	BI-214	s
2162.00	1401.71	28.	36.	0.040	83.89	1.642	BI-214	
2328.44	1509.71	32.	70.	0.078	55.22	2.271	BI-214	
2668.05	1730.09	15.	86.	0.096	42.15	2.801	BI-214	
2850.34	1848.41	3.	59.	0.065	43.72	2.096	BI-214	s
3399.55	2204.97	4.	120.	0.133	30.15	3.250	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

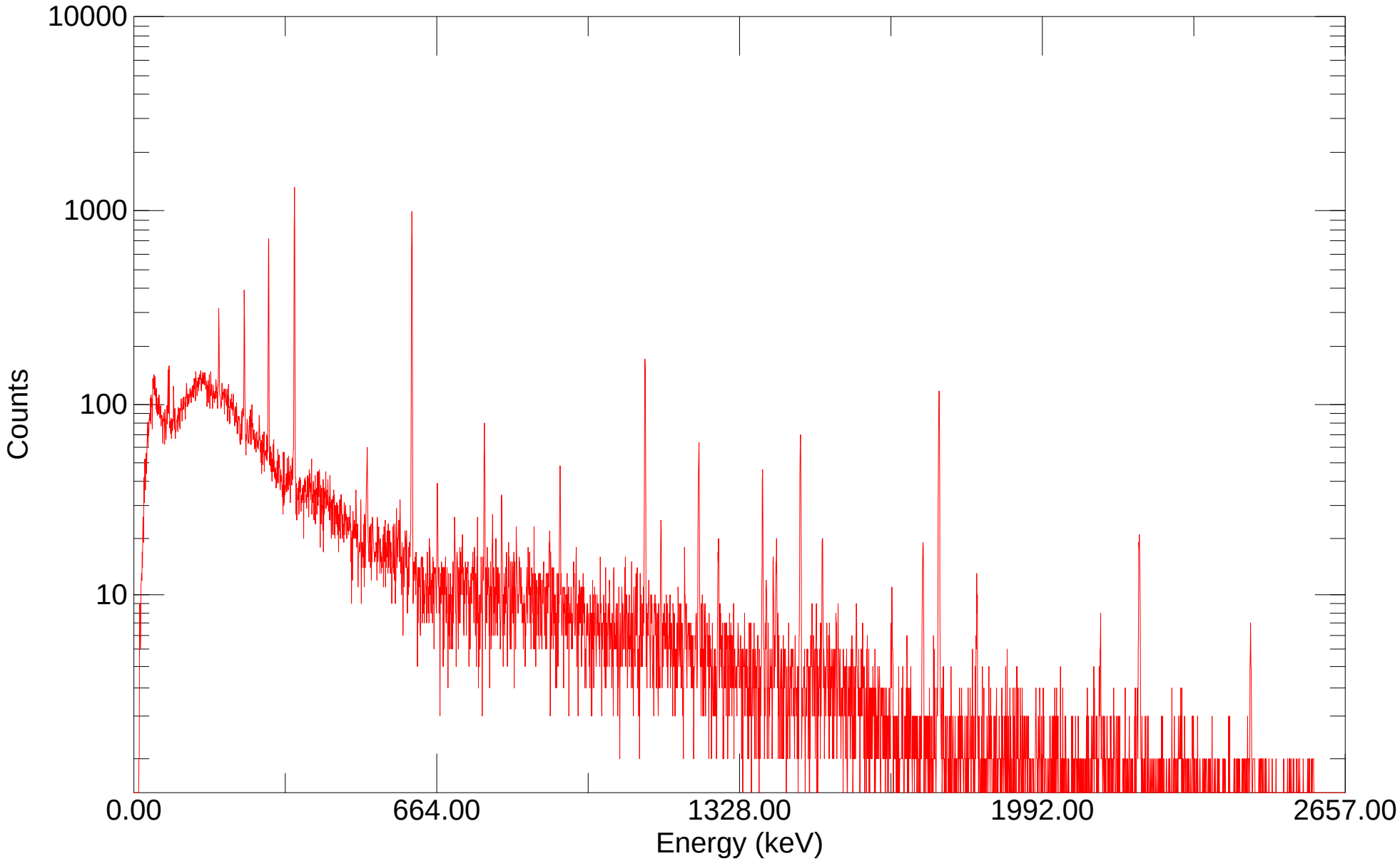
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	7.	1.	0.001	828.40	0.000s
Pb-210	71.87	46.58	721.	85.	0.094	203.65	0.903s
Th-234	99.00	64.16	223.	0.	0.000	5486.80	0.000s
Th-234	144.76	93.80	634.	62.	0.068	290.69	2.637s
Ra-226	287.06	186.01	1020.	520.	0.578	47.01	1.317s
Pb-212	368.26	238.63	510.	79.	0.088	125.11	1.318D
Pb-214	373.43	241.98	487.	777.	0.864	16.14	1.321D
Pb-214	455.57	295.21	375.	1671.	1.857	8.83	1.356D
Tl-210	459.88	298.00	1200.	30.	0.034	487.37	1.358D
Pb-212	463.10	300.09	387.	25.	0.028	333.04	1.359D
Ac-228	525.04	340.23	268.	70.	0.078	160.93	1.418s
Pb-214	542.90	351.81	492.	3002.	3.336	6.75	1.448
Tl-208	788.35	510.90	309.	0.	0.000	7457.88	1.509
Tl-208	899.80	583.14	90.	30.	0.033	144.98	1.564D
Bi-214	939.93	609.16	184.	2611.	2.901	6.49	1.688
Cs-137	1020.86	661.62	76.	21.	0.023	190.92	1.626D
Bi-212	1120.37	726.14	54.	43.	0.048	128.64	2.634s
Pa-234m	1182.48	766.41	243.	23.	0.025	300.65	1.713D
Tl-210	1233.83	799.70	84.	11.	0.012	359.24	1.741D
Tl-208	1327.78	860.62	53.	20.	0.022	183.12	1.898
Ac-228	1406.17	911.46	102.	54.	0.060	105.41	2.257s
Ac-228	1495.76	969.55	58.	33.	0.036	125.99	1.479
Pa-234m	1543.58	1000.56	36.	15.	0.017	199.00	0.840s
Bi-214	1728.26	1120.34	94.	558.	0.619	16.29	2.009
Tl-210	2021.00	1310.24	15.	3.	0.003	597.65	0.000s
K-40	2253.68	1461.20	24.	272.	0.302	20.55	2.499
Bi-212	2498.71	1620.20	19.	14.	0.016	190.43	1.422s
Bi-214	2722.28	1765.29	15.	463.	0.514	15.02	2.373
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 144 12_18_07

SMP HS 144 12_18_07



Acquired: 12/18/2007 2:25:08 PM Real Time: 909.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 145 12_19_07.An1

Sample description
SMP HS 145 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 145 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 11:16:26
Live time:	900
Real time:	912
Dead time:	1.27 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 145 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:		
Knee Energy:	0.00 keV	
Above the Knee:	None	Uncertainty = 0.00 %
Below the Knee:	None	Uncertainty = 0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 145 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1189

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.37	74.80	1441.	567.	0.630	31.08	1.217	BI-207	D
119.06	77.19	1382.	1104.	1.227	16.90	1.218	PB-214	D
134.59	87.19	1099.	498.	0.553	31.29	1.224	BI-207	D
138.99	90.04	1145.	219.	0.243	68.59	1.226	PB-214	D
256.46	166.18	2256.	143.	0.159	224.22	1.445	KR-88	
399.56	258.91	1264.	201.	0.223	120.53	1.340	XE-138	
424.70	275.20	1290.	241.	0.268	111.21	1.729	ND-147	s
597.93	387.47	755.	244.	0.271	84.95	1.618	-	sM
740.03	479.58	428.	100.	0.112	147.81	1.135	W-187	sM
751.58	487.12	291.	132.	0.147	60.56	1.491	LA-140	D
759.61	492.32	323.	67.	0.074	119.97	1.495	TE-131	D
787.65	510.70	430.	181.	0.202	53.35	1.509	TL-208	D
893.72	579.15	215.	99.	0.110	69.73	1.561	KR-89	D
1026.17	665.09	206.	216.	0.240	34.82	1.629	BI-214	D
1083.40	702.17	145.	154.	0.171	62.34	2.324	NB-94	sM
1184.97	768.02	303.	715.	0.794	17.44	1.741	BI-214	
1212.24	785.70	227.	143.	0.159	58.98	2.265	PB-214	sM
1243.52	805.81	184.	189.	0.210	37.46	1.746	PA-234	D
1294.19	838.84	196.	106.	0.118	72.91	2.081	J-135	sM
1440.58	933.77	265.	409.	0.454	26.82	1.777	BI-214	
1487.14	963.88	174.	68.	0.076	89.55	1.887	EU-152	D
1781.79	1155.06	207.	208.	0.231	45.60	2.097	BI-214	M
1862.99	1207.73	144.	92.	0.102	83.30	1.972	-	M
1909.59	1237.97	134.	623.	0.692	15.60	2.431	BI-214	M

ORTEC Spectrum name: SMP HS 145 12_19_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1975.69	1280.84	120.	181.	0.201	40.63	1.941	BI-214	sM
2124.78	1377.60	111.	408.	0.453	18.47	2.297	BI-214	D
2136.58	1385.26	81.	99.	0.110	48.86	2.306	AG-110M	D
2161.36	1401.38	75.	144.	0.160	35.83	2.323	BI-214	D
2171.57	1408.01	76.	251.	0.279	24.00	2.330	BI-214	D
2327.15	1508.87	143.	198.	0.220	38.57	2.036	BI-214	
2441.87	1583.31	80.	83.	0.092	68.86	3.124	AC-228	s
2562.00	1661.27	28.	101.	0.112	40.40	2.900	BI-214	
2667.39	1729.67	35.	271.	0.301	22.92	2.619	BI-214	
2849.19	1847.67	21.	196.	0.218	24.96	1.990	BI-214	
3267.03	2118.92	3.	102.	0.113	31.60	3.807	BI-214	
3398.56	2204.33	13.	336.	0.373	17.73	3.992	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	19.	4.	0.004	488.56	0.000s
Pb-210	71.47	46.32	1779.	101.	0.112	252.34	0.752
Th-234	96.42	62.49	1089.	119.	0.132	168.64	2.098s
Th-234	143.21	92.80	1095.	87.	0.096	165.20	1.228D
Ra-226	287.21	186.11	2452.	1524.	1.694	24.11	1.378s
Pb-212	368.26	238.63	1334.	0.	0.000	0.00	0.840D
Pb-214	373.16	241.80	2112.	2762.	3.069	14.81	1.450s
Pb-214	455.57	295.21	958.	5406.	6.006	4.75	1.356D
Tl-210	459.88	298.00	3158.	33.	0.037	714.02	1.358D
Pb-212	463.10	300.09	925.	37.	0.041	353.52	1.359D
Ac-228	523.29	339.10	598.	68.	0.076	230.16	0.771s
Pb-214	542.71	351.69	1202.	9524.	10.583	3.64	1.487
Tl-208	788.26	510.84	574.	37.	0.041	278.18	1.509D
Tl-208	899.80	583.14	308.	41.	0.046	186.76	1.564D
Bi-214	939.60	608.94	471.	7853.	8.725	3.71	1.670
Cs-137	1020.86	661.62	144.	27.	0.030	199.94	1.626D
Bi-212	1123.13	727.93	192.	78.	0.086	141.10	3.323s
Pa-234m	1182.48	766.41	508.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	116.	31.	0.034	157.19	1.741D
Tl-208	1325.48	859.13	135.	48.	0.053	175.72	0.831s
Ac-228	1404.41	910.31	130.	96.	0.107	88.71	1.487s
Ac-228	1495.08	969.11	161.	43.	0.048	132.49	1.891D
Pa-234m	1546.17	1002.25	102.	20.	0.023	226.91	0.795s
Bi-214	1727.78	1120.03	211.	1702.	1.891	8.77	1.921
Tl-210	2019.53	1309.29	48.	11.	0.012	287.86	0.686s
K-40	2252.72	1460.57	96.	325.	0.361	24.02	2.437s
Bi-212	2500.00	1621.03	13.	0.	0.000	0.00	0.000s

ORTEC Spectrum name: SMP HS 145 12_19_07.An1

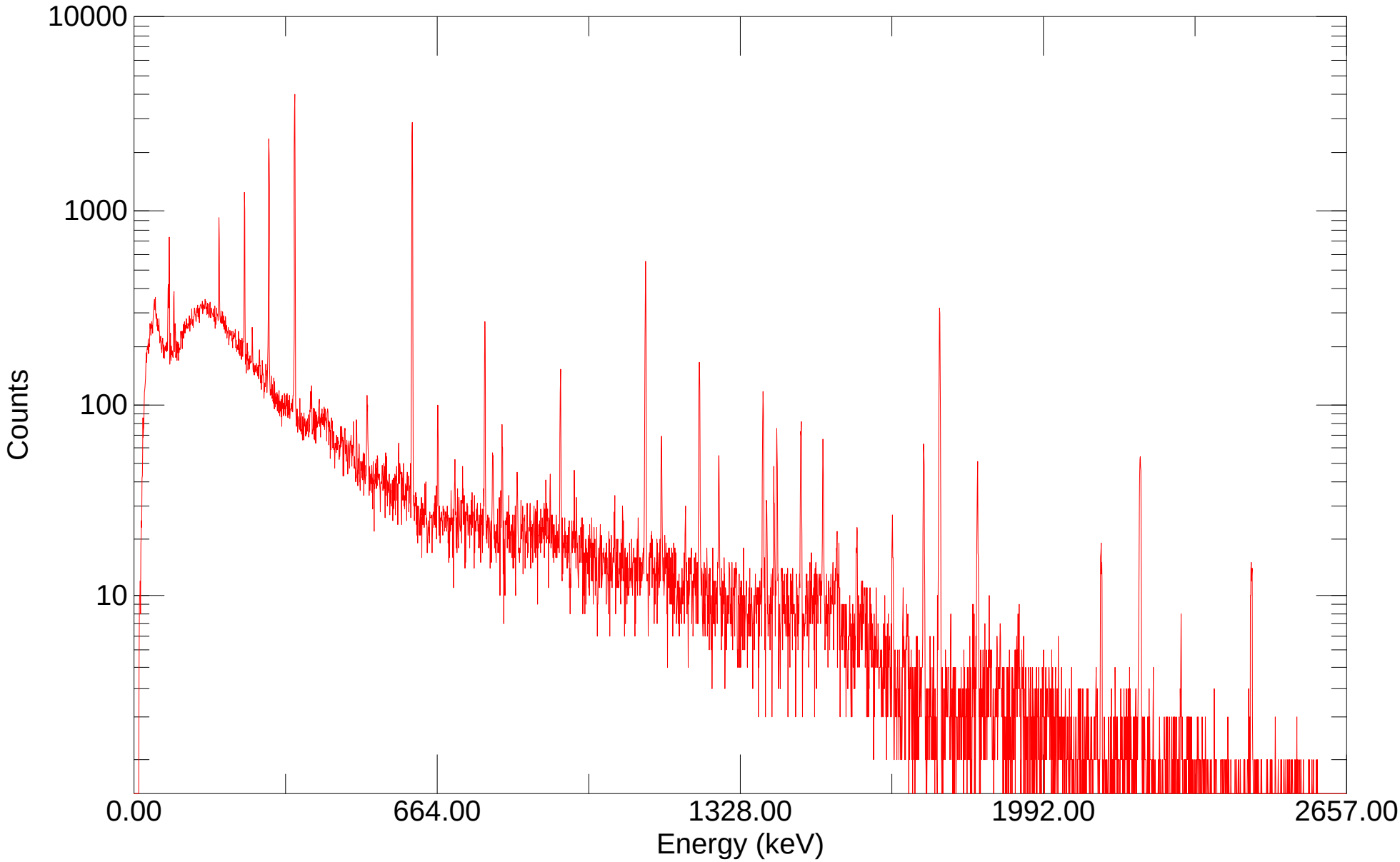
Nuclide	Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM
Bi-214	2721.21	1764.60	11.	1310.	1.455	8.43	2.393
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 145 12_19_07

SMP HS 145 12_19_07



Acquired: 12/19/2007 11:16:26 AM Real Time: 911.60 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 146 12_19_07.An1

Sample description
SMP HS 146 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 146 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 08:58:52
Live time:	900
Real time:	909
Dead time:	1.01 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 146 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 146 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1438

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
114.78	74.31	613.	161.	0.179	69.33	1.217	BI-207	D
119.16	77.14	524.	293.	0.326	37.46	1.218	PB-214	D
133.63	86.59	556.	106.	0.118	143.93	2.069	BI-207	s
271.66	176.03	738.	90.	0.101	193.68	0.900	SB-125	s
750.69	486.49	128.	68.	0.076	117.39	1.647	LA-140	M
786.87	510.02	252.	67.	0.074	107.80	1.508	J-133	D
899.64	583.04	94.	44.	0.048	149.31	1.320	TL-208	
1026.05	665.04	82.	102.	0.113	47.94	1.629	BI-214	D
1109.48	719.08	72.	71.	0.079	101.32	2.045	SB-126	sM
1184.84	767.94	152.	246.	0.273	34.11	1.712	BI-214	s
1243.47	805.91	76.	57.	0.063	76.74	1.746	BI-214	D
1440.49	933.71	128.	158.	0.175	48.42	1.521	BI-214	s
1909.20	1237.71	54.	246.	0.273	24.63	2.411	J-133	M
2124.77	1377.55	30.	128.	0.143	32.10	2.297	BI-214	D
2137.47	1385.79	28.	42.	0.047	70.64	2.306	AG-110M	D
2161.08	1400.90	40.	67.	0.074	54.44	2.323	BI-214	D
2171.96	1407.96	51.	86.	0.095	47.87	2.330	BI-214	D
2328.47	1509.73	47.	108.	0.120	48.80	2.508	BI-214	s
2667.45	1729.71	10.	105.	0.117	33.81	2.251	BI-214	
2848.79	1847.41	10.	64.	0.072	49.17	2.601	BI-214	
3398.08	2204.02	0.	130.	0.144	26.31	2.699	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 146 12_19_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

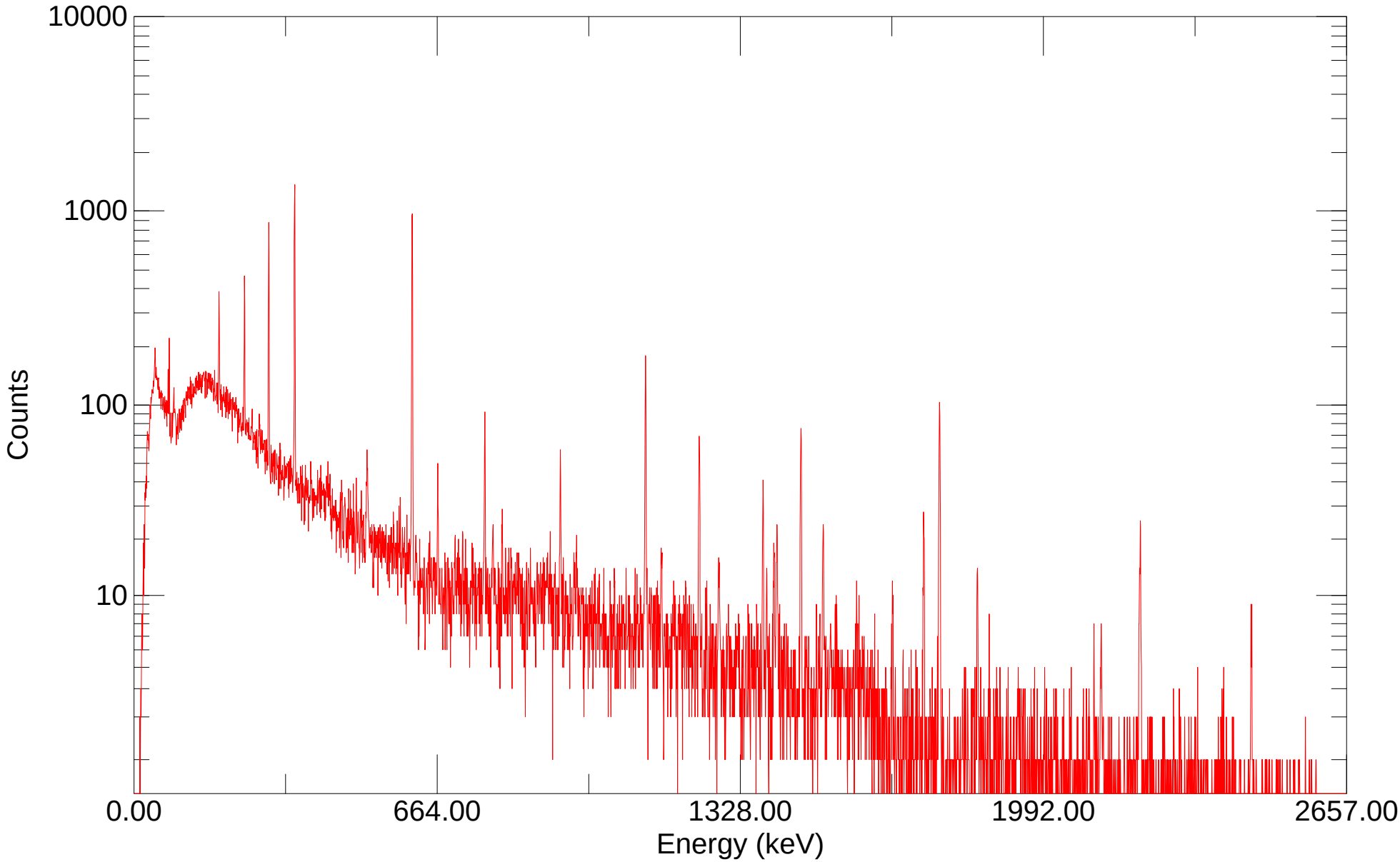
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	15.00	9.73	0.	0.	0.000	300.00	0.000s
Pb-210	70.54	45.72	934.	176.	0.195	113.14	1.573s
Th-234	99.92	64.75	626.	62.	0.068	261.82	1.585s
Th-234	146.06	94.64	452.	66.	0.074	206.65	0.945s
Ra-226	287.16	186.08	788.	693.	0.770	29.47	1.381s
Pb-212	368.26	238.63	500.	0.	0.000	0.00	0.778D
Pb-214	373.12	241.78	720.	878.	0.976	24.63	1.305
Pb-214	455.57	295.21	313.	1897.	2.107	7.95	1.356D
Tl-210	459.88	298.00	1063.	8.	0.009	1788.56	1.358D
Pb-212	463.10	300.09	349.	34.	0.037	241.25	1.359D
Ac-228	522.00	338.26	105.	16.	0.018	312.91	0.648s
Pb-214	542.59	351.61	438.	3271.	3.634	6.16	1.483
Tl-208	788.26	510.84	270.	52.	0.058	140.67	1.509D
Tl-208	899.83	583.16	138.	0.	0.000	4983.97	1.564
Bi-214	939.50	608.88	176.	2768.	3.076	6.25	1.707
Cs-137	1020.86	661.62	85.	14.	0.016	289.69	1.626D
Bi-212	1119.39	725.50	60.	51.	0.057	119.25	1.026s
Pa-234m	1182.48	766.41	200.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	69.	16.	0.018	229.09	1.741D
Tl-208	1325.34	859.04	41.	18.	0.020	170.53	0.888s
Ac-228	1405.26	910.86	81.	21.	0.023	213.57	0.859s
Ac-228	1494.81	968.93	76.	38.	0.043	118.11	1.840
Pa-234m	1546.50	1002.46	45.	9.	0.010	370.31	0.745s
Bi-214	1727.79	1120.04	67.	608.	0.676	14.40	1.956
Tl-210	2020.00	1309.59	13.	0.	0.000	1389.24	0.000s
K-40	2252.58	1460.49	35.	286.	0.318	21.05	2.481
Bi-212	2494.88	1617.71	16.	2.	0.003	793.73	0.582s
Bi-214	2720.86	1764.37	12.	439.	0.488	15.08	2.543
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 146 12_19_07

SMP HS 146 12_19_07



Acquired: 12/19/2007 8:58:52 AM Real Time: 909.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 147 12_15_07.An1

Sample description
SMP HS 147 12_15_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 147 12_15_07.An1

Acquisition information
Start time:	15-Dec-2007 09:58:27
Live time:	900
Real time:	932
Dead time:	3.39 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 147 12_15_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 147 12_15_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1306

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
69.25	45.32	7629.	698.	0.776	54.28	1.200	EU-155	D
115.34	74.77	6081.	1504.	1.671	23.32	1.217	BI-207	D
119.09	77.20	5061.	2643.	2.936	12.83	1.218	PB-214	D
134.58	87.18	4109.	1184.	1.316	24.56	1.224	BI-207	D
139.00	90.05	3488.	568.	0.631	45.85	1.226	PB-214	D
173.88	112.67	3582.	282.	0.313	128.59	1.973	LU-177	s
195.83	126.90	4302.	159.	0.177	248.65	1.194	PA-234	
303.22	196.48	5264.	325.	0.361	143.04	1.846	KR-88	s
399.29	258.74	3964.	974.	1.083	46.46	1.657	XE-138	s
423.11	274.17	4290.	773.	0.859	63.19	1.748	CS-136	s
471.57	305.68	2577.	79.	0.088	274.96	1.363	BA-140	D
596.05	386.24	1709.	361.	0.401	51.15	1.418	-	D
599.88	388.72	2346.	513.	0.570	42.20	1.420	RH-106M	D
625.63	405.42	1563.	253.	0.281	95.64	1.750	J-134	sM
701.95	454.89	1845.	280.	0.311	114.15	1.673	TE-131	sM
712.52	461.74	1467.	402.	0.447	68.68	3.248	CS-138	sM
731.61	474.02	1150.	106.	0.118	138.65	1.482	RH-106M	D
741.37	480.34	1305.	322.	0.358	50.38	1.486	W-187	D
750.86	486.49	1293.	369.	0.410	44.23	1.491	LA-140	D
787.62	510.44	1524.	181.	0.202	94.00	1.509	J-133	D
823.72	533.82	945.	158.	0.176	126.10	1.373	-	M
838.25	543.24	1004.	228.	0.253	95.32	1.791	J-134	sM
885.12	573.64	998.	119.	0.132	116.33	1.557	SB-126	D
894.87	579.95	980.	309.	0.344	46.21	1.562	KR-89	D

ORTEC Spectrum name: SMP HS 147 12_15_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
976.39	632.79	539.	128.	0.142	118.43	2.084	AG-108	s
1026.50	665.31	778.	1041.	1.157	14.69	1.629	BI-214	D
1084.51	702.89	842.	464.	0.516	49.75	1.898	RH-106M	s
1109.82	719.30	900.	366.	0.407	66.92	2.084	SB-126	s
1159.86	751.74	700.	190.	0.211	104.62	2.824	LA-140	sM
1185.17	768.15	962.	3073.	3.414	7.64	1.845	BI-214	
1212.43	785.82	788.	694.	0.771	22.87	2.017	PB-214	M
1243.73	806.12	1013.	864.	0.960	22.60	1.874	BI-214	
1266.78	821.07	518.	111.	0.123	133.56	1.695	PA-234	M
1293.89	838.65	844.	438.	0.487	37.33	2.304	J-135	sM
1357.26	879.74	462.	106.	0.118	132.29	1.492	CE-143	M
1440.82	933.92	1334.	1710.	1.901	14.49	1.889	BI-214	
1487.44	964.23	621.	263.	0.292	44.26	1.887	EU-152	D
1622.64	1051.84	548.	179.	0.199	69.81	2.075	CS-136	
1650.91	1070.18	648.	113.	0.126	123.34	1.969	J-134	
1748.47	1133.45	563.	198.	0.220	67.56	3.250	J-135	sM
1781.97	1155.18	782.	974.	1.082	20.04	2.309	BI-214	sM
1822.93	1181.75	432.	87.	0.097	128.24	1.377	KR-88	M
1862.96	1207.72	460.	232.	0.258	51.92	2.353	-	M
1910.09	1238.29	648.	2652.	2.947	8.19	2.179	CO-56	M
1933.83	1253.69	394.	177.	0.197	62.48	2.458	KR-88	sM
1976.12	1281.12	482.	604.	0.672	23.77	2.379	BI-214	M
2125.34	1377.89	368.	1702.	1.891	8.70	2.298	BI-214	D
2137.19	1385.58	370.	326.	0.362	30.03	2.306	AG-110M	D
2162.06	1401.72	389.	645.	0.716	17.56	2.323	BI-214	D
2172.13	1408.26	425.	993.	1.104	12.96	2.330	EU-152	D
2328.23	1509.57	539.	801.	0.889	17.91	2.391	BI-214	
2373.89	1539.27	389.	225.	0.250	42.28	2.475	RB-89	D
2381.06	1543.92	405.	121.	0.135	75.39	2.480	-	D
2442.36	1583.63	340.	328.	0.364	42.04	2.440	AC-228	
2460.83	1595.56	324.	125.	0.139	66.47	2.539	LA-140	D
2467.28	1599.74	303.	166.	0.185	50.17	2.544	EU-154	D
2562.55	1661.63	247.	421.	0.468	27.49	2.814	BI-214	s
2598.22	1684.78	153.	121.	0.134	65.95	1.140	-	s
2668.05	1730.10	177.	1019.	1.133	11.83	2.516	BI-214	
2835.79	1838.98	81.	139.	0.154	37.55	2.830	RH-106M	D
2850.04	1848.23	103.	724.	0.804	12.64	2.841	BI-214	D
2889.30	1873.70	138.	71.	0.079	105.46	1.800	-	s
2926.58	1897.90	89.	78.	0.087	74.05	1.548	-	s
3268.04	2119.58	50.	333.	0.370	21.12	2.909	BI-214	
3399.73	2205.09	68.	1481.	1.646	8.77	2.554	BI-214	
3537.61	2294.63	12.	78.	0.086	42.62	1.187	-	s
3775.23	2448.94	0.	413.	0.459	14.76	3.250	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 147 12_15_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	7.	1.	0.001	828.40	0.324s
Pb-210	71.75	46.50	8918.	592.	0.657	68.83	1.200D
Th-234	97.26	63.03	4405.	98.	0.109	381.31	0.740
Th-234	143.21	92.80	3790.	23.	0.025	1162.39	1.228D
Ra-226	287.20	186.10	7474.	6524.	7.248	10.04	1.497s
Pb-212	368.26	238.63	3981.	187.	0.208	144.70	1.318D
Pb-214	373.43	241.98	3973.	10269.	11.411	3.94	1.321D
Pb-214	455.57	295.21	3470.	22972.	25.525	2.26	1.356D
Tl-210	459.88	298.00	13679.	0.	0.000	49620.76	1.358D
Pb-212	463.10	300.09	3116.	0.	0.000	23683.47	1.359D
Ac-228	522.00	338.26	961.	0.	0.000	11390.13	0.000s
Pb-214	542.78	351.73	4288.	40498.	44.998	1.72	1.480
Tl-208	788.26	510.84	1513.	192.	0.213	88.57	1.509D
Tl-208	899.80	583.14	605.	0.	0.000	0.00	0.567D
Bi-214	939.83	609.09	1750.	34371.	38.190	1.76	1.712
Cs-137	1020.86	661.62	669.	50.	0.056	222.09	1.626D
Bi-212	1120.28	726.08	846.	143.	0.159	163.38	1.579s
Pa-234m	1182.48	766.41	1631.	0.	0.000	0.00	0.000D
Tl-210	1233.83	799.70	516.	0.	0.000	0.00	2.560D
Tl-208	1326.01	859.47	592.	46.	0.051	357.57	0.560s
Ac-228	1404.78	910.55	688.	106.	0.118	175.76	0.730s
Ac-228	1495.08	969.11	645.	33.	0.037	329.42	1.891D
Pa-234m	1538.93	997.55	782.	90.	0.100	172.43	1.700
Bi-214	1728.21	1120.31	846.	7650.	8.499	4.15	2.043
Tl-210	2021.00	1310.24	85.	0.	0.000	3387.48	0.000s
K-40	2253.78	1461.26	458.	368.	0.408	36.22	2.234
Bi-212	2500.70	1621.49	153.	18.	0.020	350.71	0.848s
Bi-214	2721.92	1765.06	184.	5460.	6.067	4.28	2.614
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

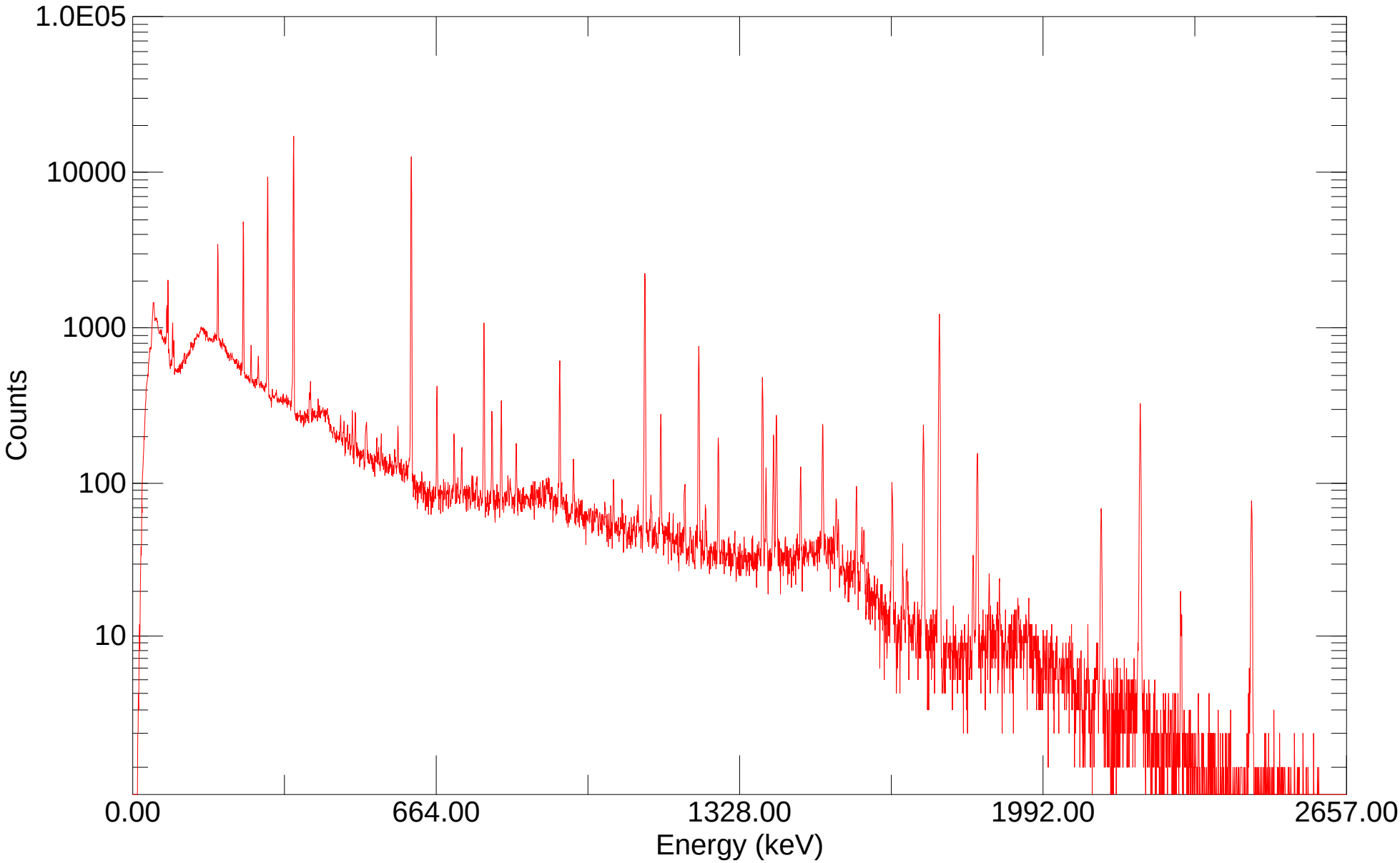
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 147 12_15_07

SMP HS 147 12_15_07



Acquired: 12/15/2007 9:58:27 AM Real Time: 931.56 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 148 12_19_07.An1

Sample description
SMP HS 148 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 148 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 09:41:23
Live time:	900
Real time:	908
Dead time:	0.89 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 148 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 148 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1248

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
133.91	86.78	273.	90.	0.100	114.60	1.622	BI-207	s
311.36	201.76	580.	145.	0.161	124.57	1.631	U-235	s
786.75	510.11	199.	69.	0.077	94.12	1.508	J-133	D
899.47	582.97	37.	41.	0.046	78.31	1.564	TL-208	D
1026.45	664.95	59.	61.	0.067	66.36	1.629	PA-234	D
1185.00	768.04	92.	152.	0.169	42.93	2.247	BI-214	s
1211.27	785.08	79.	64.	0.071	85.35	2.119	BI-212	sM
1440.77	933.89	58.	96.	0.107	53.64	1.701	BI-214	s
1909.50	1237.91	40.	131.	0.146	36.28	2.254	BI-214	M
2124.48	1377.37	32.	90.	0.099	46.50	1.385	BI-214	s
2171.73	1408.03	28.	54.	0.060	65.26	2.072	EU-152	s
2328.12	1509.50	21.	59.	0.066	60.80	1.649	BI-214	
3398.59	2204.35	0.	82.	0.091	33.13	1.775	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 148 12_19_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.67	11.46	4.	2.	0.002	474.34	0.726
Pb-210	71.99	46.66	328.	50.	0.055	209.57	1.818s
Th-234	98.61	63.90	297.	64.	0.071	165.86	1.242
Th-234	144.00	93.31	146.	8.	0.009	680.96	0.648
Ra-226	287.05	186.00	500.	274.	0.305	54.94	1.447s
Pb-212	368.26	238.63	344.	42.	0.047	192.69	1.318D
Pb-214	373.43	241.98	327.	497.	0.552	20.47	1.321D
Pb-214	455.57	295.21	262.	1039.	1.154	11.42	1.356D
Tl-210	459.88	298.00	660.	6.	0.006	1884.04	1.358D
Pb-212	463.10	300.09	270.	21.	0.023	337.70	1.359D
Ac-228	520.68	337.41	230.	56.	0.062	203.01	0.849s
Pb-214	542.67	351.65	282.	1845.	2.050	8.43	1.529
Tl-208	788.26	510.84	226.	49.	0.054	138.07	1.509D
Tl-208	899.80	583.14	74.	4.	0.004	1009.42	1.564D
Bi-214	939.57	608.92	148.	1550.	1.723	8.80	1.727
Cs-137	1020.86	661.62	49.	8.	0.009	386.18	1.626D
Bi-212	1123.17	727.95	30.	2.	0.002	1081.67	0.810s
Pa-234m	1182.48	766.41	107.	0.	0.000	0.00	0.000D
Tl-210	1231.06	797.91	52.	21.	0.024	177.38	0.872s
Tl-208	1326.17	859.57	25.	6.	0.007	359.98	0.729s
Ac-228	1405.32	910.90	60.	50.	0.055	90.08	1.924s
Ac-228	1495.16	969.16	68.	38.	0.042	122.81	0.900s
Pa-234m	1547.27	1002.96	32.	22.	0.024	148.13	2.144s
Bi-214	1727.72	1119.99	60.	351.	0.390	20.97	2.140
Tl-210	2025.66	1313.26	24.	25.	0.028	127.56	0.661s
K-40	2252.93	1460.71	27.	301.	0.335	19.89	2.099s
Bi-212	2498.00	1619.74	3.	0.	0.000	636.40	0.162s
Bi-214	2720.94	1764.42	7.	282.	0.314	18.75	2.103
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

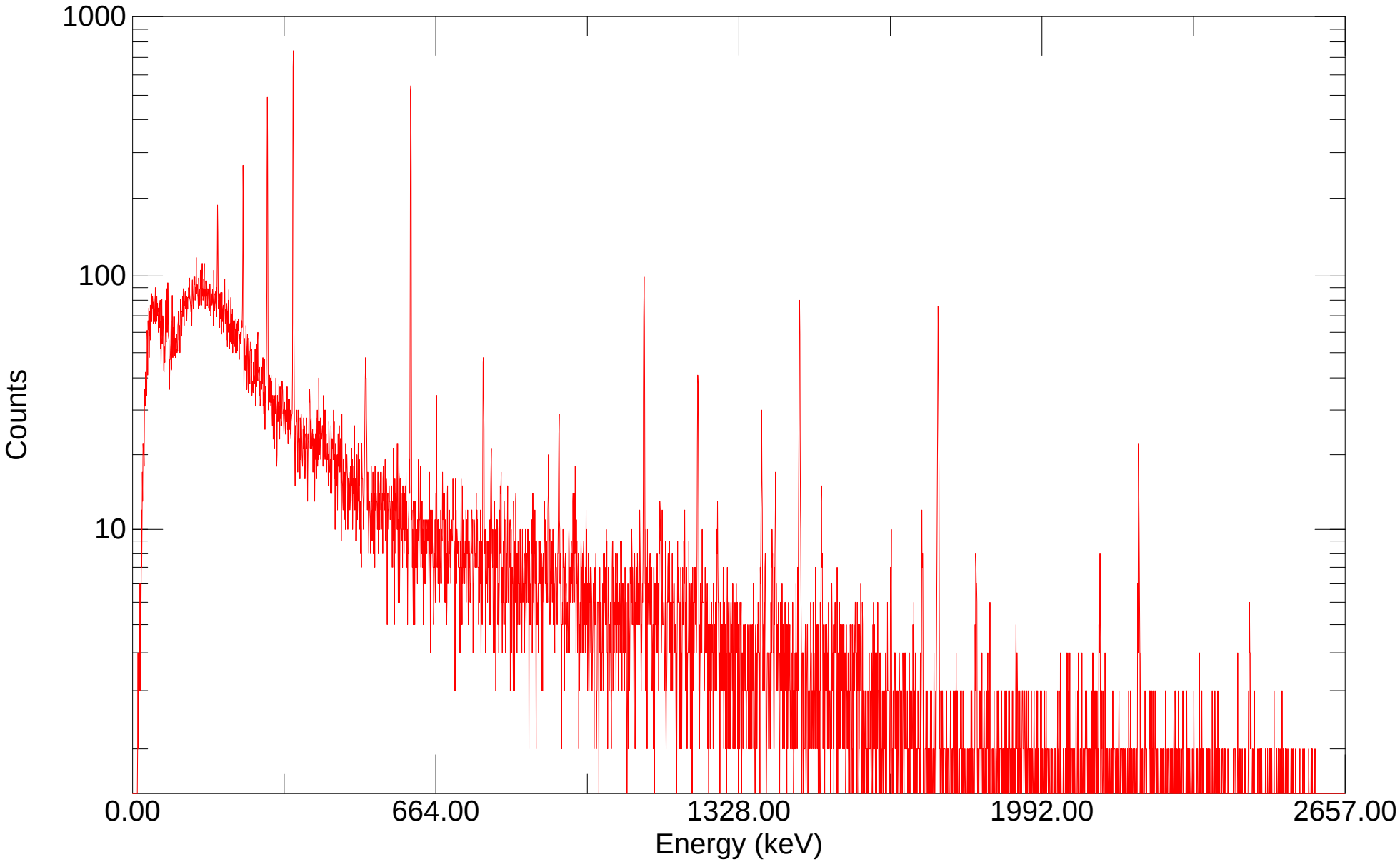
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 148 12_19_07

SMP HS 148 12_19_07



Acquired: 12/19/2007 9:41:23 AM Real Time: 908.06 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 149 12_19_07.An1

Sample description
SMP HS 149 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 149 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 10:05:55
Live time:	900
Real time:	907
Dead time:	0.73 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 149 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 149 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1498

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.05	74.61	394.	198.	0.219	47.71	1.217	BI-207	D
119.22	77.31	544.	366.	0.407	31.24	1.218	BI-207	D
134.48	87.14	298.	104.	0.115	98.07	0.944	PB-214	
899.28	582.80	54.	19.	0.021	177.94	1.094	TL-208	
1184.78	767.90	50.	122.	0.135	38.67	1.699	BI-214	
1440.71	933.85	40.	82.	0.091	51.42	1.766	BI-214	
1781.95	1155.17	20.	28.	0.032	92.52	0.898	BI-214	sM
1909.38	1237.83	40.	121.	0.134	38.49	2.464	BI-214	M
2124.59	1377.44	37.	61.	0.067	69.50	1.910	BI-214	
2171.64	1407.97	21.	55.	0.061	60.98	1.896	BI-214	s
2327.10	1508.84	15.	45.	0.050	64.48	1.424	BI-214	s
2666.82	1729.30	7.	58.	0.064	49.87	1.319	BI-214	s
3399.08	2204.67	0.	74.	0.082	34.87	1.587	BI-214	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 149 12_19_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	17.40	11.29	158.	162.	0.179	54.80	2.221s
Pb-210	71.84	46.56	342.	82.	0.091	139.31	1.164
Th-234	97.25	63.02	300.	60.	0.067	177.48	0.897s
Th-234	144.86	93.87	388.	60.	0.067	210.89	2.417s
Ra-226	287.24	186.12	360.	319.	0.354	39.44	1.140
Pb-212	368.26	238.63	360.	0.	0.000	0.00	0.910D
Pb-214	373.23	241.85	300.	441.	0.490	29.97	1.307
Pb-214	455.28	295.02	270.	1018.	1.131	15.89	1.375
Tl-210	459.88	298.00	579.	0.	0.000	10208.82	1.358D
Pb-212	462.83	299.91	189.	0.	0.000	5832.67	1.359
Ac-228	520.46	337.26	240.	28.	0.031	286.86	0.727s
Pb-214	542.71	351.68	221.	1667.	1.852	8.76	1.368
Tl-208	788.21	510.81	114.	147.	0.164	44.12	3.327s
Tl-208	899.78	583.13	73.	0.	0.000	3624.91	1.564
Bi-214	939.61	608.95	101.	1364.	1.516	8.93	1.632
Cs-137	1020.33	661.28	50.	2.	0.002	1514.93	0.582s
Bi-212	1122.97	727.82	24.	24.	0.026	147.64	1.399
Pa-234m	1182.48	766.41	52.	0.	0.000	0.00	0.000D
Tl-210	1234.50	800.14	25.	4.	0.004	529.45	0.973s
Tl-208	1326.56	859.83	16.	2.	0.002	803.12	0.620s
Ac-228	1404.84	910.59	70.	39.	0.044	117.35	1.008s
Ac-228	1494.72	968.88	65.	26.	0.029	162.91	0.935s
Pa-234m	1540.44	998.53	28.	11.	0.012	238.28	0.622s
Bi-214	1727.79	1120.04	42.	322.	0.358	19.72	2.015
Tl-210	2019.45	1309.23	8.	11.	0.012	141.71	1.280s
K-40	2252.98	1460.74	16.	266.	0.295	20.20	2.240
Bi-212	2499.00	1620.39	2.	0.	0.000	519.62	0.000s
Bi-214	2721.17	1764.57	8.	274.	0.305	19.30	2.191
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

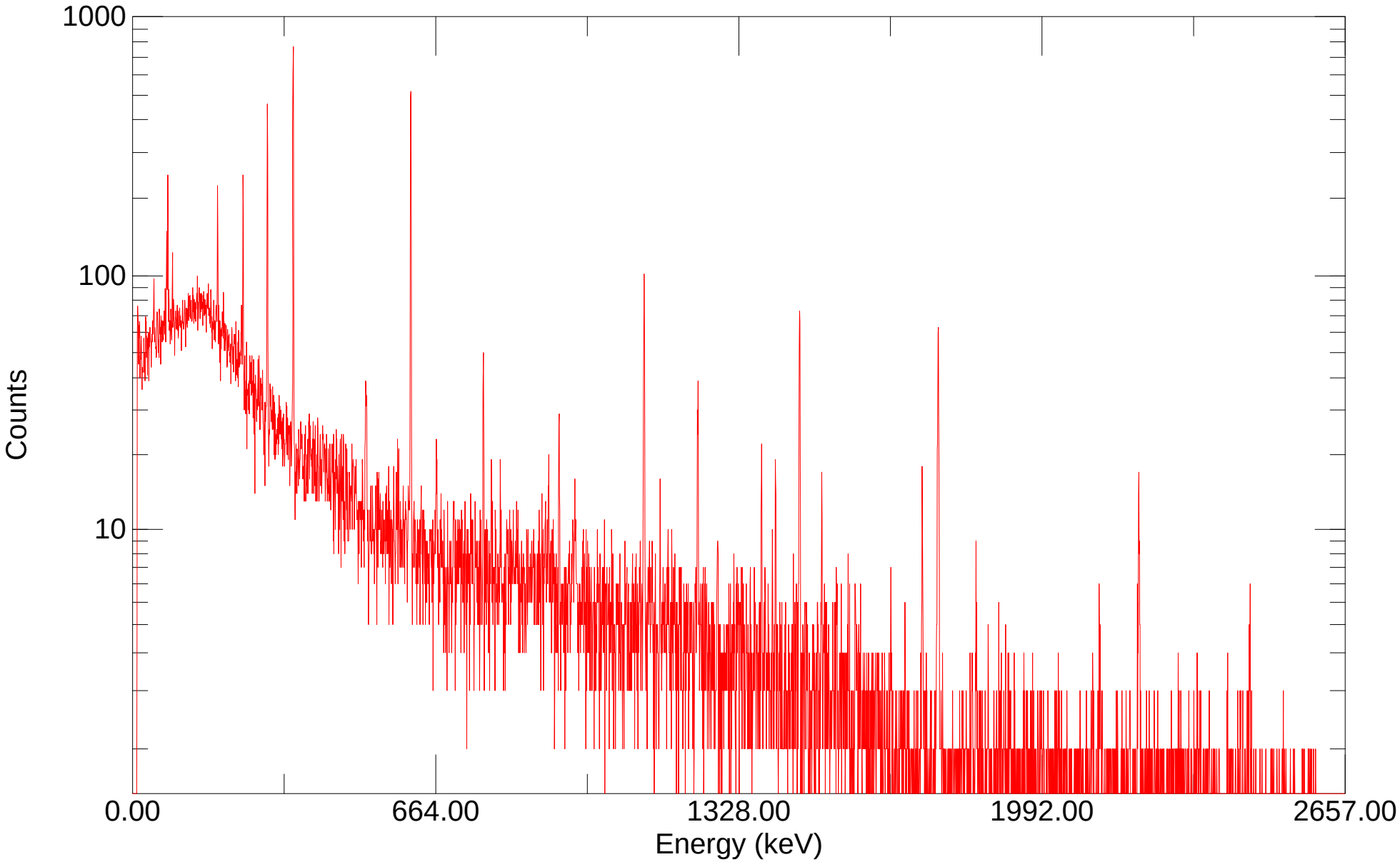
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 149 12_19_07

SMP HS 149 12_19_07



Acquired: 12/19/2007 10:05:55 AM Real Time: 906.58 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 150 12_19_07.An1

Sample description
SMP HS 150 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 150 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 10:37:31
Live time:	900
Real time:	907
Dead time:	0.81 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 150 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 150 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1618

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
119.34	77.33	537.	127.	0.141	112.67	0.893	PB-214	
400.04	259.22	464.	143.	0.159	104.12	1.440	XE-138	s
598.35	387.75	315.	101.	0.112	132.54	1.554	-	sM
683.25	442.77	132.	55.	0.061	131.70	1.868	EU-152	sM
732.12	474.11	127.	38.	0.042	134.41	1.482	RH-106M	D
739.60	478.96	166.	48.	0.053	122.58	1.485	W-187	D
787.55	510.54	285.	88.	0.097	87.73	1.509	J-133	D
894.43	579.24	78.	56.	0.062	77.90	1.561	KR-89	D
1026.27	665.10	86.	117.	0.130	43.44	1.629	BI-214	D
1108.64	718.53	94.	54.	0.061	141.66	1.048	RH-106M	sM
1184.96	767.95	106.	252.	0.280	25.64	1.714	BI-214	D
1212.02	785.56	108.	83.	0.092	104.69	1.402	BI-212	sM
1243.39	805.74	76.	85.	0.095	54.21	1.746	PA-234	D
1440.90	933.97	112.	171.	0.190	40.93	1.647	BI-214	s
1591.44	1031.60	32.	16.	0.018	167.38	1.762	RB-89	s
1782.10	1155.26	61.	109.	0.121	48.43	2.272	BI-214	sM
1862.36	1207.33	53.	31.	0.034	131.07	1.660	-	M
1909.59	1237.96	58.	237.	0.263	26.32	2.282	BI-214	sM
2124.69	1377.51	43.	170.	0.189	31.84	2.940	BI-214	s
2172.05	1408.23	37.	102.	0.114	43.44	1.562	EU-152	
2327.19	1508.89	24.	97.	0.108	39.62	1.212	BI-214	s
2667.45	1729.70	12.	86.	0.095	39.89	2.192	BI-214	
2849.90	1848.13	3.	71.	0.079	38.18	2.912	BI-214	
3398.98	2204.60	7.	107.	0.119	32.62	1.983	BI-214	s

ORTEC Spectrum name: SMP HS 150 12_19_07.An1

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

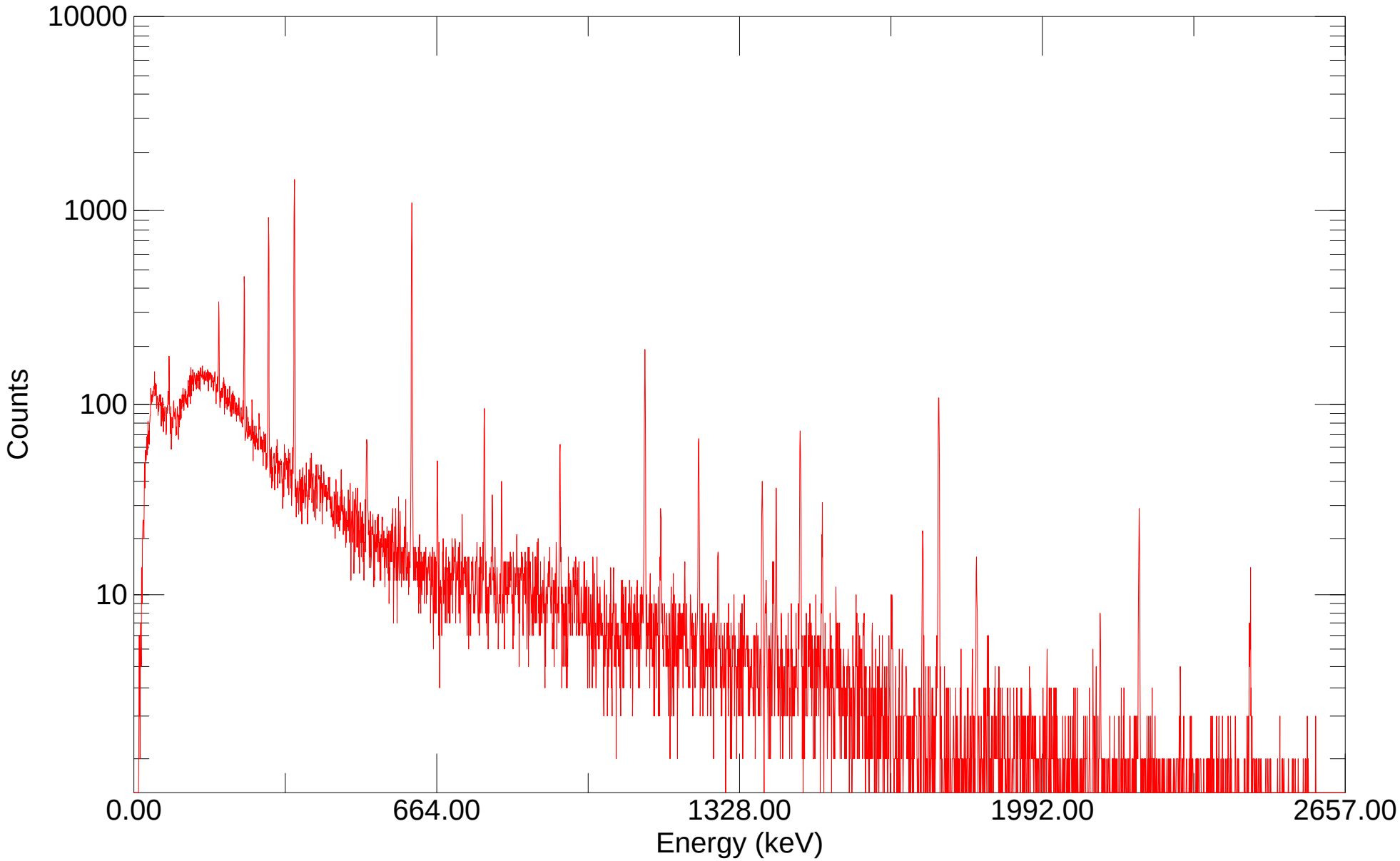
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	18.67	12.11	8.	7.	0.008	205.54	0.726
Pb-210	74.35	48.19	721.	101.	0.112	171.80	1.226s
Th-234	97.43	63.14	525.	93.	0.103	159.85	0.937s
Th-234	143.49	92.98	278.	15.	0.017	582.75	1.281
Ra-226	287.21	186.11	860.	556.	0.618	37.60	1.440s
Pb-212	368.26	238.63	440.	52.	0.058	175.26	1.318D
Pb-214	373.43	241.98	552.	926.	1.029	14.60	1.321D
Pb-214	455.57	295.21	366.	2118.	2.353	7.56	1.356D
Tl-210	459.88	298.00	1261.	35.	0.039	430.52	1.358D
Pb-212	463.10	300.09	356.	55.	0.061	152.37	1.359D
Ac-228	523.90	339.49	308.	14.	0.016	559.34	0.594s
Pb-214	542.75	351.71	548.	3416.	3.795	6.30	1.488
Tl-208	788.26	510.84	307.	66.	0.074	118.16	1.509D
Tl-208	899.80	583.14	101.	48.	0.054	97.91	1.564D
Bi-214	939.70	609.00	222.	3016.	3.352	6.13	1.680
Cs-137	1020.86	661.62	50.	11.	0.012	290.60	1.626D
Bi-212	1122.95	727.81	69.	14.	0.016	270.62	0.721s
Pa-234m	1182.48	766.41	333.	2.	0.003	3220.91	1.713D
Tl-210	1233.83	799.70	36.	6.	0.006	456.82	1.741D
Tl-208	1325.85	859.37	47.	4.	0.005	656.38	0.757s
Ac-228	1403.72	909.86	110.	46.	0.051	131.11	1.061s
Ac-228	1493.49	968.08	75.	14.	0.016	287.40	1.705
Pa-234m	1543.68	1000.63	37.	13.	0.014	229.08	1.441
Bi-214	1727.87	1120.09	109.	616.	0.684	15.54	1.991
Tl-210	2018.35	1308.52	14.	4.	0.004	427.26	0.708s
K-40	2253.14	1460.85	42.	298.	0.331	21.73	2.396
Bi-212	2496.88	1619.01	16.	18.	0.020	135.40	1.347s
Bi-214	2721.47	1764.77	15.	483.	0.536	14.67	2.724
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 150 12_19_07

SMP HS 150 12_19_07



Acquired: 12/19/2007 10:37:31 AM Real Time: 907.34 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 151 12_19_07.An1

Sample description
SMP HS 151 12_19_07

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 151 12_19_07.An1

Acquisition information
Start time:	19-Dec-2007 15:03:16
Live time:	900
Real time:	945
Dead time:	4.78 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 151 12_19_07.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 151 12_19_07.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1260

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
68.56	44.54	11372.	1088.	1.209	42.57	1.199	EU-155	D
115.41	74.83	7558.	2286.	2.540	17.31	1.217	BI-207	D
119.10	77.22	6780.	3710.	4.122	10.63	1.218	PB-214	D
134.66	87.25	5077.	1921.	2.134	17.16	1.224	BI-207	D
139.02	90.07	5147.	693.	0.770	45.37	1.226	PB-214	D
146.91	95.18	4662.	202.	0.224	145.28	1.229	PA-234	D
235.14	152.36	7312.	328.	0.365	147.04	1.773	TA-182	s
399.20	258.68	4960.	886.	0.984	51.61	1.479	XE-138	s
423.26	274.27	7332.	852.	0.946	77.60	1.875	SR-91	s
470.22	304.79	3682.	135.	0.150	191.92	1.362	BA-140	D
513.25	332.59	4385.	331.	0.368	147.93	0.952	U-237	s
598.68	387.96	3660.	799.	0.888	56.64	1.810	RH-106M	sM
626.11	405.73	3190.	352.	0.392	113.87	1.824	J-134	sM
701.20	454.41	2160.	450.	0.500	74.03	1.944	TE-131	sM
711.51	461.09	1572.	350.	0.389	73.74	2.013	CS-138	sM
724.22	469.33	2392.	458.	0.509	82.79	1.827	-	sM
740.86	480.11	1995.	534.	0.593	62.82	1.846	W-187	sM
751.33	486.90	1965.	596.	0.662	56.02	2.230	LA-140	sM
788.22	510.79	2312.	262.	0.291	80.01	1.509	TL-208	D
823.15	533.45	1180.	226.	0.252	98.53	1.763	ND-147	M
894.91	579.97	1525.	393.	0.437	74.57	1.327	-	
956.45	619.86	502.	80.	0.088	161.79	0.766	SB-126	s
1026.49	665.21	952.	1273.	1.414	13.29	1.629	BI-214	D
1053.56	682.82	458.	76.	0.085	160.63	1.311	-	M

ORTEC Spectrum name: SMP HS 151 12_19_07.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
1084.80	703.08	1164.	464.	0.516	60.00	1.964	RH-106M	sM
1110.26	719.59	960.	435.	0.483	58.34	1.899	SB-126	s
1185.29	768.19	957.	3539.	3.932	6.26	1.714	BI-214	D
1212.56	785.91	1114.	747.	0.830	25.68	1.777	PB-214	
1243.66	806.07	741.	956.	1.062	15.50	1.746	BI-214	D
1294.48	839.03	1124.	502.	0.557	56.55	1.905	J-135	sM
1440.91	933.98	1220.	1968.	2.186	11.84	1.924	BI-214	
1487.06	963.85	789.	259.	0.288	49.54	1.887	EU-152	D
1622.47	1051.73	668.	239.	0.266	59.45	2.299	CS-136	s
1650.66	1070.01	616.	193.	0.214	68.43	2.233	J-134	
1702.42	1103.59	616.	141.	0.157	94.89	1.727	J-135	s
1748.78	1133.65	614.	176.	0.196	76.57	2.208	J-135	s
1782.13	1155.29	792.	965.	1.072	19.34	2.203	BI-214	
1862.61	1207.49	638.	286.	0.317	52.72	2.253	-	s
1910.02	1238.24	648.	3140.	3.489	7.23	2.198	CO-56	
1934.45	1254.09	548.	176.	0.195	74.60	2.905	TA-182	s
1976.22	1281.19	640.	805.	0.894	21.28	1.908	BI-214	
2011.36	1303.99	316.	110.	0.122	74.58	2.220	-	D
2096.79	1359.40	237.	35.	0.039	199.76	1.288	CO-56	s
2125.31	1377.81	454.	1956.	2.173	8.21	2.298	BI-214	D
2137.26	1385.56	477.	399.	0.443	27.69	2.306	AG-110M	D
2162.10	1401.75	476.	598.	0.664	19.75	2.323	BI-214	D
2172.13	1408.26	459.	1148.	1.276	11.87	2.330	EU-152	D
2199.01	1425.73	446.	84.	0.093	138.74	0.935	-	s
2327.98	1509.41	657.	799.	0.888	19.47	2.239	BI-214	
2373.60	1539.10	504.	175.	0.195	58.81	2.475	RB-89	D
2381.02	1543.92	458.	131.	0.146	73.85	2.480	-	D
2442.21	1583.53	326.	376.	0.418	28.90	2.158	-	
2459.82	1595.19	383.	111.	0.123	80.29	2.539	LA-140	D
2467.52	1600.19	305.	164.	0.183	50.78	2.544	EU-154	D
2562.55	1661.63	190.	521.	0.579	20.34	2.588	BI-214	s
2595.61	1683.09	161.	127.	0.141	88.86	2.469	-	s
2668.06	1730.10	176.	1180.	1.311	10.40	2.481	BI-214	
2834.63	1838.19	120.	157.	0.174	38.21	2.829	RH-106M	D
2849.92	1848.11	70.	823.	0.914	11.32	2.841	BI-214	D
3267.82	2119.44	48.	396.	0.439	18.48	2.721	BI-214	
3399.72	2205.08	51.	1612.	1.791	7.93	3.344	BI-214	
3537.15	2294.33	27.	114.	0.127	42.64	3.296	-	
3775.30	2448.99	3.	482.	0.535	13.85	3.095	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

ORTEC Spectrum name: SMP HS 151 12_19_07.An1

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	14.	3.	0.003	568.28	0.000s
Pb-210	71.75	46.50	11861.	836.	0.929	56.23	1.200D
Th-234	98.71	63.97	7343.	44.	0.049	861.19	0.525s
Th-234	143.21	92.80	5699.	22.	0.025	1445.40	1.228D
Ra-226	287.20	186.10	15198.	10750.	11.944	9.55	1.429
Pb-212	368.26	238.63	2639.	0.	0.000	0.00	0.216D
Pb-214	373.27	241.87	7574.	12068.	13.408	5.76	1.473
Pb-214	455.57	295.21	4486.	26984.	29.982	2.11	1.356D
Tl-210	459.88	298.00	17240.	163.	0.182	341.62	1.358D
Pb-212	463.10	300.09	4553.	72.	0.080	399.39	1.359D
Ac-228	522.09	338.32	3580.	0.	0.000	0.00	2.042D
Pb-214	542.84	351.77	5809.	46168.	51.298	1.65	1.463
Tl-208	788.26	510.84	2147.	427.	0.475	48.26	1.509D
Tl-208	899.80	583.14	867.	0.	0.000	0.00	1.344D
Bi-214	939.85	609.11	2115.	39288.	43.653	1.65	1.648
Cs-137	1020.86	661.62	870.	34.	0.037	374.95	1.626D
Bi-212	1121.96	727.17	992.	0.	0.000	0.00	1.044D
Pa-234m	1182.48	766.41	3903.	105.	0.117	253.06	1.713D
Tl-210	1233.83	799.70	776.	73.	0.081	166.68	1.741D
Tl-208	1329.14	861.50	525.	112.	0.124	133.24	1.916
Ac-228	1405.90	911.28	567.	30.	0.033	479.37	0.909s
Ac-228	1495.08	969.11	735.	57.	0.063	207.39	1.891D
Pa-234m	1542.88	1000.11	449.	24.	0.026	397.46	0.650s
Bi-214	1728.29	1120.36	795.	8458.	9.398	3.76	2.091
Tl-210	2020.63	1310.00	364.	20.	0.022	417.07	2.226D
K-40	2253.78	1461.26	603.	360.	0.400	43.87	2.645s
Bi-212	2503.16	1623.09	219.	38.	0.042	212.54	0.640s
Bi-214	2721.95	1765.08	264.	6261.	6.957	4.10	2.547
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

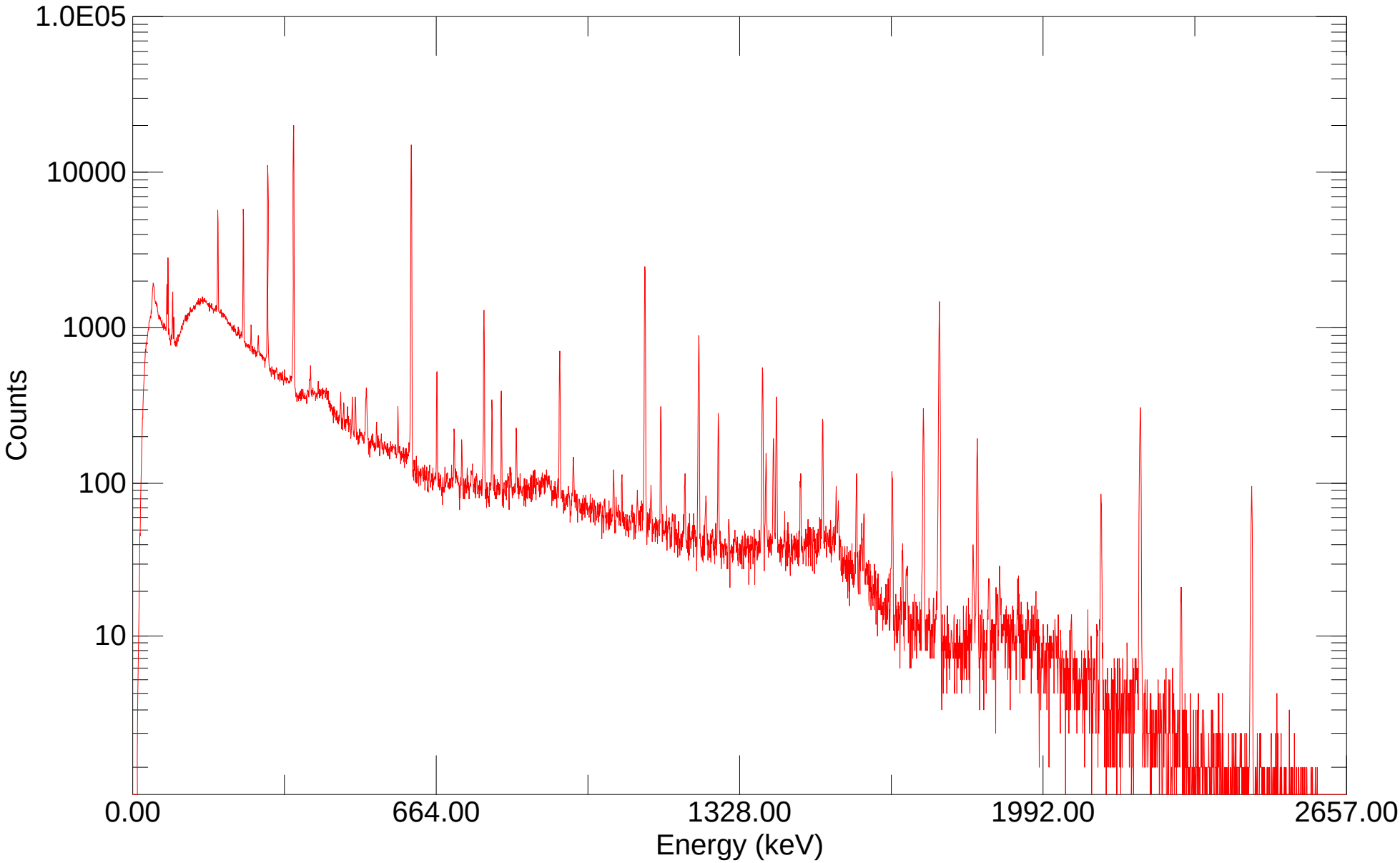
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 151 12_19_07

SMP HS 151 12_19_07



Acquired: 12/19/2007 3:03:16 PM Real Time: 945.20 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Sam Channels: 4096 & Report

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 152 01_16_08.An1

Sample description
SMP HS 152 01_16_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 152 01_16_08.An1

Acquisition information
Start time:	16-Jan-2008 12:28:17
Live time:	900
Real time:	910
Dead time:	1.09 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 152 01_16_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 152 01_16_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.0756

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
115.45	74.84	1203.	622.	0.691	26.53	1.217	BI-207	D
119.09	77.20	1116.	1033.	1.148	16.60	1.218	PB-214	D
134.61	87.14	971.	381.	0.424	37.90	1.224	BI-207	D
139.13	90.07	827.	140.	0.156	90.74	1.226	PB-214	D
398.76	258.40	814.	208.	0.231	106.95	1.562	XE-138	s
423.91	274.69	358.	100.	0.112	109.75	1.695	SR-91	s
742.16	480.52	196.	47.	0.052	133.63	1.487	W-187	D
750.35	485.83	188.	83.	0.092	77.84	1.491	LA-140	D
787.97	510.73	295.	103.	0.114	77.02	1.509	TL-208	D
1026.44	665.21	135.	176.	0.195	36.08	1.629	BI-214	D
1084.54	702.90	92.	53.	0.059	90.23	1.396	RH-106M	
1096.61	710.73	38.	33.	0.037	110.22	1.122	SB-124	s
1185.03	768.04	127.	406.	0.451	18.99	1.714	BI-214	D
1212.28	785.73	148.	88.	0.097	75.22	1.286	PB-214	
1243.33	805.95	108.	102.	0.114	52.23	1.746	BI-214	D
1294.14	838.81	142.	81.	0.090	83.40	1.117	J-135	sM
1440.83	933.93	218.	250.	0.278	39.57	2.089	BI-214	
1479.90	958.97	94.	21.	0.024	202.95	1.882	RH-106M	D
1487.19	963.70	101.	46.	0.051	103.49	1.887	EU-152	D
1623.08	1052.13	53.	30.	0.033	125.54	1.788	-	
1781.93	1155.16	89.	133.	0.148	46.60	2.551	BI-214	s
1909.52	1237.92	83.	426.	0.474	19.01	2.485	BI-214	s
1975.85	1280.95	62.	108.	0.120	51.88	1.966	BI-214	
2124.86	1377.62	32.	253.	0.281	22.15	2.368	BI-214	

ORTEC Spectrum name: SMP HS 152 01_16_08.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected	
2161.70	1401.54	39.	75.	0.083	49.57	2.323	BI-214	D
2171.55	1407.93	45.	145.	0.161	31.75	2.330	BI-214	D
2328.18	1509.54	95.	125.	0.139	54.77	2.385	BI-214	s
2442.87	1583.96	54.	58.	0.065	86.68	1.449	-	s
2562.86	1661.83	25.	69.	0.076	57.67	1.423	BI-214	s
2667.58	1729.79	12.	150.	0.167	27.78	2.673	BI-214	
2849.24	1847.70	11.	109.	0.121	33.43	2.604	BI-214	
3398.95	2204.58	12.	206.	0.229	23.92	3.504	BI-214	

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

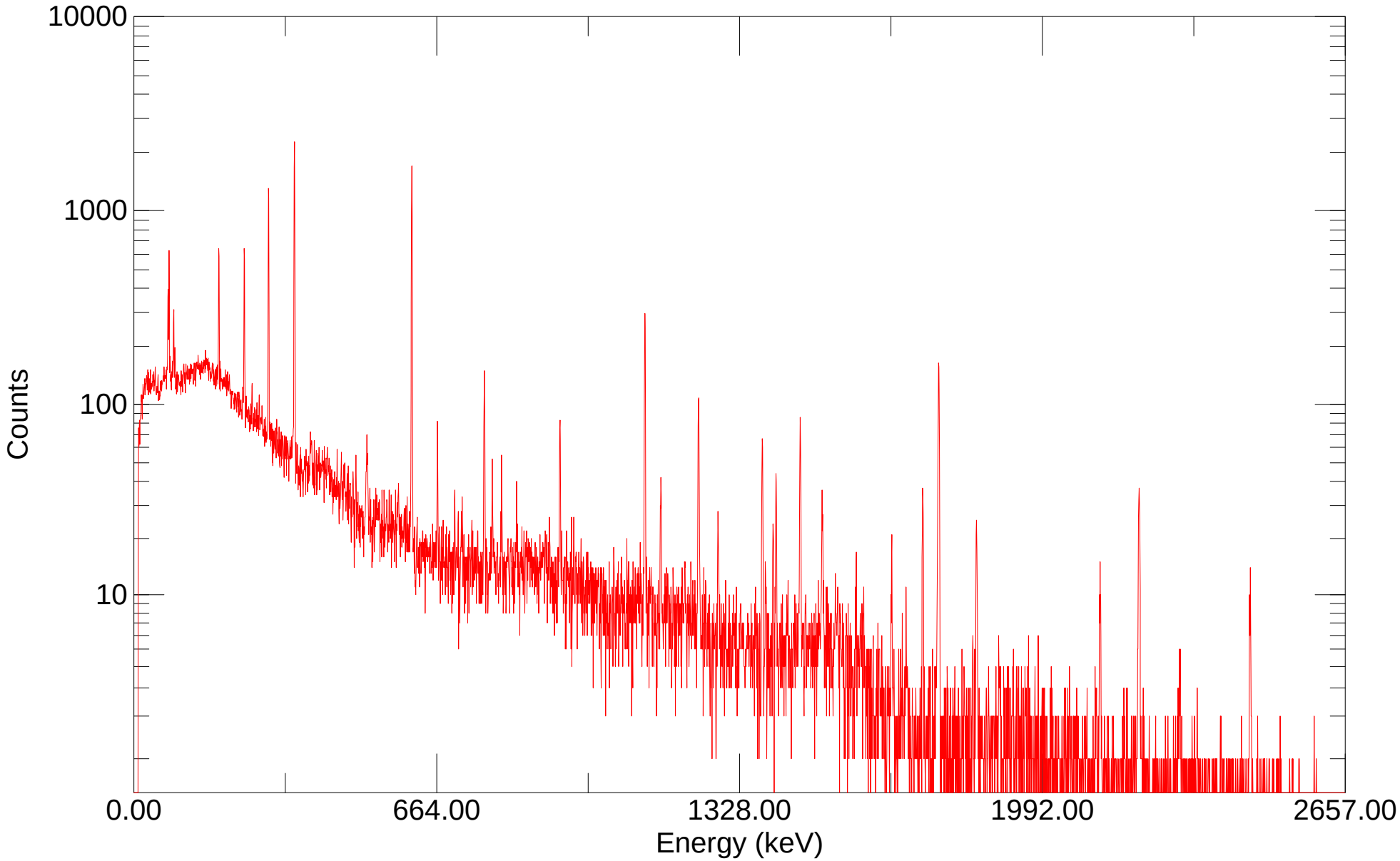
Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	16.49	10.70	152.	84.	0.093	89.26	1.923s
Pb-210	71.42	46.29	940.	102.	0.113	203.81	1.178s
Th-234	96.03	62.23	622.	16.	0.017	906.64	2.502s
Th-234	143.21	92.80	942.	9.	0.010	1524.81	1.228D
Ra-226	287.46	186.27	1102.	1338.	1.487	19.28	1.512
Pb-212	368.26	238.63	468.	0.	0.000	0.00	1.456D
Pb-214	373.35	241.92	716.	1396.	1.551	15.16	1.526
Pb-214	455.57	295.21	426.	3095.	3.439	6.09	1.356D
Tl-210	459.88	298.00	1802.	65.	0.073	277.96	1.358D
Pb-212	463.10	300.09	520.	54.	0.060	184.24	1.359D
Ac-228	519.99	336.96	374.	116.	0.128	120.99	2.603s
Pb-214	542.78	351.73	708.	5341.	5.934	4.85	1.491
Tl-208	788.26	510.84	371.	27.	0.030	312.81	1.509D
Tl-208	898.72	582.44	66.	6.	0.007	512.35	0.463s
Bi-214	939.67	608.99	268.	4658.	5.175	4.80	1.653
Cs-137	1020.86	661.62	78.	9.	0.010	449.98	1.626D
Bi-212	1123.66	728.27	90.	68.	0.076	116.56	1.824s
Pa-234m	1182.48	766.41	450.	23.	0.026	395.66	1.713D
Tl-210	1233.83	799.70	62.	0.	0.000	3336.13	1.741D
Tl-208	1325.87	859.38	68.	54.	0.060	110.27	3.377s
Ac-228	1405.71	911.16	63.	35.	0.039	145.21	1.721
Ac-228	1495.08	969.11	94.	22.	0.024	201.67	1.892D
Pa-234m	1545.85	1002.04	90.	14.	0.016	341.52	0.810s
Bi-214	1727.96	1120.15	133.	1008.	1.120	11.76	2.103
Tl-210	2022.53	1311.23	15.	2.	0.002	939.15	0.645s
K-40	2253.12	1460.84	70.	290.	0.322	23.67	2.026
Bi-212	2499.89	1620.96	12.	9.	0.010	202.76	1.077s
Bi-214	2721.24	1764.62	35.	743.	0.826	12.12	2.800
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: _____
Supervisor

SMP HS 152 01_16_08

SMP HS 152 01_16_08



Acquired: 1/16/2008 12:28:17 PM Real Time: 909.96 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

ORTEC Spectrum name: SMP HS 153 01_16_08.An1

Sample description
SMP HS 153 01_16_08

Spectrum Filename: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete Samples Spectrums & Reports\SMP HS 153 01_16_08.An1

Acquisition information
Start time:	16-Jan-2008 11:33:55
Live time:	900
Real time:	923
Dead time:	2.50 %
Detector ID:	1

Detector system
digiDart - HPGe

Calibration
Filename: SMP HS 153 01_16_08.An1
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created:	01-Oct-2007 12:52:44
Zero offset:	0.016 keV
Gain:	0.648 keV/channel
Quadratic:	2.167E-07 keV/channel^2

Efficiency Calibration
Created:			
Knee Energy:	0.00 keV		
Above the Knee:	None	Uncertainty =	0.00 %
Below the Knee:	None	Uncertainty =	0.00 %

Library Files
Main analysis library:	Alameda 2007.Lib
Library Match Width:	0.500

Analysis parameters
Analysis engine:	wan32 G53W2.07
Start channel:	10 (6.49keV)
Stop channel:	4048 (2626.13keV)
Peak rejection level:	100.000%
Peak search sensitivity:	3
Sample Size:	1.0000E+00
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0000E+00) = 1.0000E+00
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00

ORTEC Spectrum name: SMP HS 153 01_16_08.An1

Fraction Limit:	0.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000
Activity range factor:	2.000
Min. step backg. energy	0.000
Multiplet shift channel	2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	NO	
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

Energy Calibration
Normalized diff: 0.1659

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV	Suspected Nuclide	
118.15	76.57	1008.	589.	0.654	39.89	1.388	PB-214	s
134.78	87.32	674.	162.	0.180	72.14	1.224	PB-214	D
246.94	160.01	996.	177.	0.197	121.72	2.415	BA-140	s
398.26	258.07	580.	124.	0.138	145.24	2.058	XE-138	s
423.25	274.26	490.	161.	0.179	103.76	2.216	SR-91	s
685.00	443.91	117.	39.	0.043	173.21	1.717	EU-152	M
940.25	609.36	166.	3258.	3.620	5.64	1.686	BI-214	
1027.00	665.56	80.	114.	0.127	43.39	1.630	BI-214	D
1110.50	719.71	76.	42.	0.047	98.93	1.674	SB-126	D
1185.72	768.43	105.	316.	0.351	21.78	1.714	BI-214	D
1212.33	785.76	126.	87.	0.097	74.36	1.163	PB-214	M
1242.97	805.63	126.	48.	0.054	107.85	1.746	PA-234	D
1284.95	833.15	80.	31.	0.034	134.78	1.770	MN-54	D
1294.54	839.37	92.	37.	0.042	118.92	1.775	J-135	D
1441.43	934.32	123.	189.	0.210	40.06	2.302	BI-214	s
1728.91	1120.77	85.	753.	0.837	12.91	2.047	SC-46	
1782.44	1155.49	62.	85.	0.094	58.10	2.125	BI-214	M
1910.76	1238.72	120.	256.	0.284	32.29	1.895	CO-56	sM
2126.02	1378.37	37.	152.	0.169	32.32	2.052	BI-214	
2162.77	1402.38	31.	48.	0.053	65.59	2.324	BI-214	D
2173.26	1409.18	41.	123.	0.137	34.90	2.331	EU-152	D
2329.35	1510.30	49.	85.	0.094	55.62	1.867	BI-214	
2669.44	1731.00	2.	122.	0.135	28.05	2.385	BI-214	
3401.15	2206.01	0.	146.	0.162	24.83	2.948	BI-214	

ORTEC Spectrum name: SMP HS 153 01_16_08.An1

s - Peak fails shape tests.
D - Peak area deconvoluted.
M - Peak is close to a library peak.

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 3 Sigma %	FWHM keV
Pb-210	19.00	12.33	9.	2.	0.002	706.46	0.000s
Pb-210	71.45	46.31	942.	134.	0.148	148.56	2.024s
Th-234	98.90	64.09	678.	48.	0.053	328.35	1.445
Th-234	143.21	92.80	819.	44.	0.049	280.57	1.228D
Ra-226	287.11	186.04	1000.	589.	0.654	38.08	1.464s
Pb-212	368.26	238.63	432.	0.	0.000	0.00	1.450D
Pb-214	373.40	241.96	511.	1003.	1.114	17.19	1.572
Pb-214	455.57	295.21	435.	2155.	2.395	7.66	1.356D
Tl-210	459.88	298.00	1661.	4.	0.004	4474.29	1.358D
Pb-212	463.10	300.09	392.	24.	0.026	360.86	1.359D
Ac-228	527.00	341.50	339.	27.	0.030	313.83	0.000s
Pb-214	543.06	351.91	578.	3864.	4.294	5.86	1.575
Tl-208	788.26	510.84	202.	108.	0.120	62.63	1.509D
Tl-208	899.96	583.24	119.	25.	0.028	284.10	1.459s
Bi-214	940.17	609.31	166.	0.	0.000	0.00	1.686D
Cs-137	1020.86	661.62	57.	18.	0.020	194.88	1.626D
Bi-212	1121.96	727.17	62.	22.	0.024	167.41	1.680D
Pa-234m	1182.48	766.41	324.	20.	0.022	396.09	1.713D
Tl-210	1233.83	799.70	51.	12.	0.013	272.02	1.741D
Tl-208	1325.59	859.20	75.	34.	0.038	131.32	0.966s
Ac-228	1405.06	910.73	143.	53.	0.059	127.31	1.695s
Ac-228	1495.94	969.67	93.	53.	0.059	105.90	3.024s
Pa-234m	1542.70	999.99	58.	8.	0.009	439.05	0.588s
Bi-214	1728.19	1120.30	85.	0.	0.000	0.00	2.047D
Tl-210	2021.00	1310.24	13.	1.	0.001	1065.95	0.000s
K-40	2254.61	1461.80	60.	296.	0.329	23.71	2.328
Bi-212	2498.00	1619.74	4.	0.	0.001	807.77	0.250s
Bi-214	2723.24	1765.92	18.	510.	0.567	14.09	2.744
Tl-208	4029.00	2613.78	0.	0.	0.000	300.00	0.000s

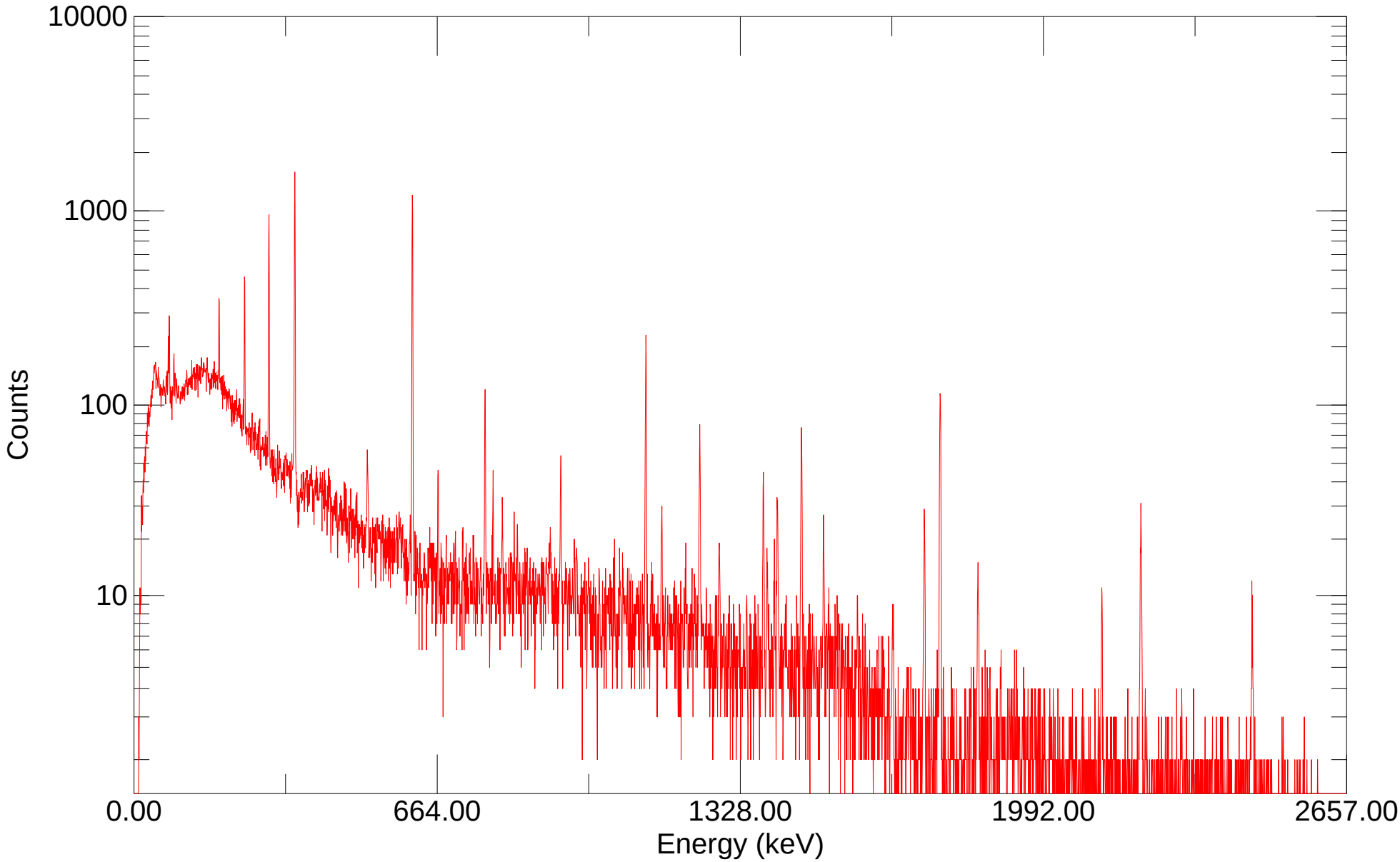
s - Peak fails shape tests.
D - Peak area deconvoluted.

Reviewed by: __ _____

Supervisor

SMP HS 153 01_16_08

SMP HS 153 01_16_08



Acquired: 1/16/2008 11:33:55 AM Real Time: 923.08 s. Live Time: 900.00 s.

File: C:\Documents and Settings\cliff.stephan\Desktop\Summary Discrete SamChannels: 4096& Reports

Detector: #1 digiDart - HPGe

APPENDIX F

CHAIN-OF-CUSTODY AND LABORATORY ANALYTICAL REPORTS
(Available on CD only)

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TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31604

ENTERED

D1-22

PROJECT NAME: FM Site 1, 2, 32	PURCHASE ORDER NO.: 1017341
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7505

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	90Sr (01, 17 5/14)	90Sr DOE SR-01/SR-02						ISOTOPIC URANIUM	ISOTOPIC THORIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IR1-168	10/2/07	1004	2	X		S	3 Day	X	X						X	X		IR1-13A	/	/	Reg
IR1-169	10/2/07	1008	1	X		S	3 Day	X							X	X		IR1-13B	/	/	Reg
IR1-170	10/2/07	1036	1	X		S	3 Day	X							X	X		IR1-27B	/	/	Reg
IR1-171	10/2/07	1040	1	X		S	3 Day	X							X	X		IR1-27A	/	/	Reg
IR1-172	10/2/07	1045	1	X		S	3 Day	X							X	X		IR1-26A	/	/	Reg
IR1-173	10/2/07	1117	1	X		S	3 Day	X							X	X		IR1-21	/	/	Reg
IR1-174	10/2/07	1173	1	X		S	3 Day	X							X	X		IR1-22-1	/	/	Reg

(1) 10/2/07

LABORATORY NAME: STL (1) F8A040279 + Gamma
LABORATORY ID (FOR LABORATORY): F7J100103 / F8A110283 (ISOTH/U)

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature): V. Richards	DATE: 10/4/07	RECEIVED BY (Signature):	
COMPANY: TetraTech	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	

LABORATORY INSTRUCTIONS/COMMENTS: * Added 1-9-08 per VR. -Subbio

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR1 = INSTALLATION SITE
1
- #'s = ANOMALOUS locations

(1) 160597 88
RAD 160573 70 (F7J100103)
160597 69 (F8A110283)

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31603

D-1015

ENTERED

PROJECT NAME	PURCHASE ORDER NO.
In Site 1, 2+32	1017341
PROJECT LOCATION	**PROJECT NO.**
ALAMEDA, CA	3210.028D
SAMPLER NAME	**AIRBILL NUMBER**
V. Richards	
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**
Lisa Bienkowski	949- ~~7500~~ 756-7500

LABORATORY NAME: STL

LABORATORY ID (FOR LABORATORY): F7J100108 / FBA040279 / FBA 110283*

Project Information Section — Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1M; 90Sr DOE SR-01 / SR-02; Isotopic Thorium*; Isotopic Uranium

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M	90Sr DOE SR-01/SR-02						Isotopic Thorium*	Isotopic Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-158	9/25/07	1047	2	X		S	3 Day	X	X						X	X	* added by lab S2	DTCW-1	/	/	Reg
15-159	9/25/07	1051	1	V		S	3 Day	X										DTCW-2	/	/	Reg
15-160	9/25/07	1055	1	Y		S	3 Day	X										DTCW-3	/	/	Reg
15-161	9/25/07	1057	1	Y		S	3 Day	Y										DTCW-4	/	/	Reg
15-162	9/25/07	1100	1	Y		S	3 Day	X										DTCW-5	/	/	Reg
15-163	9/25/07	1104	1	Y		S	3 Day	Y										DTCW-6	/	/	Reg
15-164	9/25/07	1107	1	Y		S	3 Day	X										DTCW-7	/	/	Reg
15-165	9/25/07	1112	1	Y		S	3 Day	X										DTCW-8	/	/	Reg
15-166	9/25/07	1115	1	Y		S	3 Day	X										DTCF-1	/	/	Reg
15-167	9/25/07	1119	1	\		S	3 Day	Y										DTCF-2	/	/	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
VR	10/9/07	
COMPANY	**TIME**	**COMPANY**
TTEC / FedEx		
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
DTCW = ~~Debris~~ Disposal Trench Confirmation Wall
DTCF = Disposal Trench Confirmation Floor

LAO-16057370

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-158

Radiochemistry

Lab Sample ID: F7J100108-001
Work Order: J8KWL
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**		**Batch # 7285267**	**Yld %**
Americium 241	-0.002	U	0.13		0.22	10/12/07	10/12/07
Cesium 137	-0.037	U	0.062	0.200	0.10	10/12/07	10/12/07
Cobalt 60	-0.003	U	0.046		0.084	10/12/07	10/12/07
Europium 152	0.07	U	0.12		0.20	10/12/07	10/12/07
Europium 154	0.23	U	0.38		0.63	10/12/07	10/12/07
Potassium 40	6.5		1.1		0.7	10/12/07	10/12/07
Radium (226)	3.43		0.34		0.16	10/12/07	10/12/07
Thorium 232	0.34		0.16		0.29	10/12/07	10/12/07
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 7283359**	**Yld % 59**
Strontium 90	0.08	U	0.49	3.00	0.83	10/10/07	10/22/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-158 DUP

Radiochemistry

Lab Sample ID: F7J100108-001X
Work Order: J8KWL
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 7283359**	**Yld % 58**
Strontium 90	0.38	U	0.47	3.00	0.77	10/10/07	10/22/07
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**		**Batch # 7285267**	**Yld %**
Americium 241	0.06	U	0.13		0.22	10/12/07	10/12/07
Cesium 137	-0.021	U	0.065	0.200	0.11	10/12/07	10/12/07
Cobalt 60	-0.020	U	0.076		0.14	10/12/07	10/12/07
Europium 152	0.06	U	0.12		0.20	10/12/07	10/12/07
Europium 154	-0.002	U	0.46		0.85	10/12/07	10/12/07
Potassium 40	5.4		1.3		0.9	10/12/07	10/12/07
Radium (226)	3.95		0.42		0.15	10/12/07	10/12/07
Thorium 232	0.29	U	0.23		0.34	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-160

Radiochemistry

Lab Sample ID: F7J100108-003
Work Order: J8KW1
Matrix: SOLID

Date Collected: 09/25/07 1055
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.007	U	0.079		0.14	10/12/07	10/12/07
Cesium 137	0.0	U	0.060	0.200	0.11	10/12/07	10/12/07
Cobalt 60	0.013	U	0.036		0.064	10/12/07	10/12/07
Europium 152	-0.019	U	0.083		0.15	10/12/07	10/12/07
Europium 154	0.0	U	0.27		0.50	10/12/07	10/12/07
Potassium 40	**8.1**		1.2		0.7	10/12/07	10/12/07
Radium (226)	**0.34**		0.11		0.16	10/12/07	10/12/07
Thorium 232	**0.37**		0.14		0.25	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-161

Radiochemistry

Lab Sample ID: F7J100108-004
Work Order: J8KW5
Matrix: SOLID

Date Collected: 09/25/07 1057
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.004	U	0.11		0.19	10/12/07	10/12/07
Cesium 137	0.008	U	0.045	0.200	0.081	10/12/07	10/12/07
Cobalt 60	0.0	U	0.050		0.093	10/12/07	10/12/07
Europium 152	0.006	U	0.10		0.18	10/12/07	10/12/07
Europium 154	-0.11	U	0.39		0.69	10/12/07	10/12/07
Potassium 40	7.3		1.3		1.3	10/12/07	10/12/07
Radium (226)	0.64		0.15		0.18	10/12/07	10/12/07
Thorium 232	0.44		0.18		0.26	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-162

Radiochemistry

Lab Sample ID: F7J100108-005
Work Order: J8KW8
Matrix: SOLID

Date Collected: 09/25/07 1100
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.002	U	0.12		0.17	10/12/07	10/12/07
Cesium 137	-0.04	U	0.82	0.20	0.11	10/12/07	10/12/07
Cobalt 60	-0.02	U	0.21		0.12	10/12/07	10/12/07
Europium 152	-0.03	U	0.13		0.23	10/12/07	10/12/07
Europium 154	0.0	U	0.067		0.25	10/12/07	10/12/07
Potassium 40	8.4		1.5		0.5	10/12/07	10/12/07
Radium (226)	0.58		0.16		0.13	10/12/07	10/12/07
Thorium 232	0.18	U	0.19		0.30	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-163

Radiochemistry

Lab Sample ID: F7J100108-006
Work Order: J8KXC
Matrix: SOLID

Date Collected: 09/25/07 1104
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.033	U	0.084		0.14	10/12/07	10/12/07
Cesium 137	0.0	U	0.038	0.200	0.070	10/12/07	10/12/07
Cobalt 60	-0.006	U	0.040		0.075	10/12/07	10/12/07
Europium 152	0.065	U	0.077		0.12	10/12/07	10/12/07
Europium 154	0.0	U	0.17		0.34	10/12/07	10/12/07
Potassium 40	**9.0**		1.4		0.9	10/12/07	10/12/07
Radium (226)	**0.43**		0.13		0.13	10/12/07	10/12/07
Thorium 232	**0.33**		0.17		0.23	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-164

Radiochemistry

Lab Sample ID: F7J100108-007
Work Order: J8KXE
Matrix: SOLID

Date Collected: 09/25/07 1107
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.06	U	0.28		0.21	10/12/07	10/12/07
Cesium 137	-0.02	U	0.19	0.20	0.12	10/12/07	10/12/07
Cobalt 60	-0.03	U	0.17		0.14	10/12/07	10/12/07
Europium 152	0.033	U	0.090		0.16	10/12/07	10/12/07
Europium 154	-0.008	U	0.30		0.60	10/12/07	10/12/07
Potassium 40	**10.4**		1.9		0.7	10/12/07	10/12/07
Radium (226)	**0.65**		0.17		0.14	10/12/07	10/12/07
Thorium 232	**0.53**		0.20		0.38	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-165

Radiochemistry

Lab Sample ID: F7J100108-008
Work Order: J8KXF
Matrix: SOLID

Date Collected: 09/25/07 1112
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.062	U	0.084		0.14	10/12/07	10/12/07
Cesium 137	-0.012	U	0.065	0.200	0.11	10/12/07	10/12/07
Cobalt 60	-0.026	U	0.064		0.11	10/12/07	10/12/07
Europium 152	0.06	U	0.13		0.23	10/12/07	10/12/07
Europium 154	0.1	U	0.45		0.80	10/12/07	10/12/07
Potassium 40	**11.0**		1.7		0.6	**10/12/07**	**10/12/07**
Radium (226)	**1.91**		0.27		0.13	**10/12/07**	**10/12/07**
Thorium 232	0.23	U	0.22		0.35	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-166

Radiochemistry

Lab Sample ID: F7J100108-009
Work Order: J8KXH
Matrix: SOLID

Date Collected: 09/25/07 1115
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.04	U	0.15		0.26	10/12/07	10/12/07
Cesium 137	-0.003	U	0.051	0.200	0.093	10/12/07	10/12/07
Cobalt 60	-0.007	U	0.085		0.15	10/12/07	10/12/07
Europium 152	0.24	U	0.15		0.35	10/12/07	10/12/07
Europium 154	0.14	U	0.47		0.84	10/12/07	10/12/07
Potassium 40	**4.8**		1.2		1.0	10/12/07	10/12/07
Radium (226)	**5.03**		0.48		0.15	10/12/07	10/12/07
Thorium 232	0.26	U	0.27		0.43	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-167

Radiochemistry

Lab Sample ID: F7J100108-010
Work Order: J8KXJ
Matrix: SOLID

Date Collected: 09/25/07 1119
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.015	U	0.092		0.16	10/12/07	10/12/07
Cesium 137	-0.0005	U	0.037	0.200	0.068	10/12/07	10/12/07
Cobalt 60	-0.013	U	0.045		0.080	10/12/07	10/12/07
Europium 152	0.051	U	0.090		0.15	10/12/07	10/12/07
Europium 154	0.02	U	0.27		0.50	10/12/07	10/12/07
Potassium 40	**8.4**		**1.3**		**0.7**	**10/12/07**	**10/12/07**
Radium (226)	**0.65**		**0.13**		**0.13**	**10/12/07**	**10/12/07**
Thorium 232	0.16	U	0.14		0.22	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-168

Radiochemistry

Lab Sample ID: F7J100108-011
Work Order: J8KXK
Matrix: SOLID

Date Collected: 10/02/07 1004
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.025	U	0.097		0.17	10/12/07	10/12/07
Cesium 137	0.012	U	0.042	0.200	0.076	10/12/07	10/12/07
Cobalt 60	-0.008	U	0.053		0.10	10/12/07	10/12/07
Europium 152	-0.03	U	0.10		0.18	10/12/07	10/12/07
Europium 154	0.09	U	0.28		0.52	10/12/07	10/12/07
Potassium 40	6.9		1.4		0.6	10/12/07	10/12/07
Radium (226)	0.62		0.14		0.10	10/12/07	10/12/07
Thorium 232	0.37		0.17		0.31	10/12/07	10/12/07
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 7283359		Yld % 65
Strontium 90	0.17	U	0.44	3.00	0.73	10/10/07	10/22/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-169

Radiochemistry

Lab Sample ID: F7J100108-012
Work Order: J8KXQ
Matrix: SOLID

Date Collected: 10/02/07 1008
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.011	U	0.080		0.14	10/12/07	10/12/07
Cesium 137	-0.02	U	0.18	0.20	0.11	10/12/07	10/12/07
Cobalt 60	-0.011	U	0.045		0.056	10/12/07	10/12/07
Europium 152	-0.04	U	0.13		0.22	10/12/07	10/12/07
Europium 154	0.04	U	0.42		0.77	10/12/07	10/12/07
Potassium 40	**5.5**		**1.4**		**1.2**	**10/12/07**	**10/12/07**
Radium (226)	**0.93**		**0.18**		**0.12**	**10/12/07**	**10/12/07**
Thorium 232	0.24	U	0.16		0.30	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-170

Radiochemistry

Lab Sample ID: F7J100108-013
Work Order: J8KXR
Matrix: SOLID

Date Collected: 10/02/07 1036
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.025	U	0.080		0.14	10/12/07	10/12/07
Cesium 137	0.018	U	0.034	0.200	0.059	10/12/07	10/12/07
Cobalt 60	-0.0001	U	0.053		0.10	10/12/07	10/12/07
Europium 152	0.015	U	0.087		0.16	10/12/07	10/12/07
Europium 154	0.08	U	0.32		0.58	10/12/07	10/12/07
Potassium 40	**9.3**		1.5		0.5	10/12/07	10/12/07
Radium (226)	0.265		0.097		0.11	10/12/07	10/12/07
Thorium 232	0.26	U	0.19		0.28	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-171

Radiochemistry

Lab Sample ID: F7J100108-014
Work Order: J8KXV
Matrix: SOLID

Date Collected: 10/02/07 1040
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.018	U	0.083		0.14	10/12/07	10/12/07
Cesium 137	0.030	U	0.051	0.200	0.087	10/12/07	10/12/07
Cobalt 60	0.0	U	0.012		0.044	10/12/07	10/12/07
Europium 152	0.042	U	0.086		0.15	10/12/07	10/12/07
Europium 154	0.0	U	0.44		0.82	10/12/07	10/12/07
Potassium 40	**10.4**		1.7		0.6	**10/12/07**	**10/12/07**
Radium (226)	0.27		0.12		0.17	**10/12/07**	**10/12/07**
Thorium 232	0.25	U	0.15		0.26	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-172

Radiochemistry

Lab Sample ID: F7J100108-015
Work Order: J8KX3
Matrix: SOLID

Date Collected: 10/02/07 1045
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.056	U	0.090		0.15	10/12/07	10/12/07
Cesium 137	0.042	U	0.046	0.200	0.075	10/12/07	10/12/07
Cobalt 60	0.0	U	0.039		0.075	10/12/07	10/12/07
Europium 152	-0.013	U	0.096		0.17	10/12/07	10/12/07
Europium 154	0.04	U	0.23		0.43	10/12/07	10/12/07
Potassium 40	**11.4**		1.5		0.8	10/12/07	10/12/07
Radium (226)	**0.30**		0.11		0.16	10/12/07	10/12/07
Thorium 232	**0.38**		0.14		0.24	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-173

Radiochemistry

Lab Sample ID: F7J100108-016
Work Order: J8KX5
Matrix: SOLID

Date Collected: 10/02/07 1117
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.05	U	0.11		0.18	10/12/07	10/12/07
Cesium 137	-0.007	U	0.061	0.200	0.11	10/12/07	10/12/07
Cobalt 60	0.009	U	0.046		0.091	10/12/07	10/12/07
Europium 152	0.0	U	0.17		0.30	10/12/07	10/12/07
Europium 154	0.0	U	0.38		0.74	10/12/07	10/12/07
Potassium 40	**8.3**		1.7		0.9	10/12/07	10/12/07
Radium (226)	**0.50**		0.14		0.13	10/12/07	10/12/07
Thorium 232	0.34	U	0.25		0.36	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-174

Radiochemistry

Lab Sample ID: F7J100108-017
Work Order: J8KX7
Matrix: SOLID

Date Collected: 10/02/07 1123
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	-0.05	U	0.22		0.17	10/12/07	10/12/07
Cesium 137	-0.02	U	0.24	0.20	0.11	10/12/07	10/12/07
Cobalt 60	-0.01	U	0.82		0.12	10/12/07	10/12/07
Europium 152	-0.019	U	0.093		0.17	10/12/07	10/12/07
Europium 154	-0.1	U	0.38		0.70	10/12/07	10/12/07
Potassium 40	8.1		1.5		0.6	10/12/07	10/12/07
Radium (226)	0.33		0.13		0.17	10/12/07	10/12/07
Thorium 232	0.32		0.20		0.28	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-158

Radiochemistry

Lab Sample ID: F8A040279-001
Work Order: KE4HW
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	4.58		0.42	1.00	0.13	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Tetra Tech EC, Inc.

Client Sample ID: 15-158 DUP

Radiochemistry

Lab Sample ID: F8A040279-001X
Work Order: KE4HW
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	4.66		0.48	1.00	0.20	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Tetra Tech EC, Inc.

Client Sample ID: 15-159

Radiochemistry

Lab Sample ID: F8A040279-002
Work Order: KE4H8
Matrix: SOLID

Date Collected: 09/25/07 1051
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.59	J	0.13	1.00	0.12	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-160

Radiochemistry

Lab Sample ID: F8A040279-003
Work Order: KE4JC
Matrix: SOLID

Date Collected: 09/25/07 1055
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.51	J	0.12	1.00	0.14	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-159

Radiochemistry

Lab Sample ID: F7J100108-002
Work Order: J8KWW
Matrix: SOLID

Date Collected: 09/25/07 1051
Date Received: 10/10/07 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7285267		Yld %
Americium 241	0.009	U	0.087		0.15	10/12/07	10/12/07
Cesium 137	0.007	U	0.044	0.200	0.081	10/12/07	10/12/07
Cobalt 60	0.0	U	0.012		0.044	10/12/07	10/12/07
Europium 152	0.020	U	0.099		0.18	10/12/07	10/12/07
Europium 154	-0.10	U	0.40		0.73	10/12/07	10/12/07
Potassium 40	6.1		1.3		0.5	10/12/07	10/12/07
Radium (226)	0.53		0.14		0.13	10/12/07	10/12/07
Thorium 232	0.24		0.13		0.24	10/12/07	10/12/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-161

Radiochemistry

Lab Sample ID: F8A040279-004
Work Order: KE4JD
Matrix: SOLID

Date Collected: 09/25/07 1057
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.95	J	0.17	1.00	0.16	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-162

Radiochemistry

Lab Sample ID: F8A040279-005
Work Order: KE4JE
Matrix: SOLID

Date Collected: 09/25/07 1100
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	0.38	J	0.14	1.00	0.17	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-163

Radiochemistry

Lab Sample ID: F8A040279-006
Work Order: KE4JF
Matrix: SOLID

Date Collected: 09/25/07 1104
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	0.46	J	0.12	1.00	0.11	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-164

Radiochemistry

Lab Sample ID: F8A040279-007
Work Order: KE4JH
Matrix: SOLID

Date Collected: 09/25/07 1107
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.46	J	0.13	1.00	0.15	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-165

Radiochemistry

Lab Sample ID: F8A040279-008
Work Order: KE4JJ
Matrix: SOLID

Date Collected: 09/25/07 1112
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	2.31		0.28	1.00	0.18	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Tetra Tech EC, Inc.

Client Sample ID: 15-166

Radiochemistry

Lab Sample ID: F8A040279-009
Work Order: KE4JK
Matrix: SOLID

Date Collected: 09/25/07 1115
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	6.07		0.57	1.00	0.17	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Tetra Tech EC, Inc.

Client Sample ID: 15-167

Radiochemistry

Lab Sample ID: F8A040279-010
Work Order: KE4JL
Matrix: SOLID

Date Collected: 09/25/07 1119
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	0.98	J	0.22	1.00	0.17	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-168

Radiochemistry

Lab Sample ID: F8A040279-011
Work Order: KE4JM
Matrix: SOLID

Date Collected: 10/02/07 1004
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.29	J	0.10	1.00	0.13	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-169

Radiochemistry

Lab Sample ID: F8A040279-012
Work Order: KE4JN
Matrix: SOLID

Date Collected: 10/02/07 1008
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007189		Yld %
Radium (226)	1.24		0.21	1.00	0.11	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Tetra Tech EC, Inc.

Client Sample ID: 15-170

Radiochemistry

Lab Sample ID: F8A040279-013
Work Order: KE4JQ
Matrix: SOLID

Date Collected: 10/02/07 1036
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.28	J	0.12	1.00	0.18	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-171

Radiochemistry

Lab Sample ID: F8A040279-014
Work Order: KE4JT
Matrix: SOLID

Date Collected: 10/02/07 1040
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.42	J	0.16	1.00	0.14	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-172

Radiochemistry

Lab Sample ID: F8A040279-015
Work Order: KE4JW
Matrix: SOLID

Date Collected: 10/02/07 1045
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.25	J	0.13	1.00	0.20	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-173

Radiochemistry

Lab Sample ID: F8A040279-016
Work Order: KE4KA
Matrix: SOLID

Date Collected: 10/02/07 1117
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.49	J	0.13	1.00	0.09	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-174

Radiochemistry

Lab Sample ID: F8A040279-017
Work Order: KE4KD
Matrix: SOLID

Date Collected: 10/02/07 1123
Date Received: 01/04/08 1630

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8007189	Yld %
Radium (226)	0.40	J	0.15	1.00	0.17	01/07/08	01/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-158

Radiochemistry

Lab Sample ID: F8A110283-001
Work Order: KFFGC
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 88
Thorium 228	0.41	J	0.14	1.00	0.06	01/14/08	01/22/08
Thorium 230	0.47	J	0.15	1.00	0.03	01/14/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 87
Uranium 233/234	0.48	J	0.15	1.00	0.06	01/14/08	01/19/08
Uranium 235/236	0.032	U	0.047	1.00	0.071	01/14/08	01/19/08
Uranium 238	0.45	J	0.14	1.00	0.05	01/14/08	01/19/08

NOTE(S)

ta are incomplete without the case narrative.

is determined by instrument performance only.

old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

OT# F8A110283

Tetra Tech EC, Inc.

Client Sample ID: 15-158 DUP

Radiochemistry

Lab Sample ID: F8A110283-001X
Work Order: KFFGC
Matrix: SOLID

Date Collected: 09/25/07 1047
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014346		Yld % 73
Thorium 228	0.48	J	0.16	1.00	0.08	01/14/08	01/22/08
Thorium 230	0.32	J	0.13	1.00	0.08	01/14/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014348		Yld % 89
Uranium 233/234	0.27	J	0.11	1.00	0.04	01/14/08	01/19/08
Uranium 235/236	0.023	U	0.037	1.00	0.054	01/14/08	01/19/08
Uranium 238	0.26	J	0.11	1.00	0.05	01/14/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.
MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LOT# F8A110283

Tetra Tech EC, Inc.

Client Sample ID: 15-168

Radiochemistry

Lab Sample ID: F8A110283-011
Work Order: KFFHE
Matrix: SOLID

Date Collected: 10/02/07 1004
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014346		Yld % 89
Thorium 228	0.29	J	0.11	1.00	0.07	01/14/08	01/21/08
Thorium 230	0.26	J	0.10	1.00	0.04	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014348		Yld % 93
Uranium 233/234	0.27	J	0.11	1.00	0.05	01/14/08	01/19/08
Uranium 235/236	-0.0071	U	0.0083	1.00	0.068	01/14/08	01/19/08
Uranium 238	0.35	J	0.12	1.00	0.05	01/14/08	01/19/08

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-169

Radiochemistry

Lab Sample ID: F8A110283-012
Work Order: KFFHH
Matrix: SOLID

Date Collected: 10/02/07 1008
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 86
Thorium 228	0.21	J	0.11	1.00	0.08	01/14/08	01/21/08
Thorium 230	0.34	J	0.13	1.00	0.06	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 83
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/14/08	01/19/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	01/14/08	01/19/08
Uranium 238	0.36	J	0.13	1.00	0.05	01/14/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

OT# F8A110283

Tetra Tech EC, Inc.

Client Sample ID: 15-170

Radiochemistry

Lab Sample ID: F8A110283-013
Work Order: KFFHK
Matrix: SOLID

Date Collected: 10/02/07 1036
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 86
Thorium 228	0.30	J	0.12	1.00	0.08	01/14/08	01/21/08
Thorium 230	0.29	J	0.12	1.00	0.07	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 93
Uranium 233/234	0.37	J	0.12	1.00	0.04	01/14/08	01/19/08
Uranium 235/236	0.0	U	0.011	1.00	0.033	01/14/08	01/19/08
Uranium 238	0.29	J	0.11	1.00	0.04	01/14/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.
RL is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-171

Radiochemistry

Lab Sample ID: F8A110283-014
Work Order: KFFHL
Matrix: SOLID

Date Collected: 10/02/07 1040
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014346		Yld % 60
Thorium 228	0.40	J	0.17	1.00	0.14	01/14/08	01/21/08
Thorium 230	0.31	J	0.14	1.00	0.08	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8014348		Yld % 85
Uranium 233/234	0.25	J	0.11	1.00	0.06	01/14/08	01/19/08
Uranium 235/236	-0.0049	U	0.0070	1.00	0.064	01/14/08	01/19/08
Uranium 238	0.24	J	0.10	1.00	0.06	01/14/08	01/19/08

NOTE(S)

ata are incomplete without the case narrative.

is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

COT# F8A110283

Tetra Tech EC, Inc.

Client Sample ID: 15-172

Radiochemistry

Lab Sample ID: F8A110283-015
Work Order: KFFHP
Matrix: SOLID

Date Collected: 10/02/07 1045
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 81
Thorium 228	0.65	J	0.19	1.00	0.07	01/14/08	01/21/08
Thorium 230	0.52	J	0.16	1.00	0.07	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 89
Uranium 233/234	0.28	J	0.11	1.00	0.07	01/14/08	01/21/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/14/08	01/21/08
Uranium 238	0.31	J	0.12	1.00	0.04	01/14/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

RL is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

COT# F8A110283

Tetra Tech EC, Inc.

Client Sample ID: 15-173

Radiochemistry

Lab Sample ID: F8A110283-016
Work Order: KFFH2
Matrix: SOLID

Date Collected: 10/02/07 1117
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 72
Thorium 228	0.42	J	0.16	1.00	0.1	01/14/08	01/21/08
Thorium 230	0.40	J	0.15	1.00	0.07	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 85
Uranium 233/234	0.37	J	0.13	1.00	0.06	01/14/08	01/21/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	01/14/08	01/21/08
Uranium 238	0.27	J	0.11	1.00	0.05	01/14/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

[illegible] is determined by instrument performance only.
[illegible]old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-174

Radiochemistry

Lab Sample ID: F8A110283-017
Work Order: KFFH4
Matrix: SOLID

Date Collected: 10/02/07 1123
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014346	Yld % 80
Thorium 228	0.41	J	0.15	1.00	0.08	01/14/08	01/21/08
Thorium 230	0.52	J	0.16	1.00	0.06	01/14/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014348	Yld % 92
Uranium 233/234	0.36	J	0.13	1.00	0.06	01/14/08	01/21/08
Uranium 235/236	0.025	U	0.036	1.00	0.034	01/14/08	01/21/08
Uranium 238	0.26	J	0.11	1.00	0.04	01/14/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.
RL is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

COT# F8A110283

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
25-Sep-2007	15-158	F7J100108001	N	Gen Prep	)OE SR-03-RC MOI	3
25-Sep-2007	15-158DUP	F7J100108001DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
25-Sep-2007	15-158	F8A110283001	N	Gen Prep	)OE A-01-R TH MOI	3
25-Sep-2007	15-158	F8A110283001	N	Gen Prep	DOE A-01-R U MOD	3
25-Sep-2007	15-158DUP	F8A110283001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
25-Sep-2007	15-158DUP	F8A110283001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-168	F7J100108011	N	Gen Prep	)OE SR-03-RC MOI	3
02-Oct-2007	15-168	F8A110283011	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-168	F8A110283011	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-169	F8A110283012	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-169	F8A110283012	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-170	F8A110283013	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-170	F8A110283013	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-171	F8A110283014	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-171	F8A110283014	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-172	F8A110283015	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-172	F8A110283015	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-173	F8A110283016	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-173	F8A110283016	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-174	F8A110283017	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-174	F8A110283017	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A110283										
DOE A-01-R TH MOD	15-168	SO	N							
				THORIUM-230	1.00	0.26J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-169	SO	N							
				THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-170	SO	N							
				THORIUM-230	1.00	0.29J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-171	SO	N							
				THORIUM-230	1.00	0.31J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Attachment I

Sample ID Cross Reference and Data Review Level

Reason for Qualified Results

SDG Nos. : F7J100108,F8A110283

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A110283	15-168	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-169	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-170	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-171	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

F7J100108

(No Outlier Reports)

LDC #: 18448A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-17-08
SDG #: F7J100108/F8A110283 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP (Parent & Dup both N.D. ... No Qual)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-158DUP	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Quality Control Outlier Reports

F8A110283

Method Blank Outlier Report

Lab Reporting Batch : F8A110283
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/21/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A140000346MB
Preparation Batch : 8014346

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.079**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-168	F8A110283011	1	0.26	J	pCi/g
15-169	F8A110283012	1	0.34	J	pCi/g
15-170	F8A110283013	1	0.29	J	pCi/g
15-171	F8A110283014	1	0.31	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A110283 **Lab ID:** TestAme

Analysis Method : DOE A-01-R U MOD **Analysis Date :** 01/19/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A140000348MB **Preparation Batch :** 8014348

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.032	1.00	pCi/g	J	

URANIUM-233/234 contamination found in the method blank did not qualify any samples.

LDC #: 18448A59
SDG #: F7J100108/F8A110283
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-169	13		23		33	
4	15-170	14		24		34	
5	15-171	15		25		35	
6	15-172	16		26		36	
7	15-173	17		27		37	
8	15-174	18		28		38	
9	15-158DUP	19		29		39	
10	PBS	20		30		40	

Notes:

LDC #: 18448A73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-17-08
SDG #: F7J100108/F8A110283 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: MM

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-169	13		23		33	
4	15-170	14		24		34	
5	15-171	15		25		35	
6	15-172	16		26		36	
7	15-173	17		27		37	
8	15-174	18		28		38	
9	15-158DUP	19		29		39	
10	PBS	20		30		40	

Notes:

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
25-Sep-2007	15-158	F8A040279001	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-158DUP	F8A040279001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-159	F8A040279002	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-160	F8A040279003	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-161	F8A040279004	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-162	F8A040279005	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-163	F8A040279006	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-164	F8A040279007	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-165	F8A040279008	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-166	F8A040279009	N	Gen Prep	DOE GA-01-R MOD	3
25-Sep-2007	15-167	F8A040279010	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-168	F8A040279011	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-169	F8A040279012	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-170	F8A040279013	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-171	F8A040279014	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-172	F8A040279015	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-173	F8A040279016	N	Gen Prep	DOE GA-01-R MOD	3
02-Oct-2007	15-174	F8A040279017	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040279										
DOE GA-01-R MOD	15-159	SO	N	RADIUM-226	1.00	0.59J	0.13	J	pCi/g	
DOE GA-01-R MOD	15-160	SO	N	RADIUM-226	1.00	0.51J	0.12	J	pCi/g	
DOE GA-01-R MOD	15-161	SO	N	RADIUM-226	1.00	0.95J	0.17	J	pCi/g	
DOE GA-01-R MOD	15-162	SO	N	RADIUM-226	1.00	0.38J	0.14	J	pCi/g	
DOE GA-01-R MOD	15-163	SO	N	RADIUM-226	1.00	0.46J	0.12	J	pCi/g	
DOE GA-01-R MOD	15-164	SO	N	RADIUM-226	1.00	0.46J	0.13	J	pCi/g	
DOE GA-01-R MOD	15-167	SO	N	RADIUM-226	1.00	0.98J	0.22	J	pCi/g	
DOE GA-01-R MOD	15-168	SO	N	RADIUM-226	1.00	0.29J	0.10	J	pCi/g	
DOE GA-01-R MOD	15-170	SO	N	RADIUM-226	1.00	0.28J	0.12	J	pCi/g	
DOE GA-01-R MOD	15-171	SO	N	RADIUM-226	1.00	0.42J	0.16	J	pCi/g	
DOE GA-01-R MOD	15-172	SO	N	RADIUM-226	1.00	0.25J	0.13	J	pCi/g	
DOE GA-01-R MOD	15-173	SO	N	RADIUM-226	1.00	0.49J	0.13	J	pCi/g	
DOE GA-01-R MOD	15-174	SO	N	RADIUM-226	1.00	0.40J	0.15	J	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A040279

Sample Del Group (SDG)	*Sample ID*	*Test Method*	*CAS No.*	*Detected Qualifier*	*Non Detected Qualifier*	*Analyte Name*	*Reason*

No Qualified Results

Attachment IV

Field Blank Summary

Field QC Detect Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A040279

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: F8A040279 **Lab ID:** TestAme

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
15-159	F8A040279002	DOE GA-01-R	SO	RADIUM-226	J	0.59	1.00	pCi/g
15-160	F8A040279003			RADIUM-226	J	0.51	1.00	pCi/g
15-161	F8A040279004			RADIUM-226	J	0.95	1.00	pCi/g
15-162	F8A040279005			RADIUM-226	J	0.38	1.00	pCi/g
15-163	F8A040279006			RADIUM-226	J	0.46	1.00	pCi/g
15-164	F8A040279007			RADIUM-226	J	0.46	1.00	pCi/g
15-167	F8A040279010			RADIUM-226	J	0.98	1.00	pCi/g
15-168	F8A040279011			RADIUM-226	J	0.29	1.00	pCi/g
15-170	F8A040279013			RADIUM-226	J	0.28	1.00	pCi/g
15-171	F8A040279014			RADIUM-226	J	0.42	1.00	pCi/g
15-172	F8A040279015			RADIUM-226	J	0.25	1.00	pCi/g
15-173	F8A040279016			RADIUM-226	J	0.49	1.00	pCi/g
15-174	F8A040279017			RADIUM-226	J	0.40	1.00	pCi/g

LDC #: 19021A29 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-26-08
SDG #: F8A040279 ADR Page: 1 of 1
Laboratory: TestAmerica, Inc. MG Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod.

METHOD: Radium-226 (~~EPA Method 903.0~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	N	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-158	11	15-168	21		31	
2	15-159	12	15-169	22		32	
3	15-160	13	15-170	23		33	
4	15-161	14	15-171	24		34	
5	15-162	15	15-172	25		35	
6	15-163	16	15-173	26		36	
7	15-164	17	15-174	27		37	
8	15-165	18	15-158DUP	28		38	
9	15-166	19	PBS	29		39	
10	15-167	20		30		40	

Notes:

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
25-Sep-2007	15-158	F7J100108001	N	Gen Prep	)OE SR-03-RC MOI	3
25-Sep-2007	15-158DUP	F7J100108001DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
25-Sep-2007	15-158	F8A110283001	N	Gen Prep	)OE A-01-R TH MOI	3
25-Sep-2007	15-158	F8A110283001	N	Gen Prep	DOE A-01-R U MOD	3
25-Sep-2007	15-158DUP	F8A110283001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
25-Sep-2007	15-158DUP	F8A110283001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-168	F7J100108011	N	Gen Prep	)OE SR-03-RC MOI	3
02-Oct-2007	15-168	F8A110283011	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-168	F8A110283011	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-169	F8A110283012	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-169	F8A110283012	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-170	F8A110283013	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-170	F8A110283013	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-171	F8A110283014	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-171	F8A110283014	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-172	F8A110283015	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-172	F8A110283015	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-173	F8A110283016	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-173	F8A110283016	N	Gen Prep	DOE A-01-R U MOD	3
02-Oct-2007	15-174	F8A110283017	N	Gen Prep	)OE A-01-R TH MOI	3
02-Oct-2007	15-174	F8A110283017	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A110283										
DOE A-01-R TH MOD	15-168	SO	N							
				THORIUM-230	1.00	0.26J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-169	SO	N							
				THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-170	SO	N							
				THORIUM-230	1.00	0.29J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-171	SO	N							
				THORIUM-230	1.00	0.31J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F7J100108,F8A110283

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A110283	15-168	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-169	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-170	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110283	15-171	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers (including Manual Review Outliers)

Quality Control
Outlier Reports

F7J100108

(No Outlier Reports)

LDC #: 18448A61
SDG #: F7J100108/F8A110283
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP (Parent & Dup both N.D. ... No Qual)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-158DUP	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Quality Control
Outlier Reports

F8A110283

Method Blank Outlier Report

Lab Reporting Batch : F8A110283
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A140000346MB

Lab ID: TestAme
Analysis Date : 01/21/2008
Preparation Date :
Preparation Batch : 8014346

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	0.079	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-168	F8A110283011	1	0.26	J	pCi/g
15-169	F8A110283012	1	0.34	J	pCi/g
15-170	F8A110283013	1	0.29	J	pCi/g
15-171	F8A110283014	1	0.31	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A110283
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A140000348MB

Lab ID: TestAme
Analysis Date : 01/19/2008
Preparation Date :
Preparation Batch : 8014348

	Result	Reporting Limit	Units	Lab Qual	Comments
URANIUM-233/234					
Method Blank Result:	0.032	1.00	pCi/g	J	

URANIUM-233/234 contamination found in the method blank did not qualify any samples.

LDC #: 18448A59
SDG #: F7J100108/F8A110283
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-169	13		23		33	
4	15-170	14		24		34	
5	15-171	15		25		35	
6	15-172	16		26		36	
7	15-173	17		27		37	
8	15-174	18		28		38	
9	15-158DUP	19		29		39	
10	PBS	20		30		40	

Notes: _____

LDC #: 18448A73
SDG #: F7J100108/F8A110283
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 9-25-07 through 10-2-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-158	11		21		31	
2	15-168	12		22		32	
3	15-169	13		23		33	
4	15-170	14		24		34	
5	15-171	15		25		35	
6	15-172	16		26		36	
7	15-173	17		27		37	
8	15-174	18		28		38	
9	15-158DUP	19		29		39	
10	PBS	20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

ENTERED

CHAIN-OF-CUSTODY RECORD

NUMBER 31608

PROJECT NAME	PURCHASE ORDER NO.
In Site 1, 2 + 32	1017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 M; 900 WE SR-01/SR-02; Thorium; Uranium; Isotopic Thorium*; Isotopic Uranium

LABORATORY NAME: STL F7L200366 (21 days)
LABORATORY ID (FOR LABORATORY): F7J290164 / F8A110276 (150 th/u)

Project Information Section — Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 M	900 WE SR-01/SR-02	Isotopic Thorium	Isotopic Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-184	10/8/07	0830	1	Y		S	3 Day	X		X	X		In1-25	-	-	Ng
15-185	10/8/07	0840	1	Y		S	3 Day	Y		X	X		IR1-AD-1	-	-	Ng
15-186	10/8/07	0847	1	Y		S	3 Day	Y		X	X		In32-1	-	-	Ng
15-187	10/8/07	0853	1	Y		S	3 Day	Y		X	X		In32-2	-	-	Ng
15-188	10/8/07	0900	2	Y		S	3 Day	X	Y	X	X		In32-3	-	-	Ng
15-189	10/8/07	0925	1	Y		S	3 Day	X		X	X		In32-4A	-	-	Ng
15-190	10/8/07	0930	1	Y		S	3 Day	Y		X	X		In32-4B	-	-	Ng

VR 10/10/07

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	10/10	
COMPANY: TtTEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 3 Day + 21 Day w/c now THS. Hold Samples for Thm. + Uran. Go ahead + test RAD 226 + Sr 90

COMPOSITE DESCRIPTION: * Added - 1-9-08 per VR - Sudoko

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: In1 = Installation Site - 1 or 32
16059789-F8A110276
F7L200366 LO16057835

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31605

ENTERED
01-23

PROJECT NAME	PURCHASE ORDER NO.
In Site 1, 2, 32	1017341
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 M; RSA DOE SR 011/SR-02; Thorium; Uranium (crossed out, 10/5/07); ISOTOPIC THORIUM; ISOTOPIC URANIUM

LABORATORY NAME: STL
F7L200366 + 21 day analysis
LABORATORY ID (FOR LABORATORY): F7J290164 / F8A110276 (180th/ISOU)

Project Information Section
Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 M	RSA DOE SR 011/SR-02	Thorium	Uranium				Isotopic Thorium	Isotopic Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-175	10/5/07	0952	1	X		S	3 day	X							X	X		IR1-22-2			Rg
15-176	10/5/07	1002	1	X		S	3 day	X							X	X		IR1-14			Rg
15-177	10/5/07	1010	1	X		S	3 day	X							X	X		IR1-15			Rg
15-178 *	10/5/07	1015	2	X		S	3 day	X	X						X	X		IR1-16			Rg
15-179	10/5/07	1020	1	X		S	3 day	X							X	X		IR1-17			Rg
15-180	10/5/07	1030	1	X		S	3 day	X							X	X		IR1-18A			Rg
15-181	10/5/07	1035	1	X		S	3 day	X							X	X		IR1-20			Rg
15-182	10/5/07	1105	1	X		S	3 day	X							X	X		IR1-23			Rg
15-183	10/5/07	1115	1	X		S	3 day	X							X	X		IR1-24			Rg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
VR	10/26/07	
COMPANY: TtEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 30 day + 21 day ingrowths - Hold samples for Thorium + Uranium but go ahead w/ RAD screen

COMPOSITE DESCRIPTION: * Added - 1-9-08 per VR - Scudder * Lab analyzed Sth/U

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR1 = Installation Site 1

16059789 - F8A110276
F7L200366 16057835

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31605

ENTERED

PROJECT NAME: In Site 1, 2, 32
PURCHASE ORDER NO.: 1017341
PROJECT LOCATION: Alameda CA
PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards
AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski
PROJECT CONTACT PHONE NUMBER: 919-756-7500

ANALYSES REQUIRED: EPA 901.1 M; GPSA DOE SR-01/SR-02; THORIUM; URANIUM; ISOTOPIC THORIUM; ISOTOPIC URANIUM

LABORATORY NAME: STL
F7L200966 + S... 21 day analysis
LABORATORY ID (FOR LABORATORY): F7J290164 / F8A110276 (180th/1sau)

Project Information Section
Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 M	GPSA DOE SR-01/SR-02	THORIUM	URANIUM					ISOTOPIC THORIUM	ISOTOPIC URANIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-175	10/5/07	0952	1	X		S	3 dy	X								X	X		IR1-22-2			Ry
15-176	10/5/07	1002	1	X		S	3 dy	X								X	X		IR1-14			Ry
15-177	10/5/07	1010	1	X		S	3 dy	X								X	X		IR1-15			Ry
15-178 *	10/5/07	1015	2	X		S	3 dy	X	X							X	X		IR1-16			Ry
15-179	10/5/07	1020	1	X		S	3 dy	X								X	X		IR1-17			Ry
15-180	10/5/07	1030	1	X		S	3 dy	X								X	X		IR1-18A			Ry
15-181	10/5/07	1035	1	X		S	3 dy	X								X	X		IR1-20			Ry
15-182	10/5/07	1105	1	X		S	3 dy	X								X	X		IR1-23			Ry
15-183	10/5/07	1115	1	X		S	3 dy	X								X	X		IR1-24			Ry

RELINQUISHED BY (Signature): [signature] DATE: 10/26/07
COMPANY: TtEC / FedEx TIME:
RECEIVED BY (Signature):
COMPANY:
RELINQUISHED BY (Signature): DATE:
COMPANY: TIME:
RECEIVED BY (Signature):
COMPANY:
RELINQUISHED BY (Signature): DATE:
COMPANY: TIME:
RECEIVED BY (Signature):
COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS: 30 dy + 21 dy ingrowths - Hold Samples for Thorium + Uranium but go ahead w/ GAP. spec

COMPOSITE DESCRIPTION: * Added 1-9-08 per VR - Sudoku * Lab assigned SFN/IU

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR1 = Installation Site 1

16059789 - F8A110276
F7L200966 16057835

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-184

Radiochemistry

Lab Sample ID: F7J290164-001
Work Order: J931H
Matrix: SOLID

Date Collected: 10/08/07 0830
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.061	U	0.085		0.14	10/31/07	11/01/07
Cesium 137	0.0	U	0.065	0.200	0.12	10/31/07	11/01/07
Cobalt 60	0.01	U	0.047		0.091	10/31/07	11/01/07
Europium 152	-0.03	U	0.11		0.20	10/31/07	11/01/07
Europium 154	-0.001	U	0.37		0.72	10/31/07	11/01/07
Potassium 40	**8.4**		1.7		0.7	**10/31/07**	**11/01/07**
Radium (226)	**0.50**		0.14		0.11	**10/31/07**	**11/01/07**
Thorium 232	0.21	U	0.15		0.35	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.33**	J	0.13	1.00	0.18	**10/31/07**	**11/21/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-184 DUP

Radiochemistry

Lab Sample ID: F7J290164-001X
Work Order: J931H
Matrix: SOLID

Date Collected: 10/08/07 0830
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	0.040	U	0.079		0.14	10/31/07	11/01/07
Cesium 137	-0.03	U	0.28	0.20	0.11	10/31/07	11/01/07
Cobalt 60	-0.002	U	0.11		0.16	10/31/07	11/01/07
Europium 152	-0.012	U	0.080		0.15	10/31/07	11/01/07
Europium 154	0.11	U	0.36		0.65	10/31/07	11/01/07
Potassium 40	**8.8**		**1.6**		**0.6**	**10/31/07**	**11/01/07**
Radium (226)	**0.39**		**0.12**		**0.13**	**10/31/07**	**11/01/07**
Thorium 232	0.27	U	0.22		0.33	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	**0.36**	J	0.13	1.00	0.16	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-185

Radiochemistry

Lab Sample ID: F7J290164-002
Work Order: J931M
Matrix: SOLID

Date Collected: 10/08/07 0840
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.041	U	0.074		0.13	10/31/07	11/01/07
Cesium 137	-0.006	U	0.079	0.200	0.12	10/31/07	11/01/07
Cobalt 60	0.016	U	0.051		0.10	10/31/07	11/01/07
Europium 152	-0.02	U	0.13		0.23	10/31/07	11/01/07
Europium 154	0.0	U	0.51		0.94	10/31/07	11/01/07
Potassium 40	8.7		1.6		0.6	10/31/07	11/01/07
Radium (226)	0.41		0.12		0.13	10/31/07	11/01/07
Thorium 232	0.41		0.18		0.28	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	0.39	J	0.12	1.00	0.16	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-186

Radiochemistry

Lab Sample ID: F7J290164-003
Work Order: J931N
Matrix: SOLID

Date Collected: 10/08/07 0847
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.004	U	0.083		0.15	10/31/07	11/01/07
Cesium 137	0.013	U	0.035	0.200	0.063	10/31/07	11/01/07
Cobalt 60	0.014	U	0.036		0.068	10/31/07	11/01/07
Europium 152	-0.03	U	0.10		0.18	10/31/07	11/01/07
Europium 154	0.1	U	0.30		0.54	10/31/07	11/01/07
Potassium 40	**4.7**		**1.2**		**1.2**	**10/31/07**	**11/01/07**
Radium (226)	**0.239**		**0.088**		**0.15**	**10/31/07**	**11/01/07**
Thorium 232	0.14	U	0.15		0.24	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.31**	J	0.13	1.00	0.18	**10/31/07**	**11/21/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-187

Radiochemistry

Lab Sample ID: F7J290164-004
Work Order: J931P
Matrix: SOLID

Date Collected: 10/08/07 0853
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			**pCi/g**		**Batch # 7304243**		**Yld %**
Americium 241	0.02	U	0.11		0.19	10/31/07	11/01/07
Cesium 137	-0.006	U	0.050	0.200	0.092	10/31/07	11/01/07
Cobalt 60	0.0	U	0.013		0.048	10/31/07	11/01/07
Europium 152	-0.03	U	0.11		0.20	10/31/07	11/01/07
Europium 154	-0.13	U	0.48		0.85	10/31/07	11/01/07
Potassium 40	**10.6**		**1.8**		**0.7**	**10/31/07**	**11/01/07**
Radium (226)	**0.43**		**0.16**		**0.19**	**10/31/07**	**11/01/07**
Thorium 232	**0.46**		**0.17**		**0.32**	**10/31/07**	**11/01/07**
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 7304244**		**Yld %**
Radium (226)	**0.72**	**J**	**0.17**	**1.00**	**0.14**	**10/31/07**	**11/21/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-188

Radiochemistry

Lab Sample ID: F7J290164-005
Work Order: J931T
Matrix: SOLID

Date Collected: 10/08/07 0900
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.030	U	0.087		0.15	10/31/07	11/01/07
Cesium 137	0.035	U	0.057	0.200	0.096	10/31/07	11/01/07
Cobalt 60	0.0	U	0.10		0.18	10/31/07	11/01/07
Europium 152	0.022	U	0.087		0.16	10/31/07	11/01/07
Europium 154	-0.02	U	0.34		0.64	10/31/07	11/01/07
Potassium 40	**8.1**		**1.5**		**0.6**	**10/31/07**	**11/01/07**
Radium (226)	**0.47**		**0.12**		**0.1**	**10/31/07**	**11/01/07**
Thorium 232	0.23	U	0.20		0.32	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.47**	**J**	**0.11**	**1.00**	**0.07**	**10/31/07**	**11/21/07**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7302560**		**Yld % 71**
Strontium 90	0.36	U	0.46	3.00	0.75	10/29/07	11/09/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-188 DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7J290164-005X
Work Order: J931T
Matrix: SOLID

Date Collected: 10/08/07 0900
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD			**pCi/g**			**Batch # 7302560**	**Yld % 64**
Strontium 90	-0.15	U	0.53	3.00	0.91	10/29/07	11/09/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-189

Radiochemistry

Lab Sample ID: F7J290164-006
Work Order: J931V
Matrix: SOLID

Date Collected: 10/08/07 0925
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	0.0	U	0.085		0.15	10/31/07	11/01/07
Cesium 137	0.037	U	0.035	0.200	0.054	10/31/07	11/01/07
Cobalt 60	-0.016	U	0.052		0.093	10/31/07	11/01/07
Europium 152	-0.003	U	0.079		0.14	10/31/07	11/01/07
Europium 154	-0.02	U	0.30		0.56	10/31/07	11/01/07
Potassium 40	**8.9**		1.4		0.4	10/31/07	11/01/07
Radium (226)	**0.46**		0.11		0.07	10/31/07	11/01/07
Thorium 232	0.40		0.14		0.23	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	**0.35**	J	0.12	1.00	0.16	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-190

Radiochemistry

Lab Sample ID: F7J290164-007
Work Order: J931W
Matrix: SOLID

Date Collected: 10/08/07 0930
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	0.024	U	0.086		0.15	10/31/07	11/01/07
Cesium 137	0.008	U	0.043	0.200	0.079	10/31/07	11/01/07
Cobalt 60	-0.015	U	0.052		0.095	10/31/07	11/01/07
Europium 152	-0.03	U	0.10		0.19	10/31/07	11/01/07
Europium 154	-0.08	U	0.34		0.62	10/31/07	11/01/07
Potassium 40	**9.3**		1.5		0.6	10/31/07	11/01/07
Radium (226)	0.27		0.12		0.17	10/31/07	11/01/07
Thorium 232	0.33		0.19		0.26	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.34	J	0.11	1.00	0.15	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-175

Radiochemistry

Lab Sample ID: F7J290164-008
Work Order: J932Q
Matrix: SOLID

Date Collected: 10/05/07 0952
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	-0.022	U	0.099		0.17	10/31/07	11/01/07
Cesium 137	-0.014	U	0.045	0.200	0.079	10/31/07	11/01/07
Cobalt 60	-0.002	U	0.048		0.090	10/31/07	11/01/07
Europium 152	0.01	U	0.11		0.19	10/31/07	11/01/07
Europium 154	-0.13	U	0.36		0.63	10/31/07	11/01/07
Potassium 40	**8.4**		**1.3**		**0.6**	**10/31/07**	**11/01/07**
Radium (226)	**0.25**		**0.12**		**0.17**	**10/31/07**	**11/01/07**
Thorium 232	0.10	U	0.15		0.26	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.29**	**J**	0.12	1.00	0.16	**10/31/07**	**11/21/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-176

Radiochemistry

Lab Sample ID: F7J290164-009
Work Order: J932R
Matrix: SOLID

Date Collected: 10/05/07 1002
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.0007	U	0.086		0.15	10/31/07	11/01/07
Cesium 137	0.032	U	0.049	0.200	0.083	10/31/07	11/01/07
Cobalt 60	0.014	U	0.043		0.080	10/31/07	11/01/07
Europium 152	-0.03	U	0.12		0.22	10/31/07	11/01/07
Europium 154	0.0	U	0.31		0.61	10/31/07	11/01/07
Potassium 40	8.1		1.5		0.7	10/31/07	11/01/07
Radium (226)	0.39		0.12		0.11	10/31/07	11/01/07
Thorium 232	0.35		0.16		0.31	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	0.49	J	0.13	1.00	0.09	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-177

Radiochemistry

Lab Sample ID: F7J290164-010
Work Order: J932T
Matrix: SOLID

Date Collected: 10/05/07 1010
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	0.02	U	0.10		0.18	10/31/07	11/01/07
Cesium 137	-0.02	U	0.15	0.20	0.11	10/31/07	11/01/07
Cobalt 60	0.016	U	0.043		0.088	10/31/07	11/01/07
Europium 152	-0.03	U	0.12		0.21	10/31/07	11/01/07
Europium 154	0.18	U	0.40		0.70	10/31/07	11/01/07
Potassium 40	9.3		1.7		0.6	10/31/07	11/01/07
Radium (226)	0.32		0.14		0.19	10/31/07	11/01/07
Thorium 232	0.40		0.20		0.35	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.58	J	0.14	1.00	0.12	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-178

Radiochemistry

Lab Sample ID: F7J290164-011
Work Order: J9321
Matrix: SOLID

Date Collected: 10/05/07 1015
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	0.016	U	0.091		0.16	10/31/07	11/01/07
Cesium 137	0.0	U	0.058	0.200	0.10	10/31/07	11/01/07
Cobalt 60	-0.0006	U	0.032		0.066	10/31/07	11/01/07
Europium 152	-0.02	U	0.10		0.18	10/31/07	11/01/07
Europium 154	0.02	U	0.29		0.55	10/31/07	11/01/07
Potassium 40	**8.1**		**1.4**		**0.5**	**10/31/07**	**11/01/07**
Radium (226)	**0.40**		**0.13**		**0.13**	**10/31/07**	**11/01/07**
Thorium 232	0.37		0.15		0.20	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.37**	**J**	0.11	1.00	0.12	**10/31/07**	**11/21/07**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7302560**		**Yld % 67**
Strontium 90	0.46	U	0.47	3.00	0.76	10/29/07	11/09/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-179

Radiochemistry

Lab Sample ID: F7J290164-012
Work Order: J9323
Matrix: SOLID

Date Collected: 10/05/07 1020
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	-0.003	U	0.081		0.14	10/31/07	11/01/07
Cesium 137	-0.007	U	0.050	0.200	0.091	10/31/07	11/01/07
Cobalt 60	-0.002	U	0.042		0.085	10/31/07	11/01/07
Europium 152	-0.011	U	0.085		0.16	10/31/07	11/01/07
Europium 154	-0.16	U	0.47		0.83	10/31/07	11/01/07
Potassium 40	9.0		1.6		0.6	10/31/07	11/01/07
Radium (226)	0.38		0.14		0.19	10/31/07	11/01/07
Thorium 232	0.41		0.18		0.30	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.51	J	0.13	1.00	0.12	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-180

Radiochemistry

Lab Sample ID: F7J290164-013
Work Order: J9324
Matrix: SOLID

Date Collected: 10/05/07 1030
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	0.0009	U	0.080		0.14	10/31/07	11/01/07
Cesium 137	0.011	U	0.045	0.200	0.079	10/31/07	11/01/07
Cobalt 60	0.01	U	0.038		0.069	10/31/07	11/01/07
Europium 152	0.02	U	0.10		0.18	10/31/07	11/01/07
Europium 154	0.1	U	0.26		0.46	10/31/07	11/01/07
Potassium 40	7.7		1.2		0.8	10/31/07	11/01/07
Radium (226)	0.37		0.11		0.15	10/31/07	11/01/07
Thorium 232	0.34		0.16		0.25	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.41	J	0.12	1.00	0.14	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-181

Radiochemistry

Lab Sample ID: F7J290164-014
Work Order: J9325
Matrix: SOLID

Date Collected: 10/05/07 1035
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	-0.03	U	0.11		0.20	10/31/07	11/01/07
Cesium 137	-0.0009	U	0.051	0.200	0.096	10/31/07	11/01/07
Cobalt 60	0.0	U	0.015		0.054	10/31/07	11/01/07
Europium 152	0.02	U	0.11		0.20	10/31/07	11/01/07
Europium 154	0.03	U	0.39		0.75	10/31/07	11/01/07
Potassium 40	7.5		1.6		0.8	10/31/07	11/01/07
Radium (226)	0.25		0.12		0.17	10/31/07	11/01/07
Thorium 232	0.35	U	0.24		0.35	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.53	J	0.16	1.00	0.15	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-182

Radiochemistry

Lab Sample ID: F7J290164-015
Work Order: J9326
Matrix: SOLID

Date Collected: 10/05/07 1105
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/g**	**Batch # 7304243**		**Yld %**
Americium 241	-0.04	U	0.18		0.17	10/31/07	11/01/07
Cesium 137	-0.04	U	0.92	0.20	0.1	10/31/07	11/01/07
Cobalt 60	0.006	U	0.051		0.10	10/31/07	11/01/07
Europium 152	-0.03	U	0.12		0.21	10/31/07	11/01/07
Europium 154	0.09	U	0.42		0.77	10/31/07	11/01/07
Potassium 40	**7.2**		**1.6**		**1.2**	**10/31/07**	**11/01/07**
Radium (226)	0.16	U	0.10		0.17	10/31/07	11/01/07
Thorium 232	0.29	U	0.17		0.38	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7304244**		**Yld %**
Radium (226)	**0.28**	**J**	0.15	1.00	0.23	10/31/07	**11/21/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-183

Radiochemistry

Lab Sample ID: F7J290164-016
Work Order: J9327
Matrix: SOLID

Date Collected: 10/05/07 1115
Date Received: 10/29/07 1215

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/g		Batch # 7304243		Yld %
Americium 241	-0.046	U	0.093		0.16	10/31/07	11/01/07
Cesium 137	0.013	U	0.056	0.200	0.10	10/31/07	11/01/07
Cobalt 60	-0.0005	U	0.044		0.088	10/31/07	11/01/07
Europium 152	0.042	U	0.094		0.16	10/31/07	11/01/07
Europium 154	0.08	U	0.24		0.45	10/31/07	11/01/07
Potassium 40	7.3		1.4		0.9	10/31/07	11/01/07
Radium (226)	0.33		0.12		0.14	10/31/07	11/01/07
Thorium 232	0.43		0.20		0.25	10/31/07	11/01/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7304244		Yld %
Radium (226)	0.28	J	0.11	1.00	0.15	10/31/07	11/21/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-178

Radiochemistry

Lab Sample ID: F7L200366-001
Work Order: KEK82
Matrix: SOLID

Date Collected: 10/05/07 1015
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.22	U	0.16		0.24	12/26/07	01/16/08
Americium 241	0.018	U	0.088		0.15	12/26/07	01/16/08
Cesium 137	0.020	U	0.037	0.200	0.064	12/26/07	01/16/08
Cobalt 60	0.005	U	0.044		0.084	12/26/07	01/16/08
Europium 152	-0.0006	U	0.078		0.14	12/26/07	01/16/08
Europium 154	0.005	U	0.24		0.47	12/26/07	01/16/08
Potassium 40	8.1		1.4		0.7	12/26/07	01/16/08
Radium (226)	0.37	J	0.11	1.00	0.12	12/26/07	01/16/08
Thorium 232	0.22	U	0.16		0.24	12/26/07	01/16/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 7354140		Yld % 65
Strontium 90	-0.07	U	0.21	3.00	0.39	12/20/07	01/09/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8004066		Yld % 61
Thorium 228	0.32	J	0.15	1.00	0.12	01/04/08	01/09/08
Thorium 230	0.30	J	0.14	1.00	0.08	01/04/08	01/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8004067		Yld % 83
Uranium 233/234	0.43	J	0.14	1.00	0.06	01/04/08	01/10/08
Uranium 235/236	0.029	U	0.041	1.00	0.039	01/04/08	01/10/08
Uranium 238	0.38	J	0.13	1.00	0.05	01/04/08	01/10/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-178 DUP

Radiochemistry

Lab Sample ID: F7L200366-001X
Work Order: KEK82
Matrix: SOLID

Date Collected: 10/05/07 1015
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8004066**	**Yld % 60**
Thorium 228	**0.63**	**J**	**0.21**	1.00	**0.09**	**01/04/08**	**01/09/08**
Thorium 230	**0.47**	**J**	**0.18**	1.00	**0.08**	**01/04/08**	**01/09/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8004067**	**Yld % 91**
Uranium 233/234	**0.45**	**J**	**0.14**	1.00	**0.04**	**01/04/08**	**01/10/08**
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/04/08	01/10/08
Uranium 238	**0.40**	**J**	**0.13**	1.00	**0.05**	**01/04/08**	**01/10/08**

NOTE(S)

[illegible]a are incomplete without the case narrative.

[illegible]C is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-175

Radiochemistry

Lab Sample ID: F8A110276-001
Work Order: KFFCT
Matrix: SOLID

Date Collected: 10/05/07 0952
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8014283**		**Yld % 84**
Thorium 228	0.38	J	0.14	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.49	J	0.15	1.00	0.06	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8014286**		**Yld % 7**
Uranium 233/234	0.14	U	0.40	1.00	0.83	01/14/08	01/17/08
Uranium 235/236	0.10	U	0.34	1.00	0.82	01/14/08	01/17/08
Uranium 238	0.46	U	0.54	1.00	0.72	01/14/08	01/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than staced reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-175 DUP

Radiochemistry

Lab Sample ID: F8A110276-001X
Work Order: KFFCT
Matrix: SOLID

Date Collected: 10/05/07 0952
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 86
Thorium 228	0.57	J	0.17	1.00	0.06	01/14/08	01/16/08
Thorium 230	0.77	J	0.19	1.00	0.05	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 91
Uranium 233/234	0.43	J	0.14	1.00	0.04	01/14/08	01/16/08
Uranium 235/236	0.035	U	0.044	1.00	0.053	01/14/08	01/16/08
Uranium 238	0.50	J	0.15	1.00	0.05	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-176

Radiochemistry

Lab Sample ID: F8A110276-002
Work Order: KFFC8
Matrix: SOLID

Date Collected: 10/05/07 1002
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 88
Thorium 228	0.36	J	0.13	1.00	0.07	01/14/08	01/16/08
Thorium 230	0.52	J	0.15	1.00	0.07	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 93
Uranium 233/234	0.31	J	0.11	1.00	0.07	01/14/08	01/16/08
Uranium 235/236	0.033	U	0.041	1.00	0.050	01/14/08	01/16/08
Uranium 238	0.39	J	0.13	1.00	0.08	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-177

Radiochemistry

Lab Sample ID: F8A110276-003
Work Order: KFFDA
Matrix: SOLID

Date Collected: 10/05/07 1010
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 87
Thorium 228	0.34	J	0.13	1.00	0.06	01/14/08	01/16/08
Thorium 230	0.54	J	0.16	1.00	0.03	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 98
Uranium 233/234	0.37	J	0.12	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.019	U	0.034	1.00	0.058	01/14/08	01/16/08
Uranium 238	0.34	J	0.12	1.00	0.07	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-178

Radiochemistry

Lab Sample ID: F8A110276-004
Work Order: KFFDG
Matrix: SOLID

Date Collected: 10/05/07 1015
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 85
Thorium 228	0.42	J	0.14	1.00	0.07	01/14/08	01/16/08
Thorium 230	0.72	J	0.19	1.00	0.05	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 96
Uranium 233/234	0.48	J	0.14	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.01	U	0.024	1.00	0.050	01/14/08	01/16/08
Uranium 238	0.37	J	0.12	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-179

Radiochemistry

Lab Sample ID: F8A110276-005
Work Order: KFFDK
Matrix: SOLID

Date Collected: 10/05/07 1020
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8014283		Yld % 85
Thorium 228	0.82	J	0.20	1.00	0.07	01/14/08	01/16/08
Thorium 230	0.74	J	0.18	1.00	0.04	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8014286		Yld % 95
Uranium 233/234	0.46	J	0.14	1.00	0.04	01/14/08	01/16/08
Uranium 235/236	0.10	J	0.069	1.00	0.048	01/14/08	01/16/08
Uranium 238	0.45	J	0.13	1.00	0.02	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-180

Radiochemistry

Lab Sample ID: F8A110276-006
Work Order: KFFDM
Matrix: SOLID

Date Collected: 10/05/07 1030
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 83
Thorium 228	0.30	J	0.13	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.55	J	0.17	1.00	0.05	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 98
Uranium 233/234	0.45	J	0.14	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/14/08	01/16/08
Uranium 238	0.31	J	0.12	1.00	0.03	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-181

Radiochemistry

Lab Sample ID: F8A110276-007
Work Order: KFFDQ
Matrix: SOLID

Date Collected: 10/05/07 1035
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 82**
Thorium 228	0.36	J	0.14	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.40	J	0.14	1.00	0.07	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 88**
Uranium 233/234	0.52	J	0.16	1.00	0.07	01/14/08	01/16/08
Uranium 235/236	0.025	U	0.039	1.00	0.058	01/14/08	01/16/08
Uranium 238	0.50	J	0.16	1.00	0.06	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-182

Radiochemistry

Lab Sample ID: F8A110276-008
Work Order: KFFDV
Matrix: SOLID

Date Collected: 10/05/07 1105
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 92**
Uranium 233/234	0.42	J	0.14	1.00	0.06	01/14/08	01/16/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	01/14/08	01/16/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/14/08	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8017140**	**Yld % 87**
Thorium 228	1.09		0.24	1.00	0.07	01/17/08	01/22/08
Thorium 230	0.72	J	0.19	1.00	0.03	01/17/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-182 DUP

Radiochemistry

Lab Sample ID: F8A110276-008X
Work Order: KFFDV
Matrix: SOLID

Date Collected: 10/05/07 1105
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8017140	Yld % 85
Thorium 228	0.59	J	0.17	1.00	0.07	01/17/08	01/22/08
Thorium 230	0.48	J	0.15	1.00	0.03	01/17/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-183

Radiochemistry

Lab Sample ID: F8A110276-009
Work Order: KFFD1
Matrix: SOLID

Date Collected: 10/05/07 1115
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 89**
Thorium 228	0.71	J	0.19	1.00	0.06	01/14/08	01/16/08
Thorium 230	0.81	J	0.20	1.00	0.06	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 94**
Uranium 233/234	0.45	J	0.14	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.034	U	0.046	1.00	0.064	01/14/08	01/16/08
Uranium 238	0.55	J	0.16	1.00	0.03	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-184

Radiochemistry

Lab Sample ID: F8A110276-010
Work Order: KFFD6
Matrix: SOLID

Date Collected: 10/08/07 0830
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 85**
Thorium 228	0.25	J	0.11	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.60	J	0.17	1.00	0.06	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 91**
Uranium 233/234	0.32	J	0.12	1.00	0.07	01/14/08	01/16/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	01/14/08	01/16/08
Uranium 238	0.28	J	0.11	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-185

Radiochemistry

Lab Sample ID: F8A110276-011
Work Order: KFFD9
Matrix: SOLID

Date Collected: 10/08/07 0840
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 90**
Thorium 228	0.39	J	0.13	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.33	J	0.12	1.00	0.05	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 92**
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.035	U	0.044	1.00	0.054	01/14/08	01/16/08
Uranium 238	0.24	J	0.10	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-186

Radiochemistry

Lab Sample ID: F8A110276-012
Work Order: KFFEE
Matrix: SOLID

Date Collected: 10/08/07 0847
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8014283**		**Yld % 95**
Thorium 228	0.40	J	0.13	1.00	0.07	01/14/08	01/16/08
Thorium 230	0.45	J	0.14	1.00	0.05	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8014286**		**Yld % 97**
Uranium 233/234	0.30	J	0.11	1.00	0.06	01/14/08	01/16/08
Uranium 235/236	0.036	J	0.042	1.00	0.033	01/14/08	01/16/08
Uranium 238	0.37	J	0.12	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-187

Radiochemistry

Lab Sample ID: F8A110276-013
Work Order: KFFEG
Matrix: SOLID

Date Collected: 10/08/07 0853
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014283	Yld % 77
Thorium 228	0.45	J	0.15	1.00	0.1	01/14/08	01/16/08
Thorium 230	0.73	J	0.20	1.00	0.08	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8014286	Yld % 91
Uranium 233/234	0.35	J	0.12	1.00	0.06	01/14/08	01/16/08
Uranium 235/236	0.057	U	0.055	1.00	0.060	01/14/08	01/16/08
Uranium 238	0.43	J	0.14	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-188

Radiochemistry

Lab Sample ID: F8A110276-014
Work Order: KFFEH
Matrix: SOLID

Date Collected: 10/08/07 0900
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8014283		Yld % 92
Thorium 228	0.45	J	0.14	1.00	0.09	01/14/08	01/16/08
Thorium 230	0.71	J	0.18	1.00	0.03	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8014286		Yld % 95
Uranium 233/234	0.27	J	0.10	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.017	U	0.035	1.00	0.065	01/14/08	01/16/08
Uranium 238	0.36	J	0.12	1.00	0.04	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-189

Radiochemistry

Lab Sample ID: F8A110276-015
Work Order: KFFEK
Matrix: SOLID

Date Collected: 10/08/07 0925
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 92**
Thorium 228	0.41	J	0.14	1.00	0.08	01/14/08	01/16/08
Thorium 230	0.62	J	0.17	1.00	0.04	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 93**
Uranium 233/234	0.45	J	0.14	1.00	0.04	01/14/08	01/16/08
Uranium 235/236	0.047	U	0.050	1.00	0.052	01/14/08	01/16/08
Uranium 238	0.35	J	0.12	1.00	0.05	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-190

Radiochemistry

Lab Sample ID: F8A110276-016
Work Order: KFFEM
Matrix: SOLID

Date Collected: 10/08/07 0930
Date Received: 01/11/08 1200

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014283**	**Yld % 86**
Thorium 228	0.43	J	0.15	1.00	0.07	01/14/08	01/16/08
Thorium 230	0.52	J	0.16	1.00	0.03	01/14/08	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8014286**	**Yld % 100**
Uranium 233/234	0.41	J	0.13	1.00	0.05	01/14/08	01/16/08
Uranium 235/236	0.005	U	0.025	1.00	0.064	01/14/08	01/16/08
Uranium 238	0.46	J	0.14	1.00	0.05	01/14/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Oct-2007	15-175	F7J290164008	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-176	F7J290164009	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-177	F7J290164010	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-178	F7J290164011	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-178	F7J290164011	N	Gen Prep	)OE SR-03-RC MOI	3
05-Oct-2007	15-179	F7J290164012	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-180	F7J290164013	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-181	F7J290164014	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-182	F7J290164015	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-183	F7J290164016	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-178	F7L200366001	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-178	F7L200366001	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-178	F7L200366001	N	Gen Prep	DOE GA-01-R MOD	3
05-Oct-2007	15-178	F7L200366001	N	Gen Prep	)OE SR-03-RC MOI	3
05-Oct-2007	15-178DUP	F7L200366001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-178DUP	F7L200366001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-175	F8A110276001	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-175	F8A110276001	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-175DUP	F8A110276001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-175DUP	F8A110276001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-176	F8A110276002	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-176	F8A110276002	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-177	F8A110276003	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-177	F8A110276003	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-178	F8A110276004	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-178	F8A110276004	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Oct-2007	15-179	F8A110276005	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-179	F8A110276005	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-180	F8A110276006	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-180	F8A110276006	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-181	F8A110276007	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-181	F8A110276007	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-182	F8A110276008	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-182	F8A110276008	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-182DUP	F8A110276008DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-183	F8A110276009	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-183	F8A110276009	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-184	F7J290164001	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-184DUP	F7J290164001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-185	F7J290164002	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-186	F7J290164003	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-187	F7J290164004	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-188	F7J290164005	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-188	F7J290164005	N	Gen Prep	)OE SR-03-RC MOI	3
08-Oct-2007	15-188DUP	F7J290164005DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
08-Oct-2007	15-189	F7J290164006	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-190	F7J290164007	N	Gen Prep	DOE GA-01-R MOD	3
08-Oct-2007	15-184	F8A110276010	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-184	F8A110276010	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-185	F8A110276011	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-185	F8A110276011	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-186	F8A110276012	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
08-Oct-2007	15-186	F8A110276012	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-187	F8A110276013	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-187	F8A110276013	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-188	F8A110276014	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-188	F8A110276014	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-189	F8A110276015	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-189	F8A110276015	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-190	F8A110276016	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-190	F8A110276016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A110276										
DOE A-01-R TH MOD	15-175	SO	N	THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-176	SO	N	THORIUM-230	1.00	0.52J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-177	SO	N	THORIUM-230	1.00	0.54J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-180	SO	N	THORIUM-230	1.00	0.55J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-181	SO	N	THORIUM-230	1.00	0.40J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-184	SO	N	THORIUM-230	1.00	0.60J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-185	SO	N	THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-186	SO	N	THORIUM-230	1.00	0.45J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-189	SO	N	THORIUM-230	1.00	0.62J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-190	SO	N	THORIUM-230	1.00	0.52J	0.16	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F7J290164,F7L200366,F8A110276

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A110276	15-175	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-176	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-177	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-180	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-181	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-184	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-185	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-186	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-189	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-190	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detection Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

F7J290164

(No Outlier Reports)

LDC #: 18448B29 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-17-08
SDG #: F7J290164/F7L200366/F8A110276 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: W

MA Radium - 226

METHOD: ~~Total Radium~~ (DOE GA-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-8-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	N	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-184	11	15-178	21		31	
2	15-185	12 2	15-178RE	22		32	
3	15-186	13	15-179	23		33	
4	15-187	14	15-180	24		34	
5	15-188	15	15-181	25		35	
6	15-189	16	15-182	26		36	
7	15-190	17	15-183	27		37	
8	15-175	18	15-184DUP	28		38	
9	15-176	19 1	PBS1	29		39	
10	15-177	20 2	PBS2	30		40	

Notes: _____

LDC #: 18448B61
SDG #: F7J290164/F7L200366/F8A110276
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-9-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP (parent & DUP both N.D. , No Qual)
IVb.	Laboratory control samples	N	(also DUP from SDG: F7L190311 → same)
IVc.	Carrier recovery	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-188	11		21		31	
2	15-178	12		22		32	
3 2	15-178RE	13		23		33	
4	15-188DUP	14		24		34	
5 1	PBS1	15		25		35	
6 2	PBS2	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Quality Control
Outlier Reports

F7L200366/F8A110276

Method Blank Outlier Report

Lab Reporting Batch : F8A110276
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/16/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A140000283MB
Preparation Batch : 8014283

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.128**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-175	F8A110276001	1	0.49	J	pCi/g
15-176	F8A110276002	1	0.52	J	pCi/g
15-177	F8A110276003	1	0.54	J	pCi/g
15-180	F8A110276006	1	0.55	J	pCi/g
15-181	F8A110276007	1	0.40	J	pCi/g
15-184	F8A110276010	1	0.60	J	pCi/g
15-185	F8A110276011	1	0.33	J	pCi/g
15-186	F8A110276012	1	0.45	J	pCi/g
15-189	F8A110276015	1	0.62	J	pCi/g
15-190	F8A110276016	1	0.52	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A110276
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A170000140MB

Lab ID: TestAme
Analysis Date : 01/22/2008
Preparation Date :
Preparation Batch : 8017140

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.105**	**1.00**	**pCi/g**	**J**	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18448B73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-17-08
SDG #: F7J290164/F7L200366/F8A110276 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: W

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-8-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-184	11 1	15-178	21 1	PBS1	31	
2 1	15-185	12 2	15-178RE	22 2	PBS2	32	
3 1	15-186	13 1	15-179	23 3	PBS3	33	
4 1	15-187	14 1	15-180	24		34	
5 1	15-188	15 1	15-181	25		35	
6 1	15-189	16 3	15-182	26		36	
7 1	15-190	17 1	15-183	27		37	
8 1	15-175	18 1	15-175DUP	28		38	
9 1	15-176	19 2	15-178DUP	29		39	
10 1	15-177	20 3	15-182DUP	30		40	

Notes: _____

LDC #: 18448B59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-17-08
SDG #: F7J290164/F7L200366/F8A110276 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: ✓

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-8-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	DUP (No Qual for U-235/236 DUP RPD in # 19+18
IVa.	Laboratory control samples	N	both parent & DUP = N.D.)
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all soil

1	15-184	11	15-178	21 1	PBS1	31	
2	15-185	12 2	15-178RE	22 2	PBS2	32	
3	15-186	13	15-179	23 3	~~PBS3~~	33	
4	15-187	14	15-180	24		34	
5	15-188	15	15-181	25		35	
6	15-189	16	15-182	26		36	
7	15-190	17	15-183	27		37	
8	15-175	18	15-175DUP	28		38	
9	15-176	19 2	15-178DUP	29		39	
10	15-177	20	~~15-182DUP~~ mg	30		40	

Notes:

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Oct-2007	15-175	F8A110276001	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-175	F8A110276001	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-175DUP	F8A110276001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-175DUP	F8A110276001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-176	F8A110276002	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-176	F8A110276002	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-177	F8A110276003	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-177	F8A110276003	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-178	F8A110276004	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-178	F8A110276004	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-179	F8A110276005	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-179	F8A110276005	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-180	F8A110276006	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-180	F8A110276006	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-181	F8A110276007	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-181	F8A110276007	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-182	F8A110276008	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-182	F8A110276008	N	Gen Prep	DOE A-01-R U MOD	3
05-Oct-2007	15-182DUP	F8A110276008DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-183	F8A110276009	N	Gen Prep	)OE A-01-R TH MOI	3
05-Oct-2007	15-183	F8A110276009	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-184	F8A110276010	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-184	F8A110276010	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-185	F8A110276011	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-185	F8A110276011	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-186	F8A110276012	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
08-Oct-2007	15-186	F8A110276012	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-187	F8A110276013	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-187	F8A110276013	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-188	F8A110276014	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-188	F8A110276014	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-189	F8A110276015	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-189	F8A110276015	N	Gen Prep	DOE A-01-R U MOD	3
08-Oct-2007	15-190	F8A110276016	N	Gen Prep	)OE A-01-R TH MOI	3
08-Oct-2007	15-190	F8A110276016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A110276										
DOE A-01-R TH MOD	15-175	SO	N							
				THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-176	SO	N							
				THORIUM-230	1.00	0.52J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-177	SO	N							
				THORIUM-230	1.00	0.54J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-180	SO	N							
				THORIUM-230	1.00	0.55J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-181	SO	N							
				THORIUM-230	1.00	0.40J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-184	SO	N							
				THORIUM-230	1.00	0.60J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-185	SO	N							
				THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-186	SO	N							
				THORIUM-230	1.00	0.45J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-189	SO	N							
				THORIUM-230	1.00	0.62J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-190	SO	N							
				THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R U MOD	15-175	SO	N							
				URANIUM-233/234	1.00	0.14U	0.40	R	pCi/g	
				URANIUM-235/236	1.00	0.10U	0.34	R	pCi/g	
				URANIUM-238	1.00	0.46U	0.54	R	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A110276

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A110276	15-175	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-176	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-177	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-180	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-181	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-184	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-185	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-186	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-189	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A110276	15-190	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC [redacted] Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A110276

Method Blank Outlier Report

Lab Reporting Batch : F8A110276 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 01/16/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A140000283MB **Preparation Batch :** 8014283

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.128	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

15-175	F8A110276001	1	0.49	J	pCi/g
15-176	F8A110276002	1	0.52	J	pCi/g
15-177	F8A110276003	1	0.54	J	pCi/g
15-180	F8A110276006	1	0.55	J	pCi/g
15-181	F8A110276007	1	0.40	J	pCi/g
15-184	F8A110276010	1	0.60	J	pCi/g
15-185	F8A110276011	1	0.33	J	pCi/g
15-186	F8A110276012	1	0.45	J	pCi/g
15-189	F8A110276015	1	0.62	J	pCi/g
15-190	F8A110276016	1	0.52	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A110276
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/22/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A170000140MB
Preparation Batch : 8017140

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.105	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18448X59
SDG #: F8A110276
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-8-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A SW	DUP (both N.D. or OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	SW	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-175	11	15-185	21		31	
2	15-176	12	15-186	22		32	
3	15-177	13	15-187	23		33	
4	15-178	14	15-188	24		34	
5	15-179	15	15-189	25		35	
6	15-180	16	15-190	26		36	
7	15-181	17	15-175DUP	27		37	
8	15-182	18	PBS	28		38	
9	15-183	19		29		39	
10	15-184	20		30		40	

Notes:

LDC: [redacted]8X59
SDG #: F8A110276

VALIDATION [redacted]NGS WORKSHEET
Sample Chemical Recovery

[redacted] Page: 1 of 1
Reviewer: MG
2nd Reviewer: _____

METHOD: Radiochemistry (Method: DOE A-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a tracer added to each sample?

Y (N) N/A Were tracer recoveries within the control limits?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	ID	Matrix	Tracer	%R (limits)	Associated Isotopes	Associated Samples	Qualifications
1	1	soil	U-232	7 (~~70-130~~) 30-110	all U	1	J/R/A (Qual al

Comments: _____

LDC #: 18448X73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08
SDG #: F8A110276 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-5-07 through 10-8-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: all soil

1 1	15-175	11 1	15-185	21		31	
2 1	15-176	12 1	15-186	22		32	
3 1	15-177	13 1	15-187	23		33	
4 1	15-178	14 1	15-188	24		34	
5 1	15-179	15 1	15-189	25		35	
6 1	15-180	16 1	15-190	26		36	
7 1	15-181	17 1	15-175DUP	27		37	
8 2	15-182	18 2	15-182DUP	28		38	
9 1	15-183	19 1	PBS1	29		39	
10 1	15-184	20 2	PBS2	30		40	

Notes: _____

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31606

ENTERED 01-16

PROJECT NAME: Installs 1, 2 + 32	PURCHASE ORDER NO.: ~~4217344~~ 0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210-028P
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 714-756-7500 *

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA STL

LABORATORY ID (FOR LABORATORY): F7L190303

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 601.17	THALLIUM	VANADIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-191	10/17/07	1355	1	Y		S	21 Dy	X	X	X		IN1-2A-1a	0	6"	N
15-192	10/17/07	1410	1	Y		S	21 Dy	X	X	X	OK	IN1-3A-1a	0	6"	N
15-193	10/17/07	1420	1	Y		S	21 Dy	X	X	X		IN1-3COE-1a	0	6"	N
15-194	10/17/07	1430	1	Y		S	21 Dy	X	X	X		IN1-4A-1a	0	6"	N

RELINQUISHED BY (Signature)	DATE 12/11/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~3 Dys~~ - 21 DAY TURNAROUND * NO3 - dup 12-18-07 SL
COMPANY: TTEC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)** TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN
COMPANY	TIME	COMPANY	

SAMPLING COMMENT: IN1 - INSTALL. Suite 1

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160589 14

Tetra Tech EC, Inc.

Client Sample ID: 15-191

Radiochemistry

Lab Sample ID: F7L190303-001
Work Order: KEGK3
Matrix: SOLID

Date Collected: 10/17/07 1355
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 86
Thorium 228	0.47	J	0.15	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.52	J	0.16	1.00	0.06	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 100
Uranium 233/234	0.40	J	0.13	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.047	U	0.049	1.00	0.052	12/26/07	01/02/08
Uranium 238	0.46	J	0.14	1.00	0.03	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.41		0.19		0.39	12/22/07	01/12/08
Americium 241	0.06	U	0.12		0.20	12/22/07	01/12/08
Cesium 137	0.003	U	0.057	0.200	0.10	12/22/07	01/12/08
Cobalt 60	0.013	U	0.066		0.12	12/22/07	01/12/08
Europium 152	-0.007	U	0.13		0.23	12/22/07	01/12/08
Europium 154	0.11	U	0.40		0.72	12/22/07	01/12/08
Potassium 40	12.4		2.0		1.4	12/22/07	01/12/08
Radium (226)	0.76	J	0.18	1.00	0.16	12/22/07	01/12/08
Thorium 232	0.41		0.19		0.39	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-191 DUP

Radiochemistry

Lab Sample ID: F7L190303-001X
Work Order: KEGK3
Matrix: SOLID

Date Collected: 10/17/07 1355
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356108**		**Yld %**
Actinium 228	0.30		0.21		0.29	12/22/07	01/12/08
Americium 241	-0.05	U	0.11		0.18	12/22/07	01/12/08
Cesium 137	0.020	U	0.057	0.200	0.10	12/22/07	01/12/08
Cobalt 60	-0.026	U	0.085		0.15	12/22/07	01/12/08
Europium 152	-0.04	U	0.11		0.20	12/22/07	01/12/08
Europium 154	0.0	U	0.32		0.64	12/22/07	01/12/08
Potassium 40	9.5		1.8		1.2	12/22/07	01/12/08
Radium (226)	0.61	J	0.14	1.00	0.07	12/22/07	01/12/08
Thorium 232	0.30		0.21		0.29	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360155**		**Yld % 74**
Thorium 228	0.57	J	0.18	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.61	J	0.19	1.00	0.06	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360157**		**Yld % 90**
Uranium 233/234	0.35	J	0.13	1.00	0.07	12/26/07	01/02/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	12/26/07	01/02/08
Uranium 238	0.51	J	0.15	1.00	0.06	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-192

Radiochemistry

Lab Sample ID: F7L190303-002
Work Order: KEGLH
Matrix: SOLID

Date Collected: 10/17/07 1410
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 75
Thorium 228	0.29	J	0.12	1.00	0.09	12/26/07	01/03/08
Thorium 230	0.82	J	0.21	1.00	0.08	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 93
Uranium 233/234	0.33	J	0.12	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.025	U	0.035	1.00	0.033	12/26/07	01/02/08
Uranium 238	0.27	J	0.11	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.32		0.16		0.29	12/22/07	01/12/08
Americium 241	0.004	U	0.11		0.18	12/22/07	01/12/08
Cesium 137	0.099	J	0.059	0.200	0.086	12/22/07	01/12/08
Cobalt 60	0.0	U	0.077		0.14	12/22/07	01/12/08
Europium 152	0.001	U	0.093		0.17	12/22/07	01/12/08
Europium 154	-0.03	U	0.34		0.62	12/22/07	01/12/08
Potassium 40	10.9		1.6		0.6	12/22/07	01/12/08
Radium (226)	0.34	J	0.12	1.00	0.17	12/22/07	01/12/08
Thorium 232	0.32		0.16		0.29	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-193

Radiochemistry

Lab Sample ID: F7L190303-003
Work Order: KEGLN
Matrix: SOLID

Date Collected: 10/17/07 1420
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360155**	**Yld % 75**
Thorium 228	0.55	J	0.17	1.00	0.06	12/26/07	01/03/08
Thorium 230	0.50	J	0.16	1.00	0.03	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360157**	**Yld % 93**
Uranium 233/234	0.36	J	0.12	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.044	U	0.049	1.00	0.060	12/26/07	01/02/08
Uranium 238	0.30	J	0.11	1.00	0.03	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 7356108**	**Yld %**
Actinium 228	0.65		0.23		0.37	12/22/07	01/12/08
Americium 241	0.09	U	0.13		0.21	12/22/07	01/12/08
Cesium 137	0.0	U	0.056	0.200	0.11	12/22/07	01/12/08
Cobalt 60	-0.017	U	0.068		0.13	12/22/07	01/12/08
Europium 152	-0.05	U	0.15		0.27	12/22/07	01/12/08
Europium 154	-0.1	U	0.44		0.81	12/22/07	01/12/08
Potassium 40	10.3		1.9		0.7	12/22/07	01/12/08
Radium (226)	0.84	J	0.18	1.00	0.11	12/22/07	01/12/08
Thorium 232	0.65		0.23		0.37	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-194

Radiochemistry

Lab Sample ID: F7L190303-004
Work Order: KEGLP
Matrix: SOLID

Date Collected: 10/17/07 1430
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360155**		**Yld % 74**
Thorium 228	0.46	J	0.16	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.75	J	0.20	1.00	0.06	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360157**		**Yld % 88**
Uranium 233/234	0.45	J	0.14	1.00	0.07	12/26/07	01/02/08
Uranium 235/236	0.036	U	0.045	1.00	0.055	12/26/07	01/02/08
Uranium 238	0.50	J	0.15	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356108**		**Yld %**
Actinium 228	0.39		0.23		0.29	12/22/07	01/12/08
Americium 241	-0.01	U	2.1		0.2	12/22/07	01/12/08
Cesium 137	0.01	U	0.055	0.200	0.11	12/22/07	01/12/08
Cobalt 60	-0.005	U	0.059		0.11	12/22/07	01/12/08
Europium 152	-0.04	U	0.13		0.23	12/22/07	01/12/08
Europium 154	0.1	U	0.41		0.76	12/22/07	01/12/08
Potassium 40	8.5		1.7		1	12/22/07	01/12/08
Radium (226)	0.58	J	0.16	1.00	0.16	12/22/07	01/12/08
Thorium 232	0.39		0.23		0.29	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Oct-2007	15-191	F7L190303001	N	Gen Prep	)OE A-01-R TH MOI	3
17-Oct-2007	15-191	F7L190303001	N	Gen Prep	DOE A-01-R U MOD	3
17-Oct-2007	15-191	F7L190303001	N	Gen Prep	DOE GA-01-R MOD	3
17-Oct-2007	15-191DUP	F7L190303001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Oct-2007	15-191DUP	F7L190303001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Oct-2007	15-191DUP	F7L190303001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
17-Oct-2007	15-192	F7L190303002	N	Gen Prep	)OE A-01-R TH MOI	3
17-Oct-2007	15-192	F7L190303002	N	Gen Prep	DOE A-01-R U MOD	3
17-Oct-2007	15-192	F7L190303002	N	Gen Prep	DOE GA-01-R MOD	3
17-Oct-2007	15-193	F7L190303003	N	Gen Prep	)OE A-01-R TH MOI	3
17-Oct-2007	15-193	F7L190303003	N	Gen Prep	DOE A-01-R U MOD	3
17-Oct-2007	15-193	F7L190303003	N	Gen Prep	DOE GA-01-R MOD	3
17-Oct-2007	15-194	F7L190303004	N	Gen Prep	)OE A-01-R TH MOI	3
17-Oct-2007	15-194	F7L190303004	N	Gen Prep	DOE A-01-R U MOD	3
17-Oct-2007	15-194	F7L190303004	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L190303										
DOE A-01-R TH MOD	15-191	SO	N							
				THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-193	SO	N							
				THORIUM-230	1.00	0.50J	0.16	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra T[illegible]h

Reason for Qualified Results

SDG Nos. : F7L190303

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L190303	15-191	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190303	15-193	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L190303

Method Blank Outlier Report

Lab Reporting Batch : F7L190303
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000155MB
Preparation Batch : 7360155

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.120**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-191	F7L190303001	1	0.52	J	pCi/g
15-193	F7L190303003	1	0.50	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F7L190303
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000157MB
Preparation Batch : 7360157

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.032	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

LDC #: 18448C35
SDG #: F7L190303
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	DUP (No Qual for DUP RPD on # 5 for Am-241, Cs-137, Co-60, Eu-152, Eu-154, parent & dup are N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-191	11		21		31	
2	15-192	12		22		32	
3	15-193	13		23		33	
4	15-194	14		24		34	
5	15-191DUP	15		25		35	
6	PBS	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448C59
SDG #: F7L190303
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N ~~A~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N ~~A~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-191	11		21		31	
2	15-192	12		22		32	
3	15-193	13		23		33	
4	15-194	14		24		34	
5	15-191DUP	15		25		35	
6	PBS	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448C73
SDG #: F7L190303
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-17-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-191	11		21		31	
2	15-192	12		22		32	
3	15-193	13		23		33	
4	15-194	14		24		34	
5	15-191DUP	15		25		35	
6	PBS	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31607

D1-16

ENTERED

PROJECT NAME: In Site 1, 2 + 32	PURCHASE ORDER NO.: ~~217344~~ 0629552	ANALYSES REQUIRED	LABORATORY NAME: TEST AMERICA ~~SFL~~
PROJECT LOCATION: Moneda, CA	PROJECT NO.: 3210.028D		LABORATORY ID (FOR LABORATORY): FFL190311
SAMPLER NAME: V. Richards	AIRBILL NUMBER: "		Project Information Section Do not submit to Laboratory
PROJECT CONTACT: Lisa Bieganowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *		8 p

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-195	10/18/07	1040	1	X		S	21 DAY		IN1-2A-1b	2	2.5	Ng
15-196	10/18/07	1050	1	Y		S	21 Day		IN1-3A-1b	2	2.5	Ng
15-197	10/18/07	1056	1	Y		S	21 Day		IN1-3CDE-1b	2.5	3	Ng
15-198	10/18/07	1103	2	Y		S	21 Day		IN1-4A-1b	2.5	3	Ng
15-199	10/18/07	1303	1	Y		S	21 Day		IN1-5AB-1a	2	2.5	Ng
15-200	10/18/07	1305	1	Y		S	21 Day		IN1-5AB-1b	2.5	3	Ng
15-201	10/18/07	1313	1	Y		S	21 Day		IN1-6A-1a	3	3.5	Ng
15-202	10/18/07	1315	1	Y		S	21 Day		IN-6A-1b	3.5	4	Ng

RELINQUISHED BY (Signature): [signature]	DATE: 12/19/07	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: ~~30 Day~~ 21 Day TURNAROUND * no 3 days 12/18/07 S2
COMPANY: TTEC/Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY:	TIME:	COMPANY:	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IN = INSTALLATION designation
Site

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16058917

Tetra Tech EC, Inc.

Client Sample ID: 15-195

Radiochemistry

Lab Sample ID: F7L190311-001
Work Order: KEGL4
Matrix: SOLID

Date Collected: 10/18/07 1040
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 75
Thorium 228	0.45	J	0.15	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.64	J	0.18	1.00	0.05	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 88
Uranium 233/234	0.36	J	0.13	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	-0.0025	U	0.0049	1.00	0.056	12/26/07	01/02/08
Uranium 238	0.31	J	0.12	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.22	U	0.16		0.23	12/22/07	01/12/08
Americium 241	0.009	U	0.077		0.13	12/22/07	01/12/08
Cesium 137	0.0	U	0.067	0.200	0.12	12/22/07	01/12/08
Cobalt 60	0.0	U	0.057		0.11	12/22/07	01/12/08
Europium 152	-0.005	U	0.081		0.15	12/22/07	01/12/08
Europium 154	0.01	U	0.36		0.67	12/22/07	01/12/08
Potassium 40	8.4		1.5		0.9	12/22/07	01/12/08
Radium (226)	0.22	J	0.10	1.00	0.14	12/22/07	01/12/08
Thorium 232	0.22	U	0.16		0.23	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-196

Radiochemistry

Lab Sample ID: F7L190311-002
Work Order: KEGL8
Matrix: SOLID

Date Collected: 10/18/07 1050
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 81
Thorium 228	0.45	J	0.15	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.74	J	0.19	1.00	0.05	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 89
Uranium 233/234	0.38	J	0.13	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	12/26/07	01/02/08
Uranium 238	0.32	J	0.11	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.58		0.18		0.33	12/22/07	01/12/08
Americium 241	0.04	U	0.11		0.19	12/22/07	01/12/08
Cesium 137	0.002	U	0.039	0.200	0.073	12/22/07	01/12/08
Cobalt 60	0.01	U	0.053		0.096	12/22/07	01/12/08
Europium 152	-0.03	U	0.13		0.22	12/22/07	01/12/08
Europium 154	-0.02	U	0.35		0.65	12/22/07	01/12/08
Potassium 40	9.1		1.4		0.7	12/22/07	01/12/08
Radium (226)	0.47	J	0.14	1.00	0.18	12/22/07	01/12/08
Thorium 232	0.58		0.18		0.33	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-197

Radiochemistry

Lab Sample ID: F7L190311-003
Work Order: KEGL9
Matrix: SOLID

Date Collected: 10/18/07 1056
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360155**		**Yld % 78**
Thorium 228	0.55	J	0.16	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.63	J	0.17	1.00	0.06	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360157**		**Yld % 83**
Uranium 233/234	0.49	J	0.14	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.061	J	0.054	1.00	0.053	12/26/07	01/02/08
Uranium 238	0.28	J	0.10	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356108**		**Yld %**
Actinium 228	0.53		0.16		0.20	12/22/07	01/12/08
Americium 241	0.02	U	0.12		0.20	12/22/07	01/12/08
Cesium 137	-0.0007	U	0.044	0.200	0.081	12/22/07	01/12/08
Cobalt 60	0.015	U	0.057		0.10	12/22/07	01/12/08
Europium 152	0.02	U	0.11		0.19	12/22/07	01/12/08
Europium 154	-0.12	U	0.35		0.62	12/22/07	01/12/08
Potassium 40	11.6		1.6		0.6	12/22/07	01/12/08
Radium (226)	0.29	J	0.12	1.00	0.18	12/22/07	01/12/08
Thorium 232	0.53		0.16		0.20	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-198

Radiochemistry

Lab Sample ID: F7L190311-004
Work Order: KEGMC
Matrix: SOLID

Date Collected: 10/18/07 1103
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360155**		**Yld % 83**
Thorium 228	0.48	J	0.15	1.00	0.09	12/26/07	01/03/08
Thorium 230	0.28	J	0.11	1.00	0.05	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360157**		**Yld % 94**
Uranium 233/234	0.27	J	0.10	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.015	U	0.031	1.00	0.058	12/26/07	01/02/08
Uranium 238	0.266	J	0.099	1.00	0.037	12/26/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 74**
Strontium 90	-0.07	U	0.27	3.00	0.48	12/20/07	01/09/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356108**		**Yld %**
Actinium 228	0.18	U	0.26		0.44	12/22/07	01/12/08
Americium 241	-0.004	U	0.12		0.22	12/22/07	01/12/08
Cesium 137	0.001	U	0.052	0.200	0.10	12/22/07	01/12/08
Cobalt 60	0.018	U	0.077		0.14	12/22/07	01/12/08
Europium 152	0.00007	U	0.10		0.20	12/22/07	01/12/08
Europium 154	-0.009	U	0.35		0.69	12/22/07	01/12/08
Potassium 40	8.3		1.7		0.6	12/22/07	01/12/08
Radium (226)	0.48	J	0.18	1.00	0.16	12/22/07	01/12/08
Thorium 232	0.18	U	0.26		0.44	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-198 DUP

Radiochemistry

Lab Sample ID: F7L190311-004X
Work Order: KEGMC
Matrix: SOLID

Date Collected: 10/18/07 1103
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**		**Batch # 7354140**	**Yld % 71**
Strontium 90	0.04	U	0.30	3.00	0.52	12/20/07	01/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-199

Radiochemistry

Lab Sample ID: F7L190311-005
Work Order: KEGMH
Matrix: SOLID

Date Collected: 10/18/07 1303
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 82
Thorium 228	0.52	J	0.17	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.59	J	0.18	1.00	0.07	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 93
Uranium 233/234	0.27	J	0.11	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.010	U	0.025	1.00	0.052	12/26/07	01/02/08
Uranium 238	0.40	J	0.13	1.00	0.05	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.44		0.24		0.30	12/22/07	01/12/08
Americium 241	0.027	U	0.095		0.17	12/22/07	01/12/08
Cesium 137	-0.009	U	0.093	0.200	0.11	12/22/07	01/12/08
Cobalt 60	0.0	U	0.080		0.15	12/22/07	01/12/08
Europium 152	0.011	U	0.099		0.18	12/22/07	01/12/08
Europium 154	0.02	U	0.36		0.70	12/22/07	01/12/08
Potassium 40	6.9		1.5		0.8	12/22/07	01/12/08
Radium (226)	0.36	J	0.15	1.00	0.20	12/22/07	01/12/08
Thorium 232	0.44		0.24		0.30	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-200

Radiochemistry

Lab Sample ID: F7L190311-006
Work Order: KEGM5
Matrix: SOLID

Date Collected: 10/18/07 1305
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360155**		**Yld % 71**
Thorium 228	0.45	J	0.14	1.00	0.08	12/26/07	01/03/08
Thorium 230	0.49	J	0.15	1.00	0.06	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360157**		**Yld % 81**
Uranium 233/234	0.35	J	0.12	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.016	U	0.033	1.00	0.062	12/26/07	01/02/08
Uranium 238	0.33	J	0.11	1.00	0.05	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356108**		**Yld %**
Actinium 228	0.20	U	0.20		0.34	12/22/07	01/12/08
Americium 241	0.031	U	0.086		0.15	12/22/07	01/12/08
Cesium 137	-0.003	U	0.048	0.200	0.088	12/22/07	01/12/08
Cobalt 60	-0.013	U	0.058		0.11	12/22/07	01/12/08
Europium 152	-0.007	U	0.12		0.21	12/22/07	01/12/08
Europium 154	0.0	U	0.39		0.72	12/22/07	01/12/08
Potassium 40	**9.8**		**1.5**		**0.9**	**12/22/07**	**01/12/08**
Radium (226)	**0.23**	J	**0.12**	1.00	**0.18**	**12/22/07**	**01/12/08**
Thorium 232	0.20	U	0.20		0.34	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-201

Radiochemistry

Lab Sample ID: F7L190311-007
Work Order: KEGM9
Matrix: SOLID

Date Collected: 10/18/07 1313
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 81
Thorium 228	0.45	J	0.13	1.00	0.06	12/26/07	01/03/08
Thorium 230	0.35	J	0.11	1.00	0.04	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 91
Uranium 233/234	0.277	J	0.093	1.00	0.035	12/26/07	01/02/08
Uranium 235/236	0.027	J	0.031	1.00	0.024	12/26/07	01/02/08
Uranium 238	0.285	J	0.094	1.00	0.030	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.46		0.21		0.27	12/22/07	01/12/08
Americium 241	-0.02	U	0.12		0.20	12/22/07	01/12/08
Cesium 137	0.008	U	0.047	0.200	0.085	12/22/07	01/12/08
Cobalt 60	0.003	U	0.049		0.092	12/22/07	01/12/08
Europium 152	0.007	U	0.096		0.17	12/22/07	01/12/08
Europium 154	-0.07	U	0.39		0.70	12/22/07	01/12/08
Potassium 40	10.2		1.5		0.6	12/22/07	01/12/08
Radium (226)	0.35	J	0.14	1.00	0.21	12/22/07	01/12/08
Thorium 232	0.46		0.21		0.27	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-202

Radiochemistry

Lab Sample ID: F7L190311-008
Work Order: KEGNA
Matrix: SOLID

Date Collected: 10/18/07 1315
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 75
Thorium 228	0.45	J	0.14	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.61	J	0.16	1.00	0.05	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 87
Uranium 233/234	0.32	J	0.11	1.00	0.04	12/26/07	01/03/08
Uranium 235/236	0.004	U	0.021	1.00	0.055	12/26/07	01/03/08
Uranium 238	0.250	J	0.094	1.00	0.040	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.17	U	0.24		0.41	12/22/07	01/12/08
Americium 241	-0.04	U	0.12		0.20	12/22/07	01/12/08
Cesium 137	-0.007	U	0.060	0.200	0.11	12/22/07	01/12/08
Cobalt 60	0.0	U	0.016		0.057	12/22/07	01/12/08
Europium 152	-0.02	U	0.13		0.24	12/22/07	01/12/08
Europium 154	0.34	U	0.37		0.58	12/22/07	01/12/08
Potassium 40	8.4		1.7		0.6	12/22/07	01/12/08
Radium (226)	0.48	J	0.17	1.00	0.14	12/22/07	01/12/08
Thorium 232	0.17	U	0.24		0.41	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Oct-2007	15-195	F7L190311001	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-195	F7L190311001	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-195	F7L190311001	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-196	F7L190311002	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-196	F7L190311002	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-196	F7L190311002	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-197	F7L190311003	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-197	F7L190311003	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-197	F7L190311003	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-198	F7L190311004	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-198	F7L190311004	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-198	F7L190311004	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-198	F7L190311004	N	Gen Prep	)OE SR-03-RC MOI	3
18-Oct-2007	15-198DUP	F7L190311004DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
18-Oct-2007	15-199	F7L190311005	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-199	F7L190311005	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-199	F7L190311005	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-200	F7L190311006	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-200	F7L190311006	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-200	F7L190311006	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-201	F7L190311007	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-201	F7L190311007	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-201	F7L190311007	N	Gen Prep	DOE GA-01-R MOD	3
18-Oct-2007	15-202	F7L190311008	N	Gen Prep	)OE A-01-R TH MOI	3
18-Oct-2007	15-202	F7L190311008	N	Gen Prep	DOE A-01-R U MOD	3
18-Oct-2007	15-202	F7L190311008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L190311										
DOE A-01-R TH MOD	15-198	SO	N	THORIUM-230	1.00	0.28J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-199	SO	N	THORIUM-230	1.00	0.59J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-200	SO	N	THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-201	SO	N	THORIUM-230	1.00	0.35J	0.11	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Te

Reason for Qualified Results

SDG Nos. : F7L190311

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L190311	15-198	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190311	15-199	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190311	15-200	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190311	15-201	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L190311

Method Blank Outlier Report

Lab Reporting Batch : F7L190311
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000155MB
Preparation Batch : 7360155

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.120**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-198	F7L190311004	1	0.28	J	pCi/g
15-199	F7L190311005	1	0.59	J	pCi/g
15-200	F7L190311006	1	0.49	J	pCi/g
15-201	F7L190311007	1	0.35	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F7L190311
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000157MB
Preparation Batch : 7360157

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.032	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

LDC #: 18448D35

SDG #: F7L190311

Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 3-18-08

Page: 1 of 1

Reviewer: MG

2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-18-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	MP
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all soil

1	15-195	11		21		31	
2	15-196	12		22		32	
3	15-197	13		23		33	
4	15-198	14		24		34	
5	15-199	15		25		35	
6	15-200	16		26		36	
7	15-201	17		27		37	
8	15-202	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448D73
SDG #: F7L190311
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-18-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~N~~ N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-195	11		21		31	
2	15-196	12		22		32	
3	15-197	13		23		33	
4	15-198	14		24		34	
5	15-199	15		25		35	
6	15-200	16		26		36	
7	15-201	17		27		37	
8	15-202	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448D59
SDG #: F7L190311
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-18-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-195	11		21		31	
2	15-196	12		22		32	
3	15-197	13		23		33	
4	15-198	14		24		34	
5	15-199	15		25		35	
6	15-200	16		26		36	
7	15-201	17		27		37	
8	15-202	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448D61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-18-08
SDG #: F7L190311 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-18-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
~~2~~ soil

1	15-198	11		21		31	
2	15-198DUP	12		22		32	
3	PBS	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31613

ENTERED

PROJECT NAME: IR Site 1, 2 + 32	PURCHASE ORDER NO.: ~~1017344~~ 0629552 106
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V. Rider	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bramkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

LABORATORY NAME: TESTAMERICA STL

LABORATORY ID (FOR LABORATORY): F7L190316

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EDA 901.1 M	Sr 90 DUE SR-101/SR102	THORIUM	URANIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-247	10/25/07	0820	1	X		S	21 Days	X		X	X		IR2-183ABC-1a	2	2.5	Ng
IS-248	10/25/07	0824	2	X		S	21 Days	X	X	X	X		IR2-183ABC-1b	2.5	3.0	Ng
IS-249	10/25/07	0850	1	X		S	21 Days	X		X	X		IR2-187-1a	2	2.5	Ng
IS-250	10/25/07	0852	1	X		S	21 Days	X		X	X		IR2-187-1b	2.5	3.0	Ng
IS-251	10/25/07	0910	1	X		S	21 Days	X		X	X		IR2-188AB-1a	2	2.5	Ng
IS-252	10/25/07	0913	1	X		S	21 Days	X		X	X		IR2-188AB-1b	2.5	3.0	Ng
IS-253	10/25/07	0920	1	X		S	21 Days	X		X	X		IR2-190ABC-1a	2	2.5	Ng
IS-254	10/25/07	0923	1	X		S	21 Days	X		X	X		IR2-190ABC-1b	2.5	3	Ng

RELINQUISHED BY (Signature)	DATE 12/17/07	RECEIVED BY (Signature)	
COMPANY TTEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 3 Days 21 Days 1 Month 5 Months * no 3 days. 12/18/07 SZ

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Remediation site

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160589 18

Tetra Tech EC, Inc.

Client Sample ID: 15-247

Radiochemistry

Lab Sample ID: F7L190316-001
Work Order: KEGN6
Matrix: SOLID

Date Collected: 10/25/07 0820
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 95
Thorium 228	0.67	J	0.16	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.44	J	0.12	1.00	0.05	12/26/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 92
Uranium 233/234	0.48	J	0.13	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.031	J	0.035	1.00	0.028	12/26/07	01/02/08
Uranium 238	0.51	J	0.14	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.44		0.25		0.34	12/22/07	01/12/08
Americium 241	0.039	U	0.088		0.15	12/22/07	01/12/08
Cesium 137	-0.02	U	0.27	0.20	0.12	12/22/07	01/12/08
Cobalt 60	0.020	U	0.049		0.091	12/22/07	01/12/08
Europium 152	-0.00005	U	0.11		0.21	12/22/07	01/12/08
Europium 154	0.05	U	0.45		0.83	12/22/07	01/12/08
Potassium 40	10.3		1.8		0.5	12/22/07	01/12/08
Radium (226)	0.27	J	0.13	1.00	0.19	12/22/07	01/12/08
Thorium 232	0.44		0.25		0.34	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-248

Radiochemistry

Lab Sample ID: F7L190316-002
Work Order: KEGPE
Matrix: SOLID

Date Collected: 10/25/07 0824
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 89
Thorium 228	0.32	J	0.12	1.00	0.07	12/26/07	12/29/07
Thorium 230	0.51	J	0.15	1.00	0.03	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 98
Uranium 233/234	0.29	J	0.11	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.067	J	0.055	1.00	0.030	12/26/07	01/02/08
Uranium 238	0.44	J	0.13	1.00	0.04	12/26/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 7354140		Yld % 60
Strontium 90	0.28	U	0.36	3.00	0.59	12/20/07	01/09/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.43		0.22		0.29	12/22/07	01/12/08
Americium 241	-0.001	U	0.086		0.15	12/22/07	01/12/08
Cesium 137	0.013	U	0.045	0.200	0.081	12/22/07	01/12/08
Cobalt 60	0.0009	U	0.053		0.10	12/22/07	01/12/08
Europium 152	0.0	U	0.11		0.20	12/22/07	01/12/08
Europium 154	-0.09	U	0.38		0.68	12/22/07	01/12/08
Potassium 40	7.3		1.4		0.8	12/22/07	01/12/08
Radium (226)	0.33	J	0.12	1.00	0.14	12/22/07	01/12/08
Thorium 232	0.43		0.22		0.29	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-249

Radiochemistry

Lab Sample ID: F7L190316-003
Work Order: KEGPJ
Matrix: SOLID

Date Collected: 10/25/07 0850
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 92
Thorium 228	0.47	J	0.14	1.00	0.06	12/26/07	12/29/07
Thorium 230	0.55	J	0.15	1.00	0.03	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 90
Uranium 233/234	0.24	J	0.10	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.032	U	0.043	1.00	0.060	12/26/07	01/02/08
Uranium 238	0.32	J	0.12	1.00	0.05	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.55		0.19		0.20	12/22/07	01/12/08
Americium 241	0.002	U	0.12		0.20	12/22/07	01/12/08
Cesium 137	0.033	U	0.044	0.200	0.072	12/22/07	01/12/08
Cobalt 60	-0.006	U	0.046		0.087	12/22/07	01/12/08
Europium 152	-0.02	U	0.11		0.20	12/22/07	01/12/08
Europium 154	0.0	U	0.46		0.84	12/22/07	01/12/08
Potassium 40	11.0		1.6		0.8	12/22/07	01/12/08
Radium (226)	0.31	J	0.13	1.00	0.19	12/22/07	01/12/08
Thorium 232	0.55		0.19		0.20	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-250

Radiochemistry

Lab Sample ID: F7L190316-004
Work Order: KEGPM
Matrix: SOLID

Date Collected: 10/25/07 0852
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 82
Thorium 228	0.46	J	0.14	1.00	0.05	12/26/07	12/29/07
Thorium 230	0.47	J	0.15	1.00	0.06	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 90
Uranium 233/234	0.33	J	0.12	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.025	U	0.036	1.00	0.034	12/26/07	01/02/08
Uranium 238	0.32	J	0.12	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.30		0.17		0.29	12/22/07	01/12/08
Americium 241	0.037	U	0.094		0.16	12/22/07	01/12/08
Cesium 137	0.053	U	0.049	0.200	0.077	12/22/07	01/12/08
Cobalt 60	0.0	U	0.077		0.14	12/22/07	01/12/08
Europium 152	0.034	U	0.093		0.16	12/22/07	01/12/08
Europium 154	0.0	U	0.32		0.60	12/22/07	01/12/08
Potassium 40	7.2		1.3		1.0	12/22/07	01/12/08
Radium (226)	0.29	J	0.13	1.00	0.19	12/22/07	01/12/08
Thorium 232	0.30		0.17		0.29	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-251

Radiochemistry

Lab Sample ID: F7L190316-005
Work Order: KEGPQ
Matrix: SOLID

Date Collected: 10/25/07 0910
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 79
Thorium 228	0.39	J	0.14	1.00	0.09	12/26/07	12/29/07
Thorium 230	0.60	J	0.17	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 101
Uranium 233/234	0.234	J	0.093	1.00	0.037	12/26/07	01/02/08
Uranium 235/236	0.009	U	0.022	1.00	0.045	12/26/07	01/02/08
Uranium 238	0.34	J	0.11	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.35		0.17		0.23	12/22/07	01/12/08
Americium 241	0.006	U	0.13		0.22	12/22/07	01/12/08
Cesium 137	0.254		0.075	0.200	0.039	12/22/07	01/12/08
Cobalt 60	0.0	U	0.016		0.060	12/22/07	01/12/08
Europium 152	0.04	U	0.15		0.26	12/22/07	01/12/08
Europium 154	0.0	U	0.79		1.4	12/22/07	01/12/08
Potassium 40	9.0		1.8		0.6	12/22/07	01/12/08
Radium (226)	0.51	J	0.15	1.00	0.12	12/22/07	01/12/08
Thorium 232	0.35		0.17		0.23	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-252

Radiochemistry

Lab Sample ID: F7L190316-006
Work Order: KEGPT
Matrix: SOLID

Date Collected: 10/25/07 0913
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 87
Thorium 228	0.196	J	0.089	1.00	0.065	12/26/07	01/02/08
Thorium 230	0.35	J	0.12	1.00	0.02	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 103
Uranium 233/234	0.34	J	0.11	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.018	U	0.028	1.00	0.042	12/26/07	01/02/08
Uranium 238	0.29	J	0.10	1.00	0.06	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.37		0.21		0.26	12/22/07	01/12/08
Americium 241	0.057	U	0.072		0.12	12/22/07	01/12/08
Cesium 137	0.155	J	0.059	0.200	0.067	12/22/07	01/12/08
Cobalt 60	0.014	U	0.053		0.10	12/22/07	01/12/08
Europium 152	0.0	U	0.13		0.24	12/22/07	01/12/08
Europium 154	0.005	U	0.29		0.59	12/22/07	01/12/08
Potassium 40	8.3		1.7		1	12/22/07	01/12/08
Radium (226)	0.44	J	0.13	1.00	0.12	12/22/07	01/12/08
Thorium 232	0.37		0.21		0.26	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-253

Radiochemistry

Lab Sample ID: F7L190316-007
Work Order: KEGPW
Matrix: SOLID

Date Collected: 10/25/07 0920
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 85
Thorium 228	0.47	J	0.15	1.00	0.08	12/26/07	01/02/08
Thorium 230	0.53	J	0.16	1.00	0.05	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 94
Uranium 233/234	0.32	J	0.11	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.018	U	0.033	1.00	0.055	12/26/07	01/02/08
Uranium 238	0.36	J	0.12	1.00	0.06	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.34		0.14		0.27	12/22/07	01/12/08
Americium 241	0.001	U	0.087		0.15	12/22/07	01/12/08
Cesium 137	0.079	J	0.046	0.200	0.059	12/22/07	01/12/08
Cobalt 60	0.004	U	0.056		0.11	12/22/07	01/12/08
Europium 152	0.044	U	0.091		0.16	12/22/07	01/12/08
Europium 154	-0.001	U	0.29		0.57	12/22/07	01/12/08
Potassium 40	9.5		1.6		0.4	12/22/07	01/12/08
Radium (226)	0.49	J	0.12	1.00	0.06	12/22/07	01/12/08
Thorium 232	0.34		0.14		0.27	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-254

Radiochemistry

Lab Sample ID: F7L190316-008
Work Order: KEGP1
Matrix: SOLID

Date Collected: 10/25/07 0923
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360155		Yld % 91
Thorium 228	0.38	J	0.12	1.00	0.05	12/26/07	12/29/07
Thorium 230	0.36	J	0.11	1.00	0.04	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360157		Yld % 85
Uranium 233/234	0.256	J	0.099	1.00	0.044	12/26/07	01/02/08
Uranium 235/236	0.020	U	0.032	1.00	0.047	12/26/07	01/02/08
Uranium 238	0.28	J	0.10	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356108		Yld %
Actinium 228	0.27	U	0.18		0.28	12/22/07	01/12/08
Americium 241	-0.05	U	0.12		0.21	12/22/07	01/12/08
Cesium 137	0.043	U	0.061	0.200	0.10	12/22/07	01/12/08
Cobalt 60	-0.005	U	0.053		0.10	12/22/07	01/12/08
Europium 152	0.03	U	0.11		0.20	12/22/07	01/12/08
Europium 154	-0.12	U	0.40		0.71	12/22/07	01/12/08
Potassium 40	9.1		1.5		0.9	12/22/07	01/12/08
Radium (226)	0.34	J	0.15	1.00	0.22	12/22/07	01/12/08
Thorium 232	0.27	U	0.18		0.28	12/22/07	01/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
25-Oct-2007	15-247	F7L190316001	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-247	F7L190316001	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-247	F7L190316001	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-248	F7L190316002	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-248	F7L190316002	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-248	F7L190316002	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-248	F7L190316002	N	Gen Prep	)OE SR-03-RC MOI	3
25-Oct-2007	15-249	F7L190316003	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-249	F7L190316003	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-249	F7L190316003	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-250	F7L190316004	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-250	F7L190316004	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-250	F7L190316004	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-251	F7L190316005	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-251	F7L190316005	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-251	F7L190316005	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-252	F7L190316006	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-252	F7L190316006	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-252	F7L190316006	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-253	F7L190316007	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-253	F7L190316007	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-253	F7L190316007	N	Gen Prep	DOE GA-01-R MOD	3
25-Oct-2007	15-254	F7L190316008	N	Gen Prep	)OE A-01-R TH MOI	3
25-Oct-2007	15-254	F7L190316008	N	Gen Prep	DOE A-01-R U MOD	3
25-Oct-2007	15-254	F7L190316008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L190316										
DOE A-01-R TH MOD	15-247	SO	N							
				THORIUM-230	1.00	0.44J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-248	SO	N							
				THORIUM-230	1.00	0.51J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-249	SO	N							
				THORIUM-230	1.00	0.55J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-250	SO	N							
				THORIUM-230	1.00	0.47J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-251	SO	N							
				THORIUM-230	1.00	0.60J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-252	SO	N							
				THORIUM-230	1.00	0.35J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-253	SO	N							
				THORIUM-230	1.00	0.53J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-254	SO	N							
				THORIUM-230	1.00	0.36J	0.11	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Te

Reason for Qualified Results

SDG Nos. : F7L190316

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L190316	15-247	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-248	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-249	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-250	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-251	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-252	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-253	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190316	15-254	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L190316

Method Blank Outlier Report

Lab Reporting Batch : F7L190316
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000155MB
Preparation Batch : 7360155

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.120**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-247	F7L190316001	1	0.44	J	pCi/g
15-248	F7L190316002	1	0.51	J	pCi/g
15-249	F7L190316003	1	0.55	J	pCi/g
15-250	F7L190316004	1	0.47	J	pCi/g
15-251	F7L190316005	1	0.60	J	pCi/g
15-252	F7L190316006	1	0.35	J	pCi/g
15-253	F7L190316007	1	0.53	J	pCi/g
15-254	F7L190316008	1	0.36	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F7L190316
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 01/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F7L260000157MB
Preparation Batch : 7360157

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.032	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

LDC #: 18448E35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-18-08
SDG #: F7L190316 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

gmA DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-25-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	RvP
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-247	11		21		31	
2	15-248	12		22		32	
3	15-249	13		23		33	
4	15-250	14		24		34	
5	15-251	15		25		35	
6	15-252	16		26		36	
7	15-253	17		27		37	
8	15-254	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448E59
SDG #: F7L190316
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-25-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N N/A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-247	11		21		31	
2	15-248	12		22		32	
3	15-249	13		23		33	
4	15-250	14		24		34	
5	15-251	15		25		35	
6	15-252	16		26		36	
7	15-253	17		27		37	
8	15-254	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448E73
SDG #: F7L190316
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-25-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-247	11		21		31	
2	15-248	12		22		32	
3	15-249	13		23		33	
4	15-250	14		24		34	
5	15-251	15		25		35	
6	15-252	16		26		36	
7	15-253	17		27		37	
8	15-254	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 18448E61
SDG #: F7L190316
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-25-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Vwp
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	SW A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-248	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31612

ENTERED

D1-16

PROJECT NAME: IR Site 1, 2, 32	PURCHASE ORDER NO.: 106: ~~4217344~~ 0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

ANALYSES REQUIRED

LABORATORY NAME: TestAmerica STL

LABORATORY ID (FOR LABORATORY): F7L190323

Project Information Section Do not submit to Laboratory

12 P

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Cs	90Sr DUP SR-01/Sr-02	TRITIUM	URANIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IR-235	10/24/07	1325	1	Y		S	21d	Y		X	X		IR1-11-1a	2	2.5	Reg
IR-236	10/24/07	1327	1	Y		S	21d	Y		X	X		IR1-11-1b	2.5	3	Reg
IR-237	10/24/07	1330	1	Y		S	21d	Y		X	X		IR1-12-1a	2	2.5	Reg
IR-238	10/24/07	1332	2	Y		S	21d	Y	X	X	X		IR1-12-1b	2.5	3.0	Reg
IR-239	10/24/07	1350	1	Y		S	21d	Y		X	X		IR2-160-1a	3	3.5	Reg
IR-240	10/24/07	1355	1	Y		S	21d	Y		X	X		IR2-160-1b	3.5	4.0	Reg
IR-241	10/24/07	1401	1	Y		S	21d	Y		X	X		IR2-171-1a	2	2.5	Reg
IR-242	10/24/07	1405	1	Y		S	21d	Y		X	X		IR2-171-1b	2.5	3.0	Reg
IR-243	10/24/07	1410	1	Y		S	21d	Y		X	X		IR2-172-1a	2.0	2.5	Reg
IR-244	10/24/07	1412	1	Y		S	21d	Y		X	X		IR2-172-1b	2.5	3.0	Reg

RELINQUISHED BY (Signature)	DATE 10/25/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: * no 3 dup 12/18/07 ~~3 Dy~~ + 21 Dy Inclusuths SL
COMPANY: Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration Site

V

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16058969

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31620

ENTERED

PROJECT NAME: In Site 1, 2, 32	PURCHASE ORDER NO.: 106. ~~4017344~~ 0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.029D
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Benkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7690

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1	Tritium	Uranium	COMMENTS
IS 245	10/24/07	1420	1	X		S	3 Day	X	X	X	
IS-246	10/24/07	1422	1	X		S	3 Day	X	X	X	

LABORATORY NAME: TESTAMERICA STL

LABORATORY ID (FOR LABORATORY): FTL90323

Project Information Section Do not submit to Laboratory

LOCATION	DEPTH START	DEPTH END	QC
IR2-182-1a	2	2.5	Reg
IR2-182-1b	2.5	3.0	Reg

	DATE	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	10/29/07	
COMPANY: Tt Fed Ex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 4 no 3 days 12/18 SV
30 Dy + 21 Dy Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Remediation site

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160589 19

Tetra Tech EC, Inc.

Client Sample ID: 15-235

Radiochemistry

Lab Sample ID: F7L190323-001
Work Order: KEGQV
Matrix: SOLID

Date Collected: 10/24/07 1325
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 90
Uranium 233/234	0.26	J	0.11	1.00	0.04	12/26/07	12/30/07
Uranium 235/236	0.010	U	0.026	1.00	0.054	12/26/07	12/30/07
Uranium 238	0.29	J	0.11	1.00	0.05	12/26/07	12/30/07
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.16	U	0.21		0.37	12/22/07	01/12/08
Americium 241	0.07	U	0.13		0.21	12/22/07	01/12/08
Cesium 137	0.025	U	0.049	0.200	0.084	12/22/07	01/12/08
Cobalt 60	-0.013	U	0.054		0.098	12/22/07	01/12/08
Europium 152	0.19	U	0.14		0.22	12/22/07	01/12/08
Europium 154	0.03	U	0.38		0.68	12/22/07	01/12/08
Potassium 40	7.4		1.2		0.7	12/22/07	01/12/08
Radium (226)	2.56		0.30	1.00	0.14	12/22/07	01/12/08
Thorium 232	0.16	U	0.21		0.37	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 90
Thorium 228	0.30	J	0.12	1.00	0.1	01/03/08	01/08/08
Thorium 230	0.53	J	0.15	1.00	0.03	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-235 DUP

Radiochemistry

Lab Sample ID: F7L190323-001X
Work Order: KEGQV
Matrix: SOLID

Date Collected: 10/24/07 1325
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.19	U	0.20		0.31	12/22/07	01/12/08
Americium 241	0.02	U	0.10		0.18	12/22/07	01/12/08
Cesium 137	0.017	U	0.047	0.200	0.082	12/22/07	01/12/08
Cobalt 60	0.0	U	0.056		0.11	12/22/07	01/12/08
Europium 152	0.0	U	0.14		0.25	12/22/07	01/12/08
Europium 154	-0.07	U	0.42		0.76	12/22/07	01/12/08
Potassium 40	**5.9**		**1.3**		**0.9**	**12/22/07**	**01/12/08**
Radium (226)	**2.38**		**0.28**	**1.00**	**0.11**	**12/22/07**	**01/12/08**
Thorium 232	0.19	U	0.20		0.31	12/22/07	01/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 95
Uranium 233/234	**0.35**	J	0.12	1.00	0.05	12/26/07	12/30/07
Uranium 235/236	0.018	U	0.036	1.00	0.067	12/26/07	12/30/07
Uranium 238	**0.39**	J	0.13	1.00	0.05	12/26/07	12/30/07
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 89
Thorium 228	**0.37**	J	0.13	1.00	0.08	01/03/08	01/08/08
Thorium 230	**0.63**	J	0.17	1.00	0.04	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-236

Radiochemistry

Lab Sample ID: F7L190323-002
Work Order: KEGQ8
Matrix: SOLID

Date Collected: 10/24/07 1327
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7360158		Yld % 91
Uranium 233/234	0.197	J	0.087	1.00	0.045	12/26/07	12/30/07
Uranium 235/236	0.0	U	0.0098	1.00	0.031	12/26/07	12/30/07
Uranium 238	0.32	J	0.11	1.00	0.04	12/26/07	12/30/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7356109		Yld %
Actinium 228	0.35		0.14		0.26	12/22/07	01/12/08
Americium 241	-0.011	U	0.093		0.16	12/22/07	01/12/08
Cesium 137	0.007	U	0.039	0.200	0.070	12/22/07	01/12/08
Cobalt 60	0.014	U	0.040		0.071	12/22/07	01/12/08
Europium 152	-0.03	U	0.11		0.19	12/22/07	01/12/08
Europium 154	-0.14	U	0.39		0.68	12/22/07	01/12/08
Potassium 40	8.0		1.4		1	12/22/07	01/12/08
Radium (226)	0.61	J	0.15	1.00	0.17	12/22/07	01/12/08
Thorium 232	0.35		0.14		0.26	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8003069		Yld % 91
Thorium 228	0.45	J	0.14	1.00	0.07	01/03/08	01/08/08
Thorium 230	0.39	J	0.13	1.00	0.03	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-237

Radiochemistry

Lab Sample ID: F7L190323-003
Work Order: KEGQ9
Matrix: SOLID

Date Collected: 10/24/07 1330
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360158**		**Yld % 83**
Uranium 233/234	0.40	J	0.14	1.00	0.07	12/26/07	12/30/07
Uranium 235/236	0.049	U	0.054	1.00	0.066	12/26/07	12/30/07
Uranium 238	0.31	J	0.12	1.00	0.05	12/26/07	12/30/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356109**		**Yld %**
Actinium 228	0.33	U	0.20		0.38	12/22/07	01/12/08
Americium 241	0.04	U	0.13		0.22	12/22/07	01/12/08
Cesium 137	0.009	U	0.067	0.200	0.12	12/22/07	01/12/08
Cobalt 60	-0.015	U	0.077		0.14	12/22/07	01/12/08
Europium 152	-0.03	U	0.15		0.26	12/22/07	01/12/08
Europium 154	-0.0005	U	0.44		0.84	12/22/07	01/12/08
Potassium 40	7.1		1.5		0.7	12/22/07	01/12/08
Radium (226)	1.73		0.27	1.00	0.14	12/22/07	01/12/08
Thorium 232	0.33	U	0.20		0.38	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8003069**		**Yld % 88**
Thorium 228	0.43	J	0.14	1.00	0.07	01/03/08	01/08/08
Thorium 230	0.33	J	0.12	1.00	0.03	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-238

Radiochemistry

Lab Sample ID: F7L190323-004
Work Order: KEGRC
Matrix: SOLID

Date Collected: 10/24/07 1332
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360158**		**Yld % 83**
Uranium 233/234	0.31	J	0.12	1.00	0.05	12/26/07	12/30/07
Uranium 235/236	0.014	U	0.027	1.00	0.037	12/26/07	12/30/07
Uranium 238	0.25	J	0.11	1.00	0.05	12/26/07	12/30/07
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 64**
Strontium 90	0.07	U	0.32	3.00	0.55	12/20/07	01/09/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7356109**		**Yld %**
Actinium 228	0.14	U	0.21		0.36	12/22/07	01/12/08
Americium 241	-0.05	U	0.20		0.21	12/22/07	01/12/08
Cesium 137	-0.04	U	1.1	0.2	0.1	12/22/07	01/12/08
Cobalt 60	0.035	U	0.048		0.079	12/22/07	01/12/08
Europium 152	-0.001	U	0.13		0.24	12/22/07	01/12/08
Europium 154	0.18	U	0.42		0.75	12/22/07	01/12/08
Potassium 40	**11.3**		**2.1**		**1.3**	12/22/07	01/12/08
Radium (226)	**0.55**	J	0.19	1.00	0.24	12/22/07	01/12/08
Thorium 232	0.14	U	0.21		0.36	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8003069**		**Yld % 94**
Thorium 228	0.33	J	0.12	1.00	0.08	01/03/08	01/08/08
Thorium 230	0.46	J	0.14	1.00	0.05	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-239

Radiochemistry

Lab Sample ID: F7L190323-005
Work Order: KEGRE
Matrix: SOLID

Date Collected: 10/24/07 1350
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7360158		Yld % 90
Uranium 233/234	0.55	J	0.15	1.00	0.05	12/26/07	12/30/07
Uranium 235/236	-0.0041	U	0.0059	1.00	0.054	12/26/07	12/30/07
Uranium 238	0.62	J	0.16	1.00	0.05	12/26/07	12/30/07
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7356109		Yld %
Actinium 228	0.38		0.16		0.29	12/22/07	01/12/08
Americium 241	0.001	U	0.088		0.15	12/22/07	01/12/08
Cesium 137	0.0	U	0.080	0.200	0.14	12/22/07	01/12/08
Cobalt 60	-0.004	U	0.056		0.11	12/22/07	01/12/08
Europium 152	0.029	U	0.093		0.16	12/22/07	01/12/08
Europium 154	0.06	U	0.32		0.60	12/22/07	01/12/08
Potassium 40	7.9		1.5		0.7	12/22/07	01/12/08
Radium (226)	0.57	J	0.14	1.00	0.10	12/22/07	01/12/08
Thorium 232	0.38		0.16		0.29	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8003069		Yld % 93
Thorium 228	0.58	J	0.16	1.00	0.05	01/03/08	01/08/08
Thorium 230	0.61	J	0.16	1.00	0.04	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-240

Radiochemistry

Lab Sample ID: F7L190323-006
Work Order: KEGRF
Matrix: SOLID

Date Collected: 10/24/07 1355
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 94
Uranium 233/234	0.290	J	0.099	1.00	0.042	12/26/07	01/02/08
Uranium 235/236	0.020	U	0.028	1.00	0.027	12/26/07	01/02/08
Uranium 238	0.41	J	0.12	1.00	0.03	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.37	U	0.19		0.39	12/22/07	01/12/08
Americium 241	0.03	U	0.11		0.19	12/22/07	01/12/08
Cesium 137	0.038	U	0.050	0.200	0.083	12/22/07	01/12/08
Cobalt 60	0.0	U	0.094		0.17	12/22/07	01/12/08
Europium 152	0.02	U	0.13		0.24	12/22/07	01/12/08
Europium 154	0.0	U	0.44		0.82	12/22/07	01/12/08
Potassium 40	9.4		1.6		1	12/22/07	01/12/08
Radium (226)	0.33	J	0.14	1.00	0.20	12/22/07	01/12/08
Thorium 232	0.37	U	0.19		0.39	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 87
Thorium 228	0.37	J	0.13	1.00	0.06	01/03/08	01/08/08
Thorium 230	0.46	J	0.14	1.00	0.06	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-241

Radiochemistry

Lab Sample ID: F7L190323-007
Work Order: KEGRH
Matrix: SOLID

Date Collected: 10/24/07 1401
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7360158	Yld % 91
Uranium 233/234	0.28	J	0.10	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.051	J	0.048	1.00	0.046	12/26/07	01/02/08
Uranium 238	0.29	J	0.11	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 7356109	Yld %
Actinium 228	0.31		0.13		0.23	12/22/07	01/12/08
Americium 241	0.053	U	0.096		0.16	12/22/07	01/12/08
Cesium 137	0.032	U	0.047	0.200	0.079	12/22/07	01/12/08
Cobalt 60	0.003	U	0.034		0.065	12/22/07	01/12/08
Europium 152	0.004	U	0.10		0.19	12/22/07	01/12/08
Europium 154	0.05	U	0.28		0.51	12/22/07	01/12/08
Potassium 40	7.6		1.2		0.7	12/22/07	01/12/08
Radium (226)	0.41	J	0.12	1.00	0.16	12/22/07	01/12/08
Thorium 232	0.31		0.13		0.23	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8003069	Yld % 80
Thorium 228	0.47	J	0.16	1.00	0.09	01/03/08	01/08/08
Thorium 230	0.50	J	0.16	1.00	0.06	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-242

Radiochemistry

Lab Sample ID: F7L190323-008
Work Order: KEGRJ
Matrix: SOLID

Date Collected: 10/24/07 1405
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 90
Uranium 233/234	0.28	J	0.10	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.038	U	0.041	1.00	0.043	12/26/07	01/02/08
Uranium 238	0.29	J	0.10	1.00	0.07	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.28	U	0.18		0.36	12/22/07	01/12/08
Americium 241	0.04	U	0.10		0.18	12/22/07	01/12/08
Cesium 137	0.049	U	0.062	0.200	0.10	12/22/07	01/12/08
Cobalt 60	0.0	U	0.016		0.057	12/22/07	01/12/08
Europium 152	0.01	U	0.10		0.19	12/22/07	01/12/08
Europium 154	0.0	U	0.089		0.33	12/22/07	01/12/08
Potassium 40	7.0		1.6		0.7	12/22/07	01/12/08
Radium (226)	0.31	J	0.13	1.00	0.17	12/22/07	01/12/08
Thorium 232	0.28	U	0.18		0.36	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 86
Thorium 228	0.34	J	0.13	1.00	0.06	01/03/08	01/08/08
Thorium 230	0.50	J	0.16	1.00	0.05	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-243

Radiochemistry

Lab Sample ID: F7L190323-009
Work Order: KEGRK
Matrix: SOLID

Date Collected: 10/24/07 1410
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 81
Uranium 233/234	0.35	J	0.12	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.019	U	0.033	1.00	0.057	12/26/07	01/02/08
Uranium 238	0.41	J	0.13	1.00	0.07	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.20	U	0.29		0.48	12/22/07	01/12/08
Americium 241	-0.01	U	1.0		0.4	12/22/07	01/12/08
Cesium 137	0.057	U	0.095	0.200	0.17	12/22/07	01/12/08
Cobalt 60	-0.0008	U	0.059		0.12	12/22/07	01/12/08
Europium 152	0.03	U	0.20		0.36	12/22/07	01/12/08
Europium 154	0.0	U	0.62		1.1	12/22/07	01/12/08
Potassium 40	11.0		2.0		0.6	12/22/07	01/12/08
Radium (226)	6.62		0.66	1.00	0.25	12/22/07	01/12/08
Thorium 232	0.20	U	0.29		0.48	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 89
Thorium 228	0.38	J	0.13	1.00	0.07	01/03/08	01/08/08
Thorium 230	0.32	J	0.12	1.00	0.07	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-244

Radiochemistry

Lab Sample ID: F7L190323-010
Work Order: KEGRL
Matrix: SOLID

Date Collected: 10/24/07 1412
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360158**	**Yld % 87**
Uranium 233/234	0.186	J	0.084	1.00	0.044	12/26/07	01/02/08
Uranium 235/236	0.043	U	0.045	1.00	0.048	12/26/07	01/02/08
Uranium 238	0.34	J	0.11	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 7356109**	**Yld %**
Actinium 228	0.28	U	0.28		0.46	12/22/07	01/12/08
Americium 241	-0.06	U	0.23		0.38	12/22/07	01/12/08
Cesium 137	0.033	U	0.075	0.200	0.13	12/22/07	01/12/08
Cobalt 60	0.008	U	0.079		0.14	12/22/07	01/12/08
Europium 152	0.18	U	0.14		0.42	12/22/07	01/12/08
Europium 154	-0.30	U	0.60		1.0	12/22/07	01/12/08
Potassium 40	10.2		1.7		1	12/22/07	01/12/08
Radium (226)	7.59		0.63	1.00	0.19	12/22/07	01/12/08
Thorium 232	0.28	U	0.28		0.46	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8003069**	**Yld % 90**
Thorium 228	0.54	J	0.16	1.00	0.06	01/03/08	01/08/08
Thorium 230	0.51	J	0.15	1.00	0.03	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-245

Radiochemistry

Lab Sample ID: F7L190323-011
Work Order: KEGRM
Matrix: SOLID

Date Collected: 10/24/07 1420
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 86
Uranium 233/234	0.268	J	0.093	1.00	0.032	12/26/07	01/02/08
Uranium 235/236	0.026	U	0.033	1.00	0.040	12/26/07	01/02/08
Uranium 238	0.277	J	0.094	1.00	0.020	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.39		0.15		0.31	12/22/07	01/12/08
Americium 241	0.035	U	0.099		0.17	12/22/07	01/12/08
Cesium 137	0.0	U	0.045	0.200	0.083	12/22/07	01/12/08
Cobalt 60	0.0	U	0.076		0.14	12/22/07	01/12/08
Europium 152	-0.02	U	0.11		0.20	12/22/07	01/12/08
Europium 154	-0.12	U	0.35		0.61	12/22/07	01/12/08
Potassium 40	12.5		1.7		1.0	12/22/07	01/12/08
Radium (226)	0.42	J	0.13	1.00	0.18	12/22/07	01/12/08
Thorium 232	0.39		0.15		0.31	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 92
Thorium 228	0.44	J	0.14	1.00	0.07	01/03/08	01/08/08
Thorium 230	0.38	J	0.13	1.00	0.05	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-246

Radiochemistry

Lab Sample ID: F7L190323-012
Work Order: KEGRN
Matrix: SOLID

Date Collected: 10/24/07 1422
Date Received: 12/19/07 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360158		Yld % 95
Uranium 233/234	0.31	J	0.10	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.008	U	0.021	1.00	0.043	12/26/07	01/02/08
Uranium 238	0.43	J	0.12	1.00	0.02	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7356109		Yld %
Actinium 228	0.41		0.19		0.38	12/22/07	01/12/08
Americium 241	0.08	U	0.11		0.18	12/22/07	01/12/08
Cesium 137	0.032	U	0.064	0.200	0.11	12/22/07	01/12/08
Cobalt 60	-0.002	U	0.066		0.13	12/22/07	01/12/08
Europium 152	-0.03	U	0.14		0.25	12/22/07	01/12/08
Europium 154	0.0	U	0.41		0.80	12/22/07	01/12/08
Potassium 40	10.5		2.0		0.7	12/22/07	01/12/08
Radium (226)	0.55	J	0.15	1.00	0.12	12/22/07	01/12/08
Thorium 232	0.41		0.19		0.38	12/22/07	01/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8003069		Yld % 86
Thorium 228	0.61	J	0.17	1.00	0.07	01/03/08	01/08/08
Thorium 230	0.74	J	0.18	1.00	0.04	01/03/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Oct-2007	15-235	F7L190323001	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-235	F7L190323001	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-235	F7L190323001	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-235DUP	F7L190323001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-235DUP	F7L190323001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-235DUP	F7L190323001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-236	F7L190323002	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-236	F7L190323002	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-236	F7L190323002	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-237	F7L190323003	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-237	F7L190323003	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-237	F7L190323003	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-238	F7L190323004	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-238	F7L190323004	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-238	F7L190323004	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-238	F7L190323004	N	Gen Prep	)OE SR-03-RC MOI	3
24-Oct-2007	15-239	F7L190323005	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-239	F7L190323005	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-239	F7L190323005	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-240	F7L190323006	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-240	F7L190323006	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-240	F7L190323006	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-241	F7L190323007	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-241	F7L190323007	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-241	F7L190323007	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-242	F7L190323008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Oct-2007	15-242	F7L190323008	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-242	F7L190323008	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-243	F7L190323009	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-243	F7L190323009	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-243	F7L190323009	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-244	F7L190323010	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-244	F7L190323010	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-244	F7L190323010	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-245	F7L190323011	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-245	F7L190323011	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-245	F7L190323011	N	Gen Prep	DOE GA-01-R MOD	3
24-Oct-2007	15-246	F7L190323012	N	Gen Prep	)OE A-01-R TH MOI	3
24-Oct-2007	15-246	F7L190323012	N	Gen Prep	DOE A-01-R U MOD	3
24-Oct-2007	15-246	F7L190323012	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L190323										
DOE A-01-R TH MOD	15-235	SO	N	THORIUM-230	1.00	0.53J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-236	SO	N	THORIUM-230	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-237	SO	N	THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-238	SO	N	THORIUM-230	1.00	0.46J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-239	SO	N	THORIUM-230	1.00	0.61J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-240	SO	N	THORIUM-230	1.00	0.46J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-241	SO	N	THORIUM-230	1.00	0.50J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-242	SO	N	THORIUM-230	1.00	0.50J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-243	SO	N	THORIUM-230	1.00	0.32J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-244	SO	N	THORIUM-230	1.00	0.51J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-245	SO	N	THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-246	SO	N	THORIUM-230	1.00	0.74J	0.18	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F7L190323

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L190323	15-235	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-236	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-237	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-238	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-239	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-240	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-241	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-242	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-243	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-244	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-245	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F7L190323	15-246	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L190323

Method Blank Outlier Report

Lab Reporting Batch : F7L190323
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/08/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A030000069MB
Preparation Batch : 8003069

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.150	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-235	F7L190323001	1	0.53	J	pCi/g
15-236	F7L190323002	1	0.39	J	pCi/g
15-237	F7L190323003	1	0.33	J	pCi/g
15-238	F7L190323004	1	0.46	J	pCi/g
15-239	F7L190323005	1	0.61	J	pCi/g
15-240	F7L190323006	1	0.46	J	pCi/g
15-241	F7L190323007	1	0.50	J	pCi/g
15-242	F7L190323008	1	0.50	J	pCi/g
15-243	F7L190323009	1	0.32	J	pCi/g
15-244	F7L190323010	1	0.51	J	pCi/g
15-245	F7L190323011	1	0.38	J	pCi/g
15-246	F7L190323012	1	0.74	J	pCi/g

LDC #: 18448F35
SDG #: F7L190323
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9mH DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-24-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-235	11	15-245	21		31	
2	15-236	12	15-246	22		32	
3	15-237	13	15-235DUP	23		33	
4	15-238	14	PBS	24		34	
5	15-239	15		25		35	
6	15-240	16		26		36	
7	15-241	17		27		37	
8	15-242	18		28		38	
9	15-243	19		29		39	
10	15-244	20		30		40	

Notes:

LDC #: 18448F73
SDG #: F7L190323
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-24-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all Soil

1	15-235	11	15-245	21		31	
2	15-236	12	15-246	22		32	
3	15-237	13	15-235DUP	23		33	
4	15-238	14	PBS	24		34	
5	15-239	15		25		35	
6	15-240	16		26		36	
7	15-241	17		27		37	
8	15-242	18		28		38	
9	15-243	19		29		39	
10	15-244	20		30		40	

Notes:

LDC #: 18448F59
SDG #: F7L190323
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-24-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-235	11	15-245	21		31	
2	15-236	12	15-246	22		32	
3	15-237	13	15-235DUP	23		33	
4	15-238	14	PBS	24		34	
5	15-239	15		25		35	
6	15-240	16		26		36	
7	15-241	17		27		37	
8	15-242	18		28		38	
9	15-243	19		29		39	
10	15-244	20		30		40	

Notes:

LDC #: 18448F61
SDG #: F7L190323
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-24-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-238	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31621

ENTERED
01-17

PROJECT NAME	IR Site 12-32
PURCHASE ORDER NO.	~~101734~~ 106. 0629552
PROJECT LOCATION	Alameda, CA
PROJECT NO.	3210 028D
SAMPLER NAME	V. Richardson
AIRBILL NUMBER	
PROJECT CONTACT	Lisa Bienkowski
PROJECT CONTACT PHONE NUMBER	949-756-7500
LABORATORY NAME	TESTAMERICA STL
LABORATORY ID (FOR LABORATORY)	F7L200195

ANALYSES REQUIRED: EPA 901.1/7; *SE 905-01 Sr-02; Thallium; Vanadium

Project Information Section Do not submit to Laboratory: 10 p

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1/7	*SE 905-01 Sr-02	Thallium	Vanadium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-225	10/22/07	0900	1	Y		S	21 Dy	X		X	X		IR1-8K-1a	1	1.5	Ry
15-226	10/22/07	0902	1	Y		S	21 Dy	X		X	X		IR1-8K-1b	1.5	2	Ry
15-227	10/22/07	0909	1	Y		S	21 Dy	X		X	X		IR1-8L-1a	1	1.5	Ry
15-228	10/22/07	0911	2	Y		S	21 Dy	X	X	X	X		IR1-8L-1b	1.5	2	Ry
15-229	10/22/07	0922	1	Y		S	21 Dy	X		X	X		IR1-8M-1a	1	1.5	Ry
15-230	10/22/07	0925	1	Y		S	21 Dy	X		X	X		IR1-8M-1b	1.5	2	Ry
15-231	10/22/07	0932	1	Y		S	21 Dy	X		X	X		IR1-9-1a	1	1.5	Ry
15-232	10/22/07	0935	1	Y		S	21 Dy	Y		X	X		IR1-9-1b	1.5	2	Ry
15-233	10/22/07	1001	1	Y		S	21 Dy	Y		X	X		IR1-1AB-1a	1	1.5	Ry
15-234	10/22/07	1003	1	Y		S	21 Dy	Y		X	X		IR1-1AB-1b	1.5	2	Ry

RELINQUISHED BY (Signature) [signature]	DATE 12/19/07	RECEIVED BY (Signature)	
COMPANY TtEC/FedEx	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * NO3d up 12/18/07 SR
~~3 Dy~~ + 21 Dy Ingrowths

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
15-233 = IR1-1AB-1a
15-234 = IR1-1AB-1b
IR = Installation Renovation

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16058921

Tetra Tech EC, Inc.

Client Sample ID: 15-225

Radiochemistry

Lab Sample ID: F7L200195-001
Work Order: KEJM5
Matrix: SOLID

Date Collected: 10/22/07 0900
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 81**
Thorium 228	0.53	J	0.14	1.00	0.05	12/26/07	01/02/08
Thorium 230	0.47	J	0.13	1.00	0.04	12/26/07	01/02/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.30		0.14		0.29	12/26/07	01/17/08
Americium 241	0.040	U	0.090		0.15	12/26/07	01/17/08
Cesium 137	0.056	U	0.049	0.200	0.077	12/26/07	01/17/08
Cobalt 60	0.0	U	0.052		0.097	12/26/07	01/17/08
Europium 152	0.0	U	0.068		0.13	12/26/07	01/17/08
Europium 154	0.04	U	0.27		0.50	12/26/07	01/17/08
Potassium 40	9.2		1.4		0.8	12/26/07	01/17/08
Radium (226)	0.39	J	0.13	1.00	0.18	12/26/07	01/17/08
Thorium 232	0.30		0.14		0.29	12/26/07	01/17/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 88**
Uranium 233/234	0.45	J	0.15	1.00	0.06	01/04/08	01/08/08
Uranium 235/236	0.025	U	0.040	1.00	0.060	01/04/08	01/08/08
Uranium 238	0.48	J	0.15	1.00	0.03	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-225 DUP

Radiochemistry

Lab Sample ID: F7L200195-001X
Work Order: KEJM5
Matrix: SOLID

Date Collected: 10/22/07 0900
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 90**
Thorium 228	0.57	J	0.15	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.54	J	0.15	1.00	0.05	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.23	U	0.22		0.36	12/26/07	01/17/08
Americium 241	0.036	U	0.094		0.16	12/26/07	01/17/08
Cesium 137	0.062	U	0.065	0.200	0.10	12/26/07	01/17/08
Cobalt 60	0.0	U	0.014		0.053	12/26/07	01/17/08
Europium 152	0.0	U	0.13		0.24	12/26/07	01/17/08
Europium 154	0.08	U	0.39		0.73	12/26/07	01/17/08
Potassium 40	**8.1**		**1.7**		**1.1**	**12/26/07**	**01/17/08**
Radium (226)	**0.42**	**J**	**0.12**	**1.00**	**0.11**	**12/26/07**	**01/17/08**
Thorium 232	0.23	U	0.22		0.36	12/26/07	01/17/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 91**
Uranium 233/234	**0.210**	**J**	**0.098**	**1.00**	**0.065**	**01/04/08**	**01/08/08**
Uranium 235/236	0.037	U	0.046	1.00	0.056	01/04/08	01/08/08
Uranium 238	**0.37**	**J**	**0.13**	**1.00**	**0.06**	**01/04/08**	**01/08/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-226

Radiochemistry

Lab Sample ID: F7L200195-002
Work Order: KEJNQ
Matrix: SOLID

Date Collected: 10/22/07 0902
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 92**
Thorium 228	0.29	J	0.11	1.00	0.06	12/26/07	01/03/08
Thorium 230	0.47	J	0.14	1.00	0.05	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.19	U	0.19		0.30	12/26/07	01/16/08
Americium 241	0.0	U	0.13		0.22	12/26/07	01/16/08
Cesium 137	0.024	U	0.044	0.200	0.075	12/26/07	01/16/08
Cobalt 60	-0.009	U	0.047		0.086	12/26/07	01/16/08
Europium 152	0.06	U	0.10		0.17	12/26/07	01/16/08
Europium 154	0.003	U	0.35		0.65	12/26/07	01/16/08
Potassium 40	**7.2**		**1.4**		**1.3**	**12/26/07**	**01/16/08**
Radium (226)	**0.20**	**J**	**0.12**	**1.00**	**0.19**	**12/26/07**	**01/16/08**
Thorium 232	0.19	U	0.19		0.30	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 89**
Uranium 233/234	**0.32**	**J**	**0.12**	**1.00**	**0.06**	**01/04/08**	**01/08/08**
Uranium 235/236	0.0	U	0.011	1.00	0.035	01/04/08	01/08/08
Uranium 238	**0.27**	**J**	**0.11**	**1.00**	**0.04**	**01/04/08**	**01/08/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-227

Radiochemistry

Lab Sample ID: F7L200195-003
Work Order: KEJNR
Matrix: SOLID

Date Collected: 10/22/07 0909
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 81**
Thorium 228	0.36	J	0.12	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.42	J	0.13	1.00	0.06	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.13	U	0.15		0.23	12/26/07	01/16/08
Americium 241	-0.001	U	0.080		0.14	12/26/07	01/16/08
Cesium 137	0.014	U	0.043	0.200	0.076	12/26/07	01/16/08
Cobalt 60	-0.002	U	0.053		0.10	12/26/07	01/16/08
Europium 152	-0.001	U	0.060		0.11	12/26/07	01/16/08
Europium 154	-0.12	U	0.35		0.61	12/26/07	01/16/08
Potassium 40	**8.8**		**1.5**		**0.4**	**12/26/07**	**01/16/08**
Radium (226)	**0.44**	**J**	0.12	1.00	**0.13**	**12/26/07**	**01/16/08**
Thorium 232	0.13	U	0.15		0.23	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 98**
Uranium 233/234	0.41	J	0.13	1.00	0.05	01/04/08	01/08/08
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/04/08	01/08/08
Uranium 238	0.43	J	0.14	1.00	0.03	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-228

Radiochemistry

Lab Sample ID: F7L200195-004
Work Order: KEJNT
Matrix: SOLID

Date Collected: 10/22/07 0911
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.31		0.19		0.30	12/26/07	01/16/08
Americium 241	0.05	U	0.11		0.19	12/26/07	01/16/08
Cesium 137	0.003	U	0.038	0.200	0.071	12/26/07	01/16/08
Cobalt 60	-0.021	U	0.058		0.10	12/26/07	01/16/08
Europium 152	0.016	U	0.091		0.16	12/26/07	01/16/08
Europium 154	0.07	U	0.31		0.57	12/26/07	01/16/08
Potassium 40	9.2		1.4		0.8	12/26/07	01/16/08
Radium (226)	0.37	J	0.13	1.00	0.17	12/26/07	01/16/08
Thorium 232	0.31		0.19		0.30	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 90**
Thorium 228	0.25	J	0.10	1.00	0.06	12/26/07	01/03/08
Thorium 230	0.29	J	0.11	1.00	0.03	12/26/07	01/03/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 69**
Strontium 90	-0.27	U	0.24	3.00	0.45	12/20/07	01/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 88**
Uranium 233/234	0.27	J	0.11	1.00	0.07	01/04/08	01/08/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.056	01/04/08	01/08/08
Uranium 238	0.26	J	0.11	1.00	0.05	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-229

Radiochemistry

Lab Sample ID: F7L200195-005
Work Order: KEJPG
Matrix: SOLID

Date Collected: 10/22/07 0922
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 93**
Thorium 228	**0.35**	**J**	0.12	1.00	0.06	12/26/07	01/03/08
Thorium 230	**0.39**	**J**	0.12	1.00	0.04	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.34	U	0.25		0.38	12/26/07	01/16/08
Americium 241	0.0006	U	0.098		0.17	12/26/07	01/16/08
Cesium 137	0.089	U	0.067	0.200	0.10	12/26/07	01/16/08
Cobalt 60	0.0	U	0.014		0.052	12/26/07	01/16/08
Europium 152	0.04	U	0.11		0.20	12/26/07	01/16/08
Europium 154	0.0	U	0.52		0.97	12/26/07	01/16/08
Potassium 40	**8.0**		**1.7**		**1.2**	**12/26/07**	**01/16/08**
Radium (226)	**0.29**	**J**	0.13	1.00	**0.18**	**12/26/07**	**01/16/08**
Thorium 232	0.34	U	0.25		0.38	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 90**
Uranium 233/234	**0.46**	**J**	0.14	1.00	0.06	01/04/08	01/08/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	01/04/08	01/08/08
Uranium 238	**0.29**	**J**	0.11	1.00	0.04	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-230

Radiochemistry

Lab Sample ID: F7L200195-006
Work Order: KEJPJ
Matrix: SOLID

Date Collected: 10/22/07 0925
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 88**
Thorium 228	0.207	J	0.090	1.00	0.063	12/26/07	01/03/08
Thorium 230	0.40	J	0.12	1.00	0.04	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.33	U	0.24		0.34	12/26/07	01/16/08
Americium 241	0.006	U	0.091		0.16	12/26/07	01/16/08
Cesium 137	-0.006	U	0.078	0.200	0.11	12/26/07	01/16/08
Cobalt 60	-0.015	U	0.049		0.092	12/26/07	01/16/08
Europium 152	0.0	U	0.094		0.18	12/26/07	01/16/08
Europium 154	0.05	U	0.31		0.60	12/26/07	01/16/08
Potassium 40	10.7		1.8		0.5	12/26/07	01/16/08
Radium (226)	0.49	J	0.16	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.33	U	0.24		0.34	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 90**
Uranium 233/234	0.24	J	0.10	1.00	0.06	01/04/08	01/08/08
Uranium 235/236	0.039	J	0.045	1.00	0.035	01/04/08	01/08/08
Uranium 238	0.43	J	0.14	1.00	0.04	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-231

Radiochemistry

Lab Sample ID: F7L200195-007
Work Order: KEJPK
Matrix: SOLID

Date Collected: 10/22/07 0932
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360159		Yld % 86
Thorium 228	0.41	J	0.13	1.00	0.07	12/26/07	01/03/08
Thorium 230	0.31	J	0.11	1.00	0.05	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.41		0.18		0.21	12/26/07	01/16/08
Americium 241	0.047	U	0.076		0.13	12/26/07	01/16/08
Cesium 137	0.088	J	0.048	0.200	0.065	12/26/07	01/16/08
Cobalt 60	-0.019	U	0.058		0.10	12/26/07	01/16/08
Europium 152	0.010	U	0.084		0.15	12/26/07	01/16/08
Europium 154	0.15	U	0.28		0.48	12/26/07	01/16/08
Potassium 40	9.9		1.5		0.4	12/26/07	01/16/08
Radium (226)	0.48	J	0.13	1.00	0.1	12/26/07	01/16/08
Thorium 232	0.41		0.18		0.21	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8004068		Yld % 91
Uranium 233/234	0.26	J	0.11	1.00	0.06	01/04/08	01/08/08
Uranium 235/236	0.020	U	0.035	1.00	0.060	01/04/08	01/08/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-232

Radiochemistry

Lab Sample ID: F7L200195-008
Work Order: KEJPL
Matrix: SOLID

Date Collected: 10/22/07 0935
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360159		Yld % 83
Thorium 228	0.274	J	0.098	1.00	0.054	12/26/07	01/03/08
Thorium 230	0.34	J	0.11	1.00	0.05	12/26/07	01/03/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.20	U	0.18		0.27	12/26/07	01/16/08
Americium 241	-0.036	U	0.088		0.15	12/26/07	01/16/08
Cesium 137	0.019	U	0.038	0.200	0.067	12/26/07	01/16/08
Cobalt 60	0.0	U	0.012		0.043	12/26/07	01/16/08
Europium 152	0.039	U	0.084		0.15	12/26/07	01/16/08
Europium 154	-0.11	U	0.40		0.71	12/26/07	01/16/08
Potassium 40	7.9		1.5		0.8	12/26/07	01/16/08
Radium (226)	0.27	J	0.12	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.20	U	0.18		0.27	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8004068		Yld % 90
Uranium 233/234	0.206	J	0.094	1.00	0.054	01/04/08	01/08/08
Uranium 235/236	0.031	U	0.044	1.00	0.068	01/04/08	01/08/08
Uranium 238	0.33	J	0.12	1.00	0.04	01/04/08	01/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-233

Radiochemistry

Lab Sample ID: F7L200195-009
Work Order: KEJPM
Matrix: SOLID

Date Collected: 10/22/07 1001
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.41	U	0.28		0.44	12/26/07	01/16/08
Americium 241	0.04	U	0.26		0.43	12/26/07	01/16/08
Cesium 137	0.025	U	0.079	0.200	0.13	12/26/07	01/16/08
Cobalt 60	0.0	U	0.085		0.15	12/26/07	01/16/08
Europium 152	**0.54**		**0.23**		**0.48**	**12/26/07**	**01/16/08**
Europium 154	-0.08	U	0.61		1.1	12/26/07	01/16/08
Potassium 40	**9.0**		**1.6**		**1.6**	**12/26/07**	**01/16/08**
Radium (226)	**13.9**		**1.0**	**1.0**	**0.3**	**12/26/07**	**01/16/08**
Thorium 232	0.41	U	0.28		0.44	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 76**
Thorium 228	**0.59**	**J**	**0.17**	**1.00**	**0.09**	**12/26/07**	**01/03/08**
Thorium 230	**0.62**	**J**	**0.17**	**1.00**	**0.05**	**12/26/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 89**
Uranium 233/234	**0.31**	**J**	**0.12**	**1.00**	**0.04**	**01/04/08**	**01/09/08**
Uranium 235/236	0.023	U	0.037	1.00	0.055	01/04/08	01/09/08
Uranium 238	**0.35**	**J**	**0.13**	**1.00**	**0.05**	**01/04/08**	**01/09/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-234

Radiochemistry

Lab Sample ID: F7L200195-010
Work Order: KEJPV
Matrix: SOLID

Date Collected: 10/22/07 1003
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.22	U	0.28		0.46	12/26/07	01/16/08
Americium 241	0.14	U	0.26		0.43	12/26/07	01/16/08
Cesium 137	-0.055	U	0.096	0.200	0.16	12/26/07	01/16/08
Cobalt 60	-0.005	U	0.074		0.13	12/26/07	01/16/08
Europium 152	**0.71**		**0.32**		**0.57**	**12/26/07**	**01/16/08**
Europium 154	0.05	U	0.60		1.0	12/26/07	01/16/08
Potassium 40	**6.4**		**1.4**		**1.8**	**12/26/07**	**01/16/08**
Radium (226)	**9.51**		**0.73**	1.00	**0.41**	**12/26/07**	**01/16/08**
Thorium 232	0.22	U	0.28		0.46	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360159**		**Yld % 94**
Thorium 228	**0.41**	**J**	0.13	1.00	0.06	**12/26/07**	**01/03/08**
Thorium 230	**0.43**	**J**	0.14	1.00	0.06	**12/26/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004068**		**Yld % 89**
Uranium 233/234	**0.50**	**J**	0.15	1.00	0.08	**01/04/08**	**01/09/08**
Uranium 235/236	0.035	U	0.043	1.00	0.053	01/04/08	01/09/08
Uranium 238	**0.35**	**J**	0.13	1.00	0.08	**01/04/08**	**01/09/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Oct-2007	15-225	F7L200195001	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-225	F7L200195001	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-225	F7L200195001	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-225DUP	F7L200195001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-225DUP	F7L200195001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-225DUP	F7L200195001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-226	F7L200195002	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-226	F7L200195002	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-226	F7L200195002	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-227	F7L200195003	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-227	F7L200195003	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-227	F7L200195003	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-228	F7L200195004	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-228	F7L200195004	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-228	F7L200195004	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-228	F7L200195004	N	Gen Prep	)OE SR-03-RC MOI	3
22-Oct-2007	15-229	F7L200195005	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-229	F7L200195005	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-229	F7L200195005	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-230	F7L200195006	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-230	F7L200195006	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-230	F7L200195006	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-231	F7L200195007	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-231	F7L200195007	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-231	F7L200195007	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-232	F7L200195008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Oct-2007	15-232	F7L200195008	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-232	F7L200195008	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-233	F7L200195009	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-233	F7L200195009	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-233	F7L200195009	N	Gen Prep	DOE GA-01-R MOD	3
22-Oct-2007	15-234	F7L200195010	N	Gen Prep	)OE A-01-R TH MOI	3
22-Oct-2007	15-234	F7L200195010	N	Gen Prep	DOE A-01-R U MOD	3
22-Oct-2007	15-234	F7L200195010	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L200195										
DOE GA-01-R MOD	15-226	SO	N							
				ACTINIUM-228		0.19U	0.19	UJ	pCi/g	
				AMERICIUM-241		0.0U	0.13	UJ	pCi/g	
				CESIUM-137	0.200	0.024U	0.044	UJ	pCi/g	
				COBALT-60		-0.009U	0.047	UJ	pCi/g	
				EUROPIUM-152		0.06U	0.10	UJ	pCi/g	
				EUROPIUM-154		0.003U	0.35	UJ	pCi/g	
				POTASSIUM-40		7.2	1.4	J	pCi/g	
				RADIUM-226	1.00	0.20J	0.12	J	pCi/g	
				THORIUM-232		0.19U	0.19	UJ	pCi/g	
DOE GA-01-R MOD	15-234	SO	N							
				ACTINIUM-228		0.22U	0.28	UJ	pCi/g	
				AMERICIUM-241		0.14U	0.26	UJ	pCi/g	
				CESIUM-137	0.200	-0.055U	0.096	UJ	pCi/g	
				COBALT-60		-0.005U	0.074	UJ	pCi/g	
				EUROPIUM-152		0.71	0.32	J	pCi/g	
				EUROPIUM-154		0.05U	0.60	UJ	pCi/g	
				POTASSIUM-40		6.4	1.4	J	pCi/g	
				RADIUM-226	1.00	9.51	0.73	J	pCi/g	
				THORIUM-232		0.22U	0.28	UJ	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Te

Reason for Qualified Results

SDG Nos. : F7L200195

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L200195	15-226	DOE GA-01-R MOD	14331830		J	ACTINIUM-228	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	14683239		J	EUROPIUM-152	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	13982633	J		RADIUM-226	Continuing calibration percent difference
F7L200195	15-226	DOE GA-01-R MOD	7440291		J	THORIUM-232	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	14331830		J	ACTINIUM-228	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	14683239	J		EUROPIUM-152	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	13982633	J		RADIUM-226	Continuing calibration percent difference
F7L200195	15-234	DOE GA-01-R MOD	7440291		J	THORIUM-232	Continuing calibration percent difference

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L200195

LDC #: 18448G35
SDG #: F7L200195
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9m4

GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-22-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	SW	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-225	11	15-225DUP	21		31	
2	15-226	12	PBS	22		32	
3	15-227	13		23		33	
4	15-228	14		24		34	
5	15-229	15		25		35	
6	15-230	16		26		36	
7	15-231	17		27		37	
8	15-232	18		28		38	
9	15-233	19		29		39	
10	15-234	20		30		40	

Notes:

LDC #: 44863S
SDG #: F7L200195

VALIDATION FINDINGS WORKSHEET
Calibration

Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Radiochemistry (Method: DOE GA-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were all instruments and detectors calibrated as required?
(Y) N N/A Were NIST traceable standards used for all calibrations?
(Y) N N/A Was the check source identified by activity and radionuclide?
Y (N) N/A Were check sources including background counts analyzed at the required frequency and within laboratory control limits?

#	Date	Calibration ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	1-16-08	Daily Check	soil	all	total activity: 1791.9	Bq (1835.0 - 2029.0) *	J/UJ/P
	↓	detector GV03	↓	↓	Ave FWHM ratio: 1.7871	no unit (0.8500 - 1.2500) ↓	↓
		↓			Ave FWTM ratio: 1.7354	no unit (0.9000 - 1.2500) ↓	
					* Associated	samples: 2, 10	

Comments: FWHM = Full Width Half Mean ; FWTM = Full Width Tenth Mean

LDC #: 18448G73
SDG #: F7L200195
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-22-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-225	11	15-225DUP	21		31	
2	15-226	12	PBS	22		32	
3	15-227	13		23		33	
4	15-228	14		24		34	
5	15-229	15		25		35	
6	15-230	16		26		36	
7	15-231	17		27		37	
8	15-232	18		28		38	
9	15-233	19		29		39	
10	15-234	20		30		40	

Notes:

LDC #: 18448G59
SDG #: F7L200195
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-22-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-225	11	15-225DUP	21		31	
2	15-226	12	PBS	22		32	
3	15-227	13		23		33	
4	15-228	14		24		34	
5	15-229	15		25		35	
6	15-230	16		26		36	
7	15-231	17		27		37	
8	15-232	18		28		38	
9	15-233	19		29		39	
10	15-234	20		30		40	

Notes:

LDC #: 18448G61
SDG #: F7L200195
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-22-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-228	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

ENTERED

CHAIN-OF-CUSTODY RECORD

NUMBER 31595

D1-17

PROJECT NAME: IR sites 1,2+32	PURCHASE ORDER NO.: ~~7017344~~ TAG. 0629552	LABORATORY NAME: TESTAMERICA STL	**Project Information Section Do not submit to Laboratory**
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.025D		
SAMPLER NAME: V Richards	AIRBILL NUMBER:	LABORATORY ID (FOR LABORATORY): F7L200199	4 p
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *		

ANALYSES REQUIRED: EPA 901.1 gamma; Thorium; Uranium; QC SR DOE SR-01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 gamma	Thorium	Uranium	QC SR DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-274	12/4/07	12:55	1	X		S	30DY	X	X	X			32IR-G-01a	0	6"	Reg
15-275	12/4/07	13:02	1	X		S	30DY	X	X	X			32IR-G-01b	6"	12"	Reg
15-276	12/4/07	13:27	1	X		S	30DY	X	X	X			32IR-G-02a	0"	6"	Reg
15-277	12/4/07	13:30	1	X		S	30DY	X	X	X			32IR-G-02b	6"	12"	Reg
15-278	12/4/07	13:40	2	X		S	30DY	X	X	X	X		32IR-G-03a	0"	6"	Reg
15-279	12/4/07	13:45	1	X		S	30DY	X	X	X			32IR-G-03b	6"	12"	Reg
15-280	12/4/07	13:55	1	X		S	30DY	X	X	X			32IR-G-04a	0"	6"	Reg
15-281	12/4/07	14:00	1	X		S	30DY	X	X	X			32IR-G-04b	6"	12"	Reg

RELINQUISHED BY (Signature): [signature]	DATE: 12/17/07	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: 30DY + 21 DY INGROWTHS * NO 3 days SZ 12/18/07
COMPANY: TTEC/FedEx	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY:	TIME:	COMPANY:	TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

8

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16058922

Tetra Tech EC, Inc.

Client Sample ID: 15-274

Radiochemistry

Lab Sample ID: F7L200199-001
Work Order: KEJP3
Matrix: SOLID

Date Collected: 12/04/07 1255
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.32		0.21		0.31	12/26/07	01/16/08
Americium 241	0.053	U	0.092		0.15	12/26/07	01/16/08
Cesium 137	0.0	U	0.055	0.200	0.10	12/26/07	01/16/08
Cobalt 60	-0.004	U	0.071		0.13	12/26/07	01/16/08
Europium 152	0.012	U	0.099		0.18	12/26/07	01/16/08
Europium 154	0.0	U	0.32		0.62	12/26/07	01/16/08
Potassium 40	9.7		1.7		0.6	12/26/07	01/16/08
Radium (226)	0.41	J	0.14	1.00	0.17	12/26/07	01/16/08
Thorium 232	0.32		0.21		0.31	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 83**
Thorium 228	0.43	J	0.15	1.00	0.09	12/26/07	12/29/07
Thorium 230	0.95	J	0.22	1.00	0.06	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 99**
Uranium 233/234	0.34	J	0.12	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.036	J	0.042	1.00	0.033	12/26/07	01/02/08
Uranium 238	0.41	J	0.13	1.00	0.04	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-274 DUP

Radiochemistry

Lab Sample ID: F7L200199-001X
Work Order: KEJP3
Matrix: SOLID

Date Collected: 12/04/07 1255
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360162**	**Yld % 91**
Thorium 228	**0.41**	**J**	**0.13**	1.00	**0.06**	**12/26/07**	**12/29/07**
Thorium 230	**0.54**	**J**	**0.15**	1.00	**0.05**	**12/26/07**	**12/29/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360163**	**Yld % 95**
Uranium 233/234	**0.36**	**J**	**0.12**	1.00	**0.04**	**12/26/07**	**01/02/08**
Uranium 235/236	0.009	U	0.023	1.00	0.047	12/26/07	01/02/08
Uranium 238	**0.35**	**J**	**0.12**	1.00	**0.04**	**12/26/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-275

Radiochemistry

Lab Sample ID: F7L200199-002
Work Order: KEJP8
Matrix: SOLID

Date Collected: 12/04/07 1302
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.45		0.23		0.30	12/26/07	01/16/08
Americium 241	0.013	U	0.082		0.15	12/26/07	01/16/08
Cesium 137	-0.04	U	0.59	0.20	0.11	12/26/07	01/16/08
Cobalt 60	0.020	U	0.059		0.11	12/26/07	01/16/08
Europium 152	0.0	U	0.11		0.21	12/26/07	01/16/08
Europium 154	0.11	U	0.29		0.53	12/26/07	01/16/08
Potassium 40	7.6		1.6		0.9	12/26/07	01/16/08
Radium (226)	0.51	J	0.14	1.00	0.12	12/26/07	01/16/08
Thorium 232	0.45		0.23		0.30	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 86
Thorium 228	0.50	J	0.14	1.00	0.07	12/26/07	12/29/07
Thorium 230	0.39	J	0.13	1.00	0.06	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 95
Uranium 233/234	0.33	J	0.11	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.018	U	0.029	1.00	0.043	12/26/07	01/02/08
Uranium 238	0.36	J	0.12	1.00	0.07	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-276

Radiochemistry

Lab Sample ID: F7L200199-003
Work Order: KEJQA
Matrix: SOLID

Date Collected: 12/04/07 1327
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.54		0.15		0.23	12/26/07	01/16/08
Americium 241	-0.002	U	0.088		0.15	12/26/07	01/16/08
Cesium 137	-0.003	U	0.046	0.200	0.082	12/26/07	01/16/08
Cobalt 60	-0.014	U	0.057		0.10	12/26/07	01/16/08
Europium 152	-0.026	U	0.094		0.16	12/26/07	01/16/08
Europium 154	0.05	U	0.29		0.53	12/26/07	01/16/08
Potassium 40	13.4		1.7		0.3	12/26/07	01/16/08
Radium (226)	0.65	J	0.12	1.00	0.06	12/26/07	01/16/08
Thorium 232	0.54		0.15		0.23	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 92
Thorium 228	0.58	J	0.16	1.00	0.05	12/26/07	12/29/07
Thorium 230	0.74	J	0.18	1.00	0.03	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 101
Uranium 233/234	0.56	J	0.15	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.018	U	0.032	1.00	0.054	12/26/07	01/02/08
Uranium 238	0.42	J	0.13	1.00	0.06	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-277

Radiochemistry

Lab Sample ID: F7L200199-004
Work Order: KEJQE
Matrix: SOLID

Date Collected: 12/04/07 1330
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7360465		Yld %
Actinium 228	0.32		0.20		0.27	12/26/07	01/16/08
Americium 241	0.00007	U	0.070		0.12	12/26/07	01/16/08
Cesium 137	0.0	U	0.027	0.200	0.055	12/26/07	01/16/08
Cobalt 60	0.007	U	0.043		0.083	12/26/07	01/16/08
Europium 152	-0.001	U	0.098		0.18	12/26/07	01/16/08
Europium 154	-0.04	U	0.37		0.68	12/26/07	01/16/08
Potassium 40	9.4		1.6		0.4	12/26/07	01/16/08
Radium (226)	0.48	J	0.14	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.32		0.20		0.27	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7360162		Yld % 80
Thorium 228	0.37	J	0.14	1.00	0.08	12/26/07	12/29/07
Thorium 230	0.57	J	0.17	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7360163		Yld % 87
Uranium 233/234	0.56	J	0.16	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.049	U	0.051	1.00	0.054	12/26/07	01/02/08
Uranium 238	0.56	J	0.16	1.00	0.04	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-278

Radiochemistry

Lab Sample ID: F7L200199-005
Work Order: KEJQH
Matrix: SOLID

Date Collected: 12/04/07 1340
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	1.13		0.20		0.17	12/26/07	01/16/08
Americium 241	0.01	U	0.14		0.23	12/26/07	01/16/08
Cesium 137	0.0	U	0.093	0.200	0.16	12/26/07	01/16/08
Cobalt 60	0.003	U	0.052		0.096	12/26/07	01/16/08
Europium 152	-0.02	U	0.12		0.21	12/26/07	01/16/08
Europium 154	0.06	U	0.37		0.67	12/26/07	01/16/08
Potassium 40	20.4		2.2		0.7	12/26/07	01/16/08
Radium (226)	0.72	J	0.16	1.00	0.18	12/26/07	01/16/08
Thorium 232	1.13		0.20		0.17	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 84**
Thorium 228	0.85	J	0.20	1.00	0.07	12/26/07	12/29/07
Thorium 230	0.76	J	0.18	1.00	0.04	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 86**
Uranium 233/234	0.62	J	0.16	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	12/26/07	01/02/08
Uranium 238	0.51	J	0.15	1.00	0.03	12/26/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 63**
Strontium 90	-0.01	U	0.25	3.00	0.44	12/20/07	01/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-279

Radiochemistry

Lab Sample ID: F7L200199-006
Work Order: KEJOM
Matrix: SOLID

Date Collected: 12/04/07 1345
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360465		Yld %
Actinium 228	0.15	U	0.14		0.22	12/26/07	01/16/08
Americium 241	0.037	U	0.087		0.15	12/26/07	01/16/08
Cesium 137	0.011	U	0.033	0.200	0.059	12/26/07	01/16/08
Cobalt 60	-0.008	U	0.041		0.075	12/26/07	01/16/08
Europium 152	0.006	U	0.085		0.15	12/26/07	01/16/08
Europium 154	0.0	U	0.28		0.52	12/26/07	01/16/08
Potassium 40	**8.4**		1.2		0.5	12/26/07	01/16/08
Radium (226)	0.058	U	0.086	1.00	0.15	12/26/07	01/16/08
Thorium 232	0.15	U	0.14		0.22	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 91
Thorium 228	0.29	J	0.12	1.00	0.08	12/26/07	12/29/07
Thorium 230	0.53	J	0.16	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 98
Uranium 233/234	0.29	J	0.11	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.053	12/26/07	01/02/08
Uranium 238	0.31	J	0.11	1.00	0.03	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-280

Radiochemistry

Lab Sample ID: F7L200199-007
Work Order: KEJQN
Matrix: SOLID

Date Collected: 12/04/07 1355
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.74		0.22		0.36	12/26/07	01/16/08
Americium 241	0.03	U	0.14		0.23	12/26/07	01/16/08
Cesium 137	0.001	U	0.059	0.200	0.11	12/26/07	01/16/08
Cobalt 60	-0.023	U	0.076		0.14	12/26/07	01/16/08
Europium 152	0.0	U	0.13		0.24	12/26/07	01/16/08
Europium 154	-0.12	U	0.44		0.79	12/26/07	01/16/08
Potassium 40	15.5		2.2		0.6	12/26/07	01/16/08
Radium (226)	0.82	J	0.18	1.00	0.13	12/26/07	01/16/08
Thorium 232	0.74		0.22		0.36	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 90**
Thorium 228	0.96	J	0.22	1.00	0.07	12/26/07	12/29/07
Thorium 230	0.82	J	0.20	1.00	0.07	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 88**
Uranium 233/234	0.50	J	0.15	1.00	0.07	12/26/07	01/02/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	12/26/07	01/02/08
Uranium 238	0.52	J	0.16	1.00	0.06	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-281

Radiochemistry

Lab Sample ID: F7L200199-008
Work Order: KEJQP
Matrix: SOLID

Date Collected: 12/04/07 1400
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360465**		**Yld %**
Actinium 228	0.19	U	0.21		0.34	12/26/07	01/16/08
Americium 241	0.023	U	0.083		0.15	12/26/07	01/16/08
Cesium 137	-0.04	U	0.44	0.20	0.11	12/26/07	01/16/08
Cobalt 60	0.0	U	0.10		0.19	12/26/07	01/16/08
Europium 152	-0.03	U	0.12		0.21	12/26/07	01/16/08
Europium 154	-0.01	U	0.30		0.60	12/26/07	01/16/08
Potassium 40	**10.1**		**1.8**		**0.5**	**12/26/07**	**01/16/08**
Radium (226)	**0.41**	**J**	**0.13**	**1.00**	**0.14**	**12/26/07**	**01/16/08**
Thorium 232	0.19	U	0.21		0.34	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 91**
Thorium 228	**0.99**	**J**	**0.20**	**1.00**	**0.07**	**12/26/07**	**12/29/07**
Thorium 230	**0.55**	**J**	**0.14**	**1.00**	**0.04**	**12/26/07**	**12/29/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 84**
Uranium 233/234	**0.39**	**J**	**0.12**	**1.00**	**0.06**	**12/26/07**	**01/02/08**
Uranium 235/236	0.022	U	0.032	1.00	0.030	12/26/07	01/02/08
Uranium 238	**0.50**	**J**	**0.14**	**1.00**	**0.04**	**12/26/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Dec-2007	15-274	F7L200199001	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-274	F7L200199001	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-274	F7L200199001	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-274DUP	F7L200199001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-274DUP	F7L200199001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-275	F7L200199002	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-275	F7L200199002	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-275	F7L200199002	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-276	F7L200199003	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-276	F7L200199003	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-276	F7L200199003	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-277	F7L200199004	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-277	F7L200199004	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-277	F7L200199004	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-278	F7L200199005	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-278	F7L200199005	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-278	F7L200199005	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-278	F7L200199005	N	Gen Prep	)OE SR-03-RC MOI	3
04-Dec-2007	15-279	F7L200199006	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-279	F7L200199006	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-279	F7L200199006	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-280	F7L200199007	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-280	F7L200199007	N	Gen Prep	DOE A-01-R U MOD	3
04-Dec-2007	15-280	F7L200199007	N	Gen Prep	DOE GA-01-R MOD	3
04-Dec-2007	15-281	F7L200199008	N	Gen Prep	)OE A-01-R TH MOI	3
04-Dec-2007	15-281	F7L200199008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Dec-2007	15-281	F7L200199008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L200199										
DOE GA-01-R MOD	15-279	SO	N							
				ACTINIUM-228		0.15U	0.14	UJ	pCi/g	
				AMERICIUM-241		0.037U	0.087	UJ	pCi/g	
				CESIUM-137	0.200	0.011U	0.033	UJ	pCi/g	
				COBALT-60		-0.008U	0.041	UJ	pCi/g	
				EUROPIUM-152		0.006U	0.085	UJ	pCi/g	
				EUROPIUM-154		0.0U	0.28	UJ	pCi/g	
				POTASSIUM-40		8.4	1.2	J	pCi/g	
				RADIUM-226	1.00	0.058U	0.086	UJ	pCi/g	
				THORIUM-232		0.15U	0.14	UJ	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F7L200199

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L200199	15-279	DOE GA-01-R MOD	14331830		J	ACTINIUM-228	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	14683239		J	EUROPIUM-152	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	13982633		J	RADIUM-226	Continuing calibration percent difference
F7L200199	15-279	DOE GA-01-R MOD	7440291		J	THORIUM-232	Continuing calibration percent difference

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L200199

LDC #: 18448H35
SDG #: F7L200199
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9MS DOE GA-01-R Mod

METHOD: Gamma Spectroscopy ~~(EPA Method 901.1)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-4-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	SW	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A Dup	
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-274	11		21		31	
2	15-275	12		22		32	
3	15-276	13		23		33	
4	15-277	14		24		34	
5	15-278	15		25		35	
6	15-279	16		26		36	
7	15-280	17		27		37	
8	15-281	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

LDC #: 148H35
SDG #: F7L200199

VALIDATION FINDINGS WORKSHEET
Calibration

Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Radiochemistry (Method: DOE GA-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were all instruments and detectors calibrated as required?
(Y) N N/A Were NIST traceable standards used for all calibrations?
(Y) N N/A Was the check source identified by activity and radionuclide?
Y (N) N/A Were check sources including background counts analyzed at the required frequency and within laboratory control limits?

#	Date	Calibration ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	1-16-08	Daily Check	soil	all	total activity: 1791.9	Bq (1835.0 - 2029.0) *	J/UJ/P
	↓	detector GV03	↓	↓	Ave FWHM ratio: 1.7871	no unit (0.8500 - 1.2500) ↓	↓
	↓	↓	↓	↓	Ave FWTM ratio: 1.7354	no unit (0.9000 - 1.2500) ↓	↓
					* Associated	samples: 6	↓

Comments: FWHM = Full Width Half Mean ; FWTM = Full Width Tenth Mean

LDC #: 18448H73
SDG #: F7L200199
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-4-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	NA	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all Soil

1	15-274	11		21		31	
2	15-275	12		22		32	
3	15-276	13		23		33	
4	15-277	14		24		34	
5	15-278	15		25		35	
6	15-279	16		26		36	
7	15-280	17		27		37	
8	15-281	18		28		38	
9	15-274DUP	19		29		39	
10	PBS	20		30		40	

Notes:

LDC #: 18448H59
SDG #: F7L200199
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-4-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-274	11		21		31	
2	15-275	12		22		32	
3	15-276	13		23		33	
4	15-277	14		24		34	
5	15-278	15		25		35	
6	15-279	16		26		36	
7	15-280	17		27		37	
8	15-281	18		28		38	
9	15-274DUP	19		29		39	
10	PBS	20		30		40	

Notes:

LDC #: 18448H61
SDG #: F7L200199
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-4-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	SW N A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Soil

1	15-278	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31623

ENTERED 12/7/07

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR sites 1, 2 + 32	PURCHASE ORDER NO.: ~~7617344~~ 0029552 106.
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210 . 028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

ANALYSES REQUIRED: EPA 901.1m Gamma; Thorium; U Radium; 90 Sr DOE SR-01/Sr-90

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): FTL200202

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-282	12/5/07	8:25	1	X		S	3 Dy		32IR-G-05a	0"	6"	REG
15-283	12/5/07	8:27	1	X		S	21 Dy		32IR-G-05b	6"	12"	REG
15-284	12/5/07	8:39	1	X		S	3 Dy		32IR-G-06a	0"	6"	REG
15-285	12/5/07	8:42	1	X		S	3 Dy		32IR-G-06b	6"	12"	REG
15-286	12/5/07	8:57	1	X		S	3 Dy		32IR-G-07a	0"	6"	REG
15-287	12/5/07	9:00	1	X		S	3 Dy		32IR-G-07b	6"	12"	REG
15-288	12/5/07	9:10	2	X		S	3 Dy		32IR-G-08a	0"	6"	REG
15-289	12/5/07	9:15	1	X		S	3 Dy		32IR-G-08b	6"	12"	REG
15-290	12/5/07	9:58	1	X		S	3 Dy		32IR-G-09a	0"	6"	REG
15-291	12/5/07	10:02	1	X		S	3 Dy		32IR-G-09b	6"	12"	REG

(1) OK to ship

RELINQUISHED BY (Signature)	DATE 12/6/07	RECEIVED BY (Signature)	
COMPANY TEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * 210 3-days 12/8/07
3 Dy + 21 Dy Ingrowths 5²

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

Project Information Section
Do not submit to Laboratory

12 p

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160589 23

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31624

ENTERED

PROJECT NAME: IR sites 1, 2 + 32	PURCHASE ORDER NO.: ~~7017344~~ 0629552 (Tt)
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: *
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

LABORATORY NAME: TESTAMERICA STL

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1 Im Gamma; Thorium; Uranium; 90 Sr DOE SR-01/St-01

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-292	12/5/07	10:15	1	X		S	~~3~~ 21 DY		32IR-G-10a	0"	6"	RE
15-293	12/5/07	10:18	1	X		S	~~3~~ 21 DY		32IR-G-10b	6"	12"	RE

RELINQUISHED BY (Signature)	DATE 12/7/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: NO -3 days SS 12/8/07 * ~~3 DY~~ + 21 DY INGROWTHS
COMPANY TT SC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160588 23

Tetra Tech EC, Inc.

Client Sample ID: 15-282

Radiochemistry

Lab Sample ID: F7L200202-001
Work Order: KEJQT
Matrix: SOLID

Date Collected: 12/05/07 0825
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 7360466**	**Yld %**
Actinium 228	0.42		0.19		0.28	12/26/07	01/16/08
Americium 241	0.04	U	0.10		0.17	12/26/07	01/16/08
Cesium 137	0.012	U	0.036	0.200	0.064	12/26/07	01/16/08
Cobalt 60	-0.007	U	0.041		0.075	12/26/07	01/16/08
Europium 152	0.0002	U	0.0996		0.18	12/26/07	01/16/08
Europium 154	-0.01	U	0.26		0.47	12/26/07	01/16/08
Potassium 40	12.9		1.6		0.6	12/26/07	01/16/08
Radium (226)	0.56	J	0.13	1.00	0.14	12/26/07	01/16/08
Thorium 232	0.42		0.19		0.28	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360162**	**Yld % 89**
Thorium 228	0.57	J	0.15	1.00	0.06	12/26/07	12/29/07
Thorium 230	0.61	J	0.16	1.00	0.06	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360163**	**Yld % 97**
Uranium 233/234	0.52	J	0.14	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.037	U	0.042	1.00	0.050	12/26/07	01/02/08
Uranium 238	0.35	J	0.11	1.00	0.02	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-282 DUP

Radiochemistry

Lab Sample ID: F7L200202-001X
Work Order: KEJQT
Matrix: SOLID

Date Collected: 12/05/07 0825
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	0.47		0.20		0.27	12/26/07	01/16/08
Americium 241	-0.03	U	0.11		0.19	12/26/07	01/16/08
Cesium 137	0.002	U	0.039	0.200	0.070	12/26/07	01/16/08
Cobalt 60	-0.016	U	0.046		0.082	12/26/07	01/16/08
Europium 152	0.041	U	0.096		0.16	12/26/07	01/16/08
Europium 154	-0.002	U	0.31		0.56	12/26/07	01/16/08
Potassium 40	9.8		1.4		1.1	12/26/07	01/16/08
Radium (226)	0.37	J	0.12	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.47		0.20		0.27	12/26/07	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-283

Radiochemistry

Lab Sample ID: F7L200202-002
Work Order: KEJQ3
Matrix: SOLID

Date Collected: 12/05/07 0827
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	0.18	U	0.19		0.30	12/26/07	01/16/08
Americium 241	-0.02	U	0.11		0.19	12/26/07	01/16/08
Cesium 137	0.0	U	0.049	0.200	0.089	12/26/07	01/16/08
Cobalt 60	0.0	U	0.051		0.096	12/26/07	01/16/08
Europium 152	-0.03	U	0.11		0.19	12/26/07	01/16/08
Europium 154	0.0	U	0.34		0.62	12/26/07	01/16/08
Potassium 40	6.7		1.3		1.3	12/26/07	01/16/08
Radium (226)	0.24	J	0.11	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.18	U	0.19		0.30	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 97
Thorium 228	0.241	J	0.099	1.00	0.067	12/26/07	12/29/07
Thorium 230	0.30	J	0.11	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 96
Uranium 233/234	0.38	J	0.12	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.021	U	0.033	1.00	0.049	12/26/07	01/02/08
Uranium 238	0.255	J	0.0996	1.00	0.039	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-284

Radiochemistry

Lab Sample ID: F7L200202-003
Work Order: KEJQ5
Matrix: SOLID

Date Collected: 12/05/07 0839
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	-0.04	U	0.72		0.34	12/26/07	01/16/08
Americium 241	-0.033	U	0.092		0.16	12/26/07	01/16/08
Cesium 137	-0.005	U	0.053	0.200	0.099	12/26/07	01/16/08
Cobalt 60	0.0	U	0.014		0.053	12/26/07	01/16/08
Europium 152	0.04	U	0.11		0.19	12/26/07	01/16/08
Europium 154	-0.02	U	0.32		0.63	12/26/07	01/16/08
Potassium 40	7.7		1.6		0.7	12/26/07	01/16/08
Radium (226)	0.43	J	0.14	1.00	0.13	12/26/07	01/16/08
Thorium 232	-0.04	U	0.72		0.34	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 77**
Thorium 228	0.44	J	0.14	1.00	0.07	12/26/07	12/29/07
Thorium 230	0.66	J	0.17	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 101**
Uranium 233/234	0.34	J	0.11	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	-0.0018	U	0.0036	1.00	0.041	12/26/07	01/02/08
Uranium 238	0.31	J	0.10	1.00	0.03	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-285

Radiochemistry

Lab Sample ID: F7L200202-004
Work Order: KEJQ6
Matrix: SOLID

Date Collected: 12/05/07 0842
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	0.22	U	0.20		0.31	12/26/07	01/16/08
Americium 241	-0.003	U	0.17		0.15	12/26/07	01/16/08
Cesium 137	-0.02	U	0.17	0.20	0.11	12/26/07	01/16/08
Cobalt 60	0.0	U	0.013		0.048	12/26/07	01/16/08
Europium 152	0.0	U	0.13		0.24	12/26/07	01/16/08
Europium 154	-0.10	U	0.35		0.63	12/26/07	01/16/08
Potassium 40	7.3		1.5		1.0	12/26/07	01/16/08
Radium (226)	0.34	J	0.17	1.00	0.19	12/26/07	01/16/08
Thorium 232	0.22	U	0.20		0.31	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 81
Thorium 228	0.34	J	0.12	1.00	0.06	12/26/07	12/29/07
Thorium 230	0.41	J	0.13	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 93
Uranium 233/234	0.32	J	0.11	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.01	U	0.020	1.00	0.026	12/26/07	01/02/08
Uranium 238	0.30	J	0.10	1.00	0.03	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-286

Radiochemistry

Lab Sample ID: F7L200202-005
Work Order: KEJQ7
Matrix: SOLID

Date Collected: 12/05/07 0857
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.63		0.19		0.28	12/26/07	01/16/08
Americium 241	0.05	U	0.10		0.17	12/26/07	01/16/08
Cesium 137	-0.0003	U	0.034	0.200	0.062	12/26/07	01/16/08
Cobalt 60	-0.006	U	0.046		0.084	12/26/07	01/16/08
Europium 152	-0.007	U	0.10		0.18	12/26/07	01/16/08
Europium 154	0.12	U	0.29		0.50	12/26/07	01/16/08
Potassium 40	14.5		1.7		0.6	12/26/07	01/16/08
Radium (226)	0.70	J	0.14	1.00	0.15	12/26/07	01/16/08
Thorium 232	0.63		0.19		0.28	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 87**
Thorium 228	0.76	J	0.19	1.00	0.09	12/26/07	12/29/07
Thorium 230	1.04		0.23	1.00	0.07	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 93**
Uranium 233/234	0.59	J	0.16	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.031	U	0.042	1.00	0.058	12/26/07	01/02/08
Uranium 238	0.68	J	0.17	1.00	0.04	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-287

Radiochemistry

Lab Sample ID: F7L200202-006
Work Order: KEJQ8
Matrix: SOLID

Date Collected: 12/05/07 0900
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.18	U	0.18		0.30	12/26/07	01/16/08
Americium 241	0.005	U	0.087		0.15	12/26/07	01/16/08
Cesium 137	0.0	U	0.047	0.200	0.089	12/26/07	01/16/08
Cobalt 60	0.0	U	0.13		0.23	12/26/07	01/16/08
Europium 152	-0.01	U	0.11		0.19	12/26/07	01/16/08
Europium 154	-0.13	U	0.43		0.77	12/26/07	01/16/08
Potassium 40	**6.6**		**1.4**		**0.6**	**12/26/07**	**01/16/08**
Radium (226)	**0.43**	**J**	**0.13**	1.00	**0.11**	**12/26/07**	**01/16/08**
Thorium 232	0.18	U	0.18		0.30	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 89**
Thorium 228	**0.68**	**J**	**0.18**	1.00	**0.1**	**12/26/07**	**12/29/07**
Thorium 230	**0.217**	**J**	**0.097**	1.00	**0.044**	**12/26/07**	**12/29/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 94**
Uranium 233/234	**0.41**	**J**	**0.13**	1.00	**0.05**	**12/26/07**	**01/02/08**
Uranium 235/236	0.018	U	0.035	1.00	0.066	12/26/07	01/02/08
Uranium 238	**0.49**	**J**	**0.14**	1.00	**0.04**	**12/26/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-288

Radiochemistry

Lab Sample ID: F7L200202-007
Work Order: KEJQ9
Matrix: SOLID

Date Collected: 12/05/07 0910
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.84		0.23		0.28	12/26/07	01/16/08
Americium 241	0.04	U	0.12		0.20	12/26/07	01/16/08
Cesium 137	-0.03	U	0.48	0.20	0.11	12/26/07	01/16/08
Cobalt 60	0.013	U	0.072		0.13	12/26/07	01/16/08
Europium 152	0.06	U	0.13		0.22	12/26/07	01/16/08
Europium 154	-0.18	U	0.55		0.96	12/26/07	01/16/08
Potassium 40	17.1		2.3		0.5	12/26/07	01/16/08
Radium (226)	0.87	J	0.20	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.84		0.23		0.28	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 78**
Thorium 228	1.18		0.26	1.00	0.08	12/26/07	01/02/08
Thorium 230	1.09		0.25	1.00	0.08	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 78**
Uranium 233/234	0.88	J	0.22	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.056	U	0.059	1.00	0.062	12/26/07	01/02/08
Uranium 238	0.93	J	0.22	1.00	0.06	12/26/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 60**
Strontium 90	0.14	U	0.28	3.00	0.47	12/20/07	01/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-289

Radiochemistry

Lab Sample ID: F7L200202-008
Work Order: KEJRC
Matrix: SOLID

Date Collected: 12/05/07 0915
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	0.33		0.20		0.26	12/26/07	01/16/08
Americium 241	0.029	U	0.082		0.14	12/26/07	01/16/08
Cesium 137	0.0005	U	0.052	0.200	0.096	12/26/07	01/16/08
Cobalt 60	0.008	U	0.050		0.096	12/26/07	01/16/08
Europium 152	0.0001	U	0.089		0.17	12/26/07	01/16/08
Europium 154	-0.05	U	0.32		0.61	12/26/07	01/16/08
Potassium 40	9.4		1.6		0.5	12/26/07	01/16/08
Radium (226)	0.28	J	0.12	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.33		0.20		0.26	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 86
Thorium 228	0.65	J	0.18	1.00	0.09	12/26/07	01/02/08
Thorium 230	0.53	J	0.15	1.00	0.06	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 93
Uranium 233/234	0.26	J	0.11	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.042	U	0.050	1.00	0.066	12/26/07	01/02/08
Uranium 238	0.36	J	0.12	1.00	0.05	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-290

Radiochemistry

Lab Sample ID: F7L200202-009
Work Order: KEJRD
Matrix: SOLID

Date Collected: 12/05/07 0958
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.67		0.21		0.25	12/26/07	01/16/08
Americium 241	0.07	U	0.11		0.18	12/26/07	01/16/08
Cesium 137	-0.007	U	0.048	0.200	0.084	12/26/07	01/16/08
Cobalt 60	0.0	U	0.041		0.078	12/26/07	01/16/08
Europium 152	0.001	U	0.11		0.19	12/26/07	01/16/08
Europium 154	-0.05	U	0.34		0.61	12/26/07	01/16/08
Potassium 40	17.8		1.9		0.4	12/26/07	01/16/08
Radium (226)	0.56	J	0.14	1.00	0.18	12/26/07	01/16/08
Thorium 232	0.67		0.21		0.25	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360162**		**Yld % 83**
Thorium 228	0.82	J	0.21	1.00	0.07	12/26/07	01/02/08
Thorium 230	0.82	J	0.21	1.00	0.07	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7360163**		**Yld % 77**
Uranium 233/234	0.67	J	0.18	1.00	0.06	12/26/07	01/02/08
Uranium 235/236	0.057	J	0.057	1.00	0.038	12/26/07	01/02/08
Uranium 238	0.74	J	0.19	1.00	0.05	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-291

Radiochemistry

Lab Sample ID: F7L200202-010
Work Order: KEJRG
Matrix: SOLID

Date Collected: 12/05/07 1002
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 7360466**	**Yld %**
Actinium 228	0.30		0.16		0.22	12/26/07	01/16/08
Americium 241	0.03	U	0.12		0.20	12/26/07	01/16/08
Cesium 137	0.0	U	0.053	0.200	0.094	12/26/07	01/16/08
Cobalt 60	0.0	U	0.063		0.11	12/26/07	01/16/08
Europium 152	0.04	U	0.11		0.18	12/26/07	01/16/08
Europium 154	0.04	U	0.32		0.58	12/26/07	01/16/08
Potassium 40	7.1		1.2		0.9	12/26/07	01/16/08
Radium (226)	1.06		0.18	1.00	0.19	12/26/07	01/16/08
Thorium 232	0.30		0.16		0.22	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360162**	**Yld % 94**
Thorium 228	0.46	J	0.14	1.00	0.07	12/26/07	01/02/08
Thorium 230	0.47	J	0.14	1.00	0.05	12/26/07	01/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7360163**	**Yld % 97**
Uranium 233/234	0.38	J	0.12	1.00	0.04	12/26/07	01/03/08
Uranium 235/236	0.030	U	0.037	1.00	0.046	12/26/07	01/03/08
Uranium 238	0.35	J	0.11	1.00	0.04	12/26/07	01/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-292

Radiochemistry

Lab Sample ID: F7L200202-011
Work Order: KEJRH
Matrix: SOLID

Date Collected: 12/05/07 1015
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	1.01		0.25		0.34	12/26/07	01/16/08
Americium 241	0.004	U	0.15		0.25	12/26/07	01/16/08
Cesium 137	-0.0004	U	0.054	0.200	0.10	12/26/07	01/16/08
Cobalt 60	0.0	U	0.13		0.23	12/26/07	01/16/08
Europium 152	0.005	U	0.12		0.21	12/26/07	01/16/08
Europium 154	0.04	U	0.44		0.81	12/26/07	01/16/08
Potassium 40	15.9		2.2		0.6	12/26/07	01/16/08
Radium (226)	0.85	J	0.20	1.00	0.15	12/26/07	01/16/08
Thorium 232	1.01		0.25		0.34	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 86
Thorium 228	0.93	J	0.22	1.00	0.09	12/26/07	12/29/07
Thorium 230	1.09		0.23	1.00	0.05	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 92
Uranium 233/234	0.69	J	0.18	1.00	0.05	12/26/07	01/02/08
Uranium 235/236	0.049	J	0.049	1.00	0.033	12/26/07	01/02/08
Uranium 238	0.65	J	0.17	1.00	0.05	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-293

Radiochemistry

Lab Sample ID: F7L200202-012
Work Order: KEJRJ
Matrix: SOLID

Date Collected: 12/05/07 1018
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360466		Yld %
Actinium 228	0.28		0.19		0.27	12/26/07	01/16/08
Americium 241	-0.01	U	0.87		0.14	12/26/07	01/16/08
Cesium 137	-0.004	U	0.056	0.200	0.087	12/26/07	01/16/08
Cobalt 60	0.0	U	0.011		0.042	12/26/07	01/16/08
Europium 152	0.017	U	0.078		0.14	12/26/07	01/16/08
Europium 154	0.0	U	0.28		0.54	12/26/07	01/16/08
Potassium 40	6.8		1.4		0.8	12/26/07	01/16/08
Radium (226)	0.41	J	0.14	1.00	0.14	12/26/07	01/16/08
Thorium 232	0.28		0.19		0.27	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360162		Yld % 91
Thorium 228	0.29	J	0.11	1.00	0.05	12/26/07	12/29/07
Thorium 230	0.42	J	0.13	1.00	0.04	12/26/07	12/29/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7360163		Yld % 99
Uranium 233/234	0.36	J	0.12	1.00	0.04	12/26/07	01/02/08
Uranium 235/236	0.044	J	0.044	1.00	0.030	12/26/07	01/02/08
Uranium 238	0.32	J	0.11	1.00	0.04	12/26/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Dec-2007	15-282	F7L200202001	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-282	F7L200202001	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-282	F7L200202001	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-282DUP	F7L200202001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-283	F7L200202002	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-283	F7L200202002	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-283	F7L200202002	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-284	F7L200202003	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-284	F7L200202003	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-284	F7L200202003	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-285	F7L200202004	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-285	F7L200202004	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-285	F7L200202004	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-286	F7L200202005	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-286	F7L200202005	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-286	F7L200202005	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-287	F7L200202006	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-287	F7L200202006	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-287	F7L200202006	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-288	F7L200202007	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-288	F7L200202007	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-288	F7L200202007	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-288	F7L200202007	N	Gen Prep	)OE SR-03-RC MOI	3
05-Dec-2007	15-289	F7L200202008	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-289	F7L200202008	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-289	F7L200202008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Dec-2007	15-290	F7L200202009	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-290	F7L200202009	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-290	F7L200202009	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-291	F7L200202010	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-291	F7L200202010	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-291	F7L200202010	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-292	F7L200202011	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-292	F7L200202011	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-292	F7L200202011	N	Gen Prep	DOE GA-01-R MOD	3
05-Dec-2007	15-293	F7L200202012	N	Gen Prep	)OE A-01-R TH MOI	3
05-Dec-2007	15-293	F7L200202012	N	Gen Prep	DOE A-01-R U MOD	3
05-Dec-2007	15-293	F7L200202012	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L200202										
DOE GA-01-R MOD	15-283	SO	N							
				ACTINIUM-228		0.18U	0.19	UJ	pCi/g	
				AMERICIUM-241		-0.02U	0.11	UJ	pCi/g	
				CESIUM-137	0.200	0.0U	0.049	UJ	pCi/g	
				COBALT-60		0.0U	0.051	UJ	pCi/g	
				EUROPIUM-152		-0.03U	0.11	UJ	pCi/g	
				EUROPIUM-154		0.0U	0.34	UJ	pCi/g	
				POTASSIUM-40		6.7	1.3	J	pCi/g	
				RADIUM-226	1.00	0.24J	0.11	J	pCi/g	
				THORIUM-232		0.18U	0.19	UJ	pCi/g	
DOE GA-01-R MOD	15-290	SO	N							
				ACTINIUM-228		0.67	0.21	J	pCi/g	
				AMERICIUM-241		0.07U	0.11	UJ	pCi/g	
				CESIUM-137	0.200	-0.007U	0.048	UJ	pCi/g	
				COBALT-60		0.0U	0.041	UJ	pCi/g	
				EUROPIUM-152		0.001U	0.11	UJ	pCi/g	
				EUROPIUM-154		-0.05U	0.34	UJ	pCi/g	
				POTASSIUM-40		17.8	1.9	J	pCi/g	
				RADIUM-226	1.00	0.56J	0.14	J	pCi/g	
				THORIUM-232		0.67	0.21	J	pCi/g	
DOE GA-01-R MOD	15-291	SO	N							
				ACTINIUM-228		0.30	0.16	J	pCi/g	
				AMERICIUM-241		0.03U	0.12	UJ	pCi/g	
				CESIUM-137	0.200	0.0U	0.053	UJ	pCi/g	
				COBALT-60		0.0U	0.063	UJ	pCi/g	
				EUROPIUM-152		0.04U	0.11	UJ	pCi/g	
				EUROPIUM-154		0.04U	0.32	UJ	pCi/g	
				POTASSIUM-40		7.1	1.2	J	pCi/g	
				RADIUM-226	1.00	1.06	0.18	J	pCi/g	
				THORIUM-232		0.30	0.16	J	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F7L200202

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L200202	15-283	DOE GA-01-R MOD	14331830		J	ACTINIUM-228	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	14683239		J	EUROPIUM-152	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	13982633	J		RADIUM-226	Continuing calibration percent difference
F7L200202	15-283	DOE GA-01-R MOD	7440291		J	THORIUM-232	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	14331830	J		ACTINIUM-228	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	14683239		J	EUROPIUM-152	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	13982633	J		RADIUM-226	Continuing calibration percent difference
F7L200202	15-290	DOE GA-01-R MOD	7440291	J		THORIUM-232	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	14331830	J		ACTINIUM-228	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	86954361		J	AMERICIUM-241	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	10045973		J	CESIUM-137	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	10198400		J	COBALT-60	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	14683239		J	EUROPIUM-152	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	15585101		J	EUROPIUM-154	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	13966002	J		POTASSIUM-40	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	13982633	J		RADIUM-226	Continuing calibration percent difference
F7L200202	15-291	DOE GA-01-R MOD	7440291	J		THORIUM-232	Continuing calibration percent difference

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L200202

LDC #: 18448I35
SDG #: F7L200202
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9m4

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-5-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	SW	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-282	11	15-292	21		31	
2	15-283	12	15-293	22		32	
3	15-284	13	15-282DUP	23		33	
4	15-285	14	PBS	24		34	
5	15-286	15		25		35	
6	15-287	16		26		36	
7	15-288	17		27		37	
8	15-289	18		28		38	
9	15-290	19		29		39	
10	15-291	20		30		40	

Notes:

LDC #: 148I35
SDG #: FTL200202

VALIDATION FINDINGS WORKSHEET
Calibration

Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Radiochemistry (Method: DOE GA-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were all instruments and detectors calibrated as required?
(Y) N N/A Were NIST traceable standards used for all calibrations?
(Y) N N/A Was the check source identified by activity and radionuclide?
Y (N) N/A Were check sources including background counts analyzed at the required frequency and within laboratory control limits?

#	Date	Calibration ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	1-16-08	Daily Check	soil	all	total activity: 1791.9	Bq (1835.0 - 2029.0) *	J/UJ/P
	↓	detector GV03	↓	↓	Ave FWHM ratio: 1.7871	no unit (0.8500 - 1.2500) ↓	↓
	↓	↓	↓	↓	Ave FWTM ratio: 1.7354	no unit (0.9000 - 1.2500) ↓	
					* Associated	samples: 2, 9, 10, 13	

Comments: FWHM = Full Width Half Mean ; FWTM = Full Width Tenth Mean

LDC #: 18448I73
SDG #: F7L200202
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-5-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-282	11	15-292	21		31	
2	15-283	12	15-293	22		32	
3	15-284	13	PBS	23		33	
4	15-285	14		24		34	
5	15-286	15		25		35	
6	15-287	16		26		36	
7	15-288	17		27		37	
8	15-289	18		28		38	
9	15-290	19		29		39	
10	15-291	20		30		40	

Notes:

LDC #: 18448I59
SDG #: F7L200202
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-5-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-282	11	15-292	21		31	
2	15-283	12	15-293	22		32	
3	15-284	13	PBS	23		33	
4	15-285	14		24		34	
5	15-286	15		25		35	
6	15-287	16		26		36	
7	15-288	17		27		37	
8	15-289	18		28		38	
9	15-290	19		29		39	
10	15-291	20		30		40	

Notes:

LDC #: 18448I61
SDG #: F7L200202
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-5-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

soil

1	15-288	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31609

CHAIN-OF-CUSTODY RECORD

1-17

ENTERED

PROJECT NAME: Insite 1, 2, 3, 7	PURCHASE ORDER NO.: ~~0179577~~ 0629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPH 10/1.1/17	8015 PDE SW 3546	TPH 1664	VANADIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-203	10/14/07	1005	1	Y		S	21D	Y	~~X~~	X	X		IN1-6B-1a	2	2.5	
IS-204	10/19/07	1006	1	Y		S	21D	Y	~~X~~	X	X		IN1-6B-1b	2.5	3.0	
IS-206	10/19/07	1008	1	Y		S	21D	X		X	X		IN1-8A-1b	1.5	2.0	
IS-207	10/19/07	1010 (L)	1	Y		S	21D	X		X	X		IN1-8B-1a	1	1.5	
IS-208	10/19/07	1011 (L)	2	Y		S	21D	X	X	X	X		IN-1 8B-1b	1.5	2.0	
IS-209	10/14/07	1015 (L)	1	Y		S	21D	X		X	X		IN1-8C-1a	1	1.5	
IS-210	10/19/07	1016 (L)	1	Y		S	21D	X		X	X		IN1-8C-1b	1.5	2.0	
IS-211	10/19/07	1020 (L)	1	Y		S	21D	X		X	X		IN1-8D-1a	1	1.5	
IS-212	10/19/07	1024 (L)	1	Y		S	21D	X		X	X		IN1-8D-1b	1.5	2.0	
IS-213	10/19/07	1025 (L)	1	Y		S	21D	X		X	X		IN1-8C-1a	1	1.5	

LABORATORY NAME: ~~TESTAMERICA~~ SFL

LABORATORY ID (FOR LABORATORY): F7L200205

Project Information Section Do not submit to Laboratory

22 P

RELINQUISHED BY (Signature)	DATE 12/17/07	RECEIVED BY (Signature)	
COMPANY TTEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: X no-3 dup 12/18/07

~~30~~ 21 DY Inorganics SV

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

IN = Installation Remediation Site

✓

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160589 24

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31610

ENTERED

PROJECT NAME: In Situ 1,2-32	PURCHASE ORDER NO.: 106. 0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210-078D
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bielawski	PROJECT CONTACT PHONE NUMBER: 949-756-7505

LABORATORY NAME: TESTAMERICA SFL

LABORATORY ID (FOR LABORATORY): F7L200205

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1.7; EPA DW SR-01/SR-02; TPH(D); TPH(MO)

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-214	10/14/07	1026	1	Y		S	21DY		IN1-8E-1b	1.5	2.0	N
IS-215	10/14/07	1030	1	Y		S	21DY		IN1-8F-1a	1	1.5	N
IS-216	10/14/07	1031	1	Y		S	21DY		IN1-8F-1b	1.5	2.0	N
IS-217	10/14/07	1035	1	Y		S	21DY		IN1-8G-1a	1	1.5	N
IS-218	10/14/07	1036	2	Y		S	21DY		IN1-8G-1b	1.5	2.0	N
IS-219	10/14/07	1040	1	Y		S	21DY		IN1-8H-1a	1	1.5	N
IS-220	10/14/07	1041	1	Y		S	21DY		IN1-8H-1b	1.5	2.0	N
IS-221	10/14/07	1045	1	Y		S	21DY		IN1-8I-1a	1	1.5	N
IS-222	10/14/07	1046	1	Y		S	21DY		IN1-8I-1b	1.5	2.0	N
IS-223	10/14/07	1046	1	Y		S	21DY		IN1-8J-1a	1	1.5	N

RELINQUISHED BY (Signature)	DATE 12/17/07	RECEIVED BY (Signature)	
COMPANY Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: x no 3 days - 12/18/07
30Y 21 DY Ingrowths S2

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Remediation Site

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160588249

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31611

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: Insite 1,2,32	PURCHASE ORDER NO.: ~~1017344~~ 0029552
PROJECT LOCATION: Alameda	PROJECT NO.: 3210.078D
SAMPLER NAME: V. Rinds	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949.756.7500 *

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA STL	
LABORATORY ID (FOR LABORATORY): F7L200205	

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 601.17	EPA 602.17	EPA 624.17	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-224	10/19/07	1044	1	X		S	21 Day	X	X	X	Lon ®	IN1-8J-1b	1	1.5	N
15-205	10/19/07	1007	1	X		S	21 Day	X	X	X		IN1-8A-1a	1	1.5	N

RELINQUISHED BY (Signature)	DATE 12/17/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS * no 3 dup 30Day T 21 Day Insewth 12/18/07
COMPANY TtSC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: INSTALLATION RESTORATION SITE - IN1-

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605824

Tetra Tech EC, Inc.

Client Sample ID: 15-203

Radiochemistry

Lab Sample ID: F7L200205-001
Work Order: KEJR1
Matrix: SOLID

Date Collected: 10/14/07 1005
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.26		0.17		0.25	12/26/07	01/16/08
Americium 241	-0.003	U	0.074		0.13	12/26/07	01/16/08
Cesium 137	-0.013	U	0.044	0.200	0.078	12/26/07	01/16/08
Cobalt 60	-0.020	U	0.068		0.12	12/26/07	01/16/08
Europium 152	0.001	U	0.087		0.16	12/26/07	01/16/08
Europium 154	0.002	U	0.29		0.56	12/26/07	01/16/08
Potassium 40	10.4		1.7		0.4	12/26/07	01/16/08
Radium (226)	0.33	J	0.12	1.00	0.14	12/26/07	01/16/08
Thorium 232	0.26		0.17		0.25	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 90**
Thorium 228	0.35	J	0.13	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.41	J	0.13	1.00	0.04	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 85**
Uranium 233/234	0.39	J	0.14	1.00	0.07	12/27/07	01/02/08
Uranium 235/236	0.025	U	0.040	1.00	0.059	12/27/07	01/02/08
Uranium 238	0.31	J	0.12	1.00	0.07	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-203 DUP

Radiochemistry

Lab Sample ID: F7L200205-001X
Work Order: KEJR1
Matrix: SOLID

Date Collected: 10/14/07 1005
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7361094**	**Yld % 87**
Thorium 228	**0.31**	**J**	**0.12**	1.00	**0.07**	**12/27/07**	**01/03/08**
Thorium 230	**0.43**	**J**	**0.14**	1.00	**0.03**	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7361096**	**Yld % 100**
Uranium 233/234	**0.209**	**J**	**0.091**	1.00	**0.056**	**12/27/07**	**01/02/08**
Uranium 235/236	0.011	U	0.023	1.00	0.030	12/27/07	01/02/08
Uranium 238	**0.27**	**J**	**0.10**	1.00	**0.04**	**12/27/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-204

Radiochemistry

Lab Sample ID: F7L200205-002
Work Order: KEJR5
Matrix: SOLID

Date Collected: 10/19/07 1006
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360466**		**Yld %**
Actinium 228	0.37		0.18		0.20	12/26/07	01/16/08
Americium 241	0.016	U	0.073		0.13	12/26/07	01/16/08
Cesium 137	0.010	U	0.044	0.200	0.080	12/26/07	01/16/08
Cobalt 60	-0.0005	U	0.057		0.11	12/26/07	01/16/08
Europium 152	-0.01	U	0.11		0.19	12/26/07	01/16/08
Europium 154	0.14	U	0.31		0.55	12/26/07	01/16/08
Potassium 40	12.0		1.8		0.4	12/26/07	01/16/08
Radium (226)	0.39	J	0.12	1.00	0.12	12/26/07	01/16/08
Thorium 232	0.37		0.18		0.20	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 87**
Thorium 228	0.41	J	0.14	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.59	J	0.17	1.00	0.03	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 100**
Uranium 233/234	0.222	J	0.096	1.00	0.048	12/27/07	01/02/08
Uranium 235/236	0.044	U	0.049	1.00	0.060	12/27/07	01/02/08
Uranium 238	0.32	J	0.12	1.00	0.03	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-206

Radiochemistry

Lab Sample ID: F7L200205-003
Work Order: KEJR6
Matrix: SOLID

Date Collected: 10/19/07 1008
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.13	U	0.19		0.33	12/26/07	01/16/08
Americium 241	0.061	U	0.085		0.14	12/26/07	01/16/08
Cesium 137	0.026	U	0.045	0.200	0.076	12/26/07	01/16/08
Cobalt 60	0.0	U	0.013		0.048	12/26/07	01/16/08
Europium 152	-0.02	U	0.12		0.21	12/26/07	01/16/08
Europium 154	0.0	U	0.074		0.27	12/26/07	01/16/08
Potassium 40	**8.3**		1.6		0.8	**12/26/07**	**01/16/08**
Radium (226)	**0.44**	J	0.14	1.00	0.13	**12/26/07**	**01/16/08**
Thorium 232	0.13	U	0.19		0.33	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 76**
Thorium 228	0.36	J	0.12	1.00	0.06	**12/27/07**	**01/03/08**
Thorium 230	0.56	J	0.16	1.00	0.03	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 96**
Uranium 233/234	0.29	J	0.10	1.00	0.05	**12/27/07**	**01/02/08**
Uranium 235/236	0.018	U	0.028	1.00	0.042	12/27/07	01/02/08
Uranium 238	0.258	J	0.093	1.00	0.034	**12/27/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-206 DUP

Radiochemistry

Lab Sample ID: F7L200205-003X
Work Order: KEJR6
Matrix: SOLID

Date Collected: 10/19/07 1008
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360468		Yld %
Actinium 228	0.34		0.19		0.23	12/26/07	01/17/08
Americium 241	-0.01	U	0.87		0.15	12/26/07	01/17/08
Cesium 137	0.039	U	0.049	0.200	0.088	12/26/07	01/17/08
Cobalt 60	0.0	U	0.012		0.045	12/26/07	01/17/08
Europium 152	0.0	U	0.076		0.14	12/26/07	01/17/08
Europium 154	0.005	U	0.32		0.62	12/26/07	01/17/08
Potassium 40	8.8		1.6		0.5	12/26/07	01/17/08
Radium (226)	0.38	J	0.12	1.00	0.13	12/26/07	01/17/08
Thorium 232	0.34		0.19		0.23	12/26/07	01/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-207

Radiochemistry

Lab Sample ID: F7L200205-004
Work Order: KEJR7
Matrix: SOLID

Date Collected: 10/19/07 1010
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.32		0.21		0.28	12/26/07	01/16/08
Americium 241	0.055	U	0.080		0.13	12/26/07	01/16/08
Cesium 137	-0.002	U	0.054	0.200	0.10	12/26/07	01/16/08
Cobalt 60	-0.010	U	0.057		0.11	12/26/07	01/16/08
Europium 152	-0.04	U	0.12		0.20	12/26/07	01/16/08
Europium 154	-0.04	U	0.37		0.71	12/26/07	01/16/08
Potassium 40	9.3		1.7		0.5	12/26/07	01/16/08
Radium (226)	0.41	J	0.15	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.32		0.21		0.28	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 83**
Thorium 228	0.46	J	0.13	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.52	J	0.14	1.00	0.04	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 93**
Uranium 233/234	0.34	J	0.11	1.00	0.04	12/27/07	01/02/08
Uranium 235/236	-0.0018	U	0.0036	1.00	0.041	12/27/07	01/02/08
Uranium 238	0.36	J	0.11	1.00	0.03	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-208

Radiochemistry

Lab Sample ID: F7L200205-005
Work Order: KEJR8
Matrix: SOLID

Date Collected: 10/19/07 1011
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.27		0.16		0.21	12/26/07	01/16/08
Americium 241	0.023	U	0.075		0.13	12/26/07	01/16/08
Cesium 137	-0.013	U	0.046	0.200	0.082	12/26/07	01/16/08
Cobalt 60	0.006	U	0.056		0.11	12/26/07	01/16/08
Europium 152	-0.017	U	0.093		0.17	12/26/07	01/16/08
Europium 154	-0.008	U	0.33		0.62	12/26/07	01/16/08
Potassium 40	7.8		1.4		0.6	12/26/07	01/16/08
Radium (226)	0.43	J	0.14	1.00	0.11	12/26/07	01/16/08
Thorium 232	0.27		0.16		0.21	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 89**
Thorium 228	0.47	J	0.14	1.00	0.06	12/27/07	01/03/08
Thorium 230	0.47	J	0.15	1.00	0.04	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 94**
Uranium 233/234	0.35	J	0.12	1.00	0.06	12/27/07	01/02/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	12/27/07	01/02/08
Uranium 238	0.45	J	0.14	1.00	0.04	12/27/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 88**
Strontium 90	0.12	U	0.17	3.00	0.29	12/20/07	01/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-209

Radiochemistry

Lab Sample ID: F7L200205-006
Work Order: KEJTA
Matrix: SOLID

Date Collected: 10/19/07 1015
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.21	U	0.18		0.27	12/26/07	01/16/08
Americium 241	0.058	U	0.081		0.13	12/26/07	01/16/08
Cesium 137	0.018	U	0.047	0.200	0.083	12/26/07	01/16/08
Cobalt 60	0.0	U	0.062		0.12	12/26/07	01/16/08
Europium 152	0.026	U	0.097		0.17	12/26/07	01/16/08
Europium 154	-0.01	U	0.41		0.77	12/26/07	01/16/08
Potassium 40	**10**		1.6		**0.4**	**12/26/07**	**01/16/08**
Radium (226)	0.32	J	0.13	1.00	0.17	**12/26/07**	**01/16/08**
Thorium 232	0.21	U	0.18		0.27	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 85**
Thorium 228	0.38	J	0.12	1.00	0.05	**12/27/07**	**01/03/08**
Thorium 230	0.28	J	0.10	1.00	0.05	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 94**
Uranium 233/234	0.33	J	0.11	1.00	0.05	**12/27/07**	**01/02/08**
Uranium 235/236	0.006	U	0.020	1.00	0.046	12/27/07	01/02/08
Uranium 238	0.34	J	0.11	1.00	0.03	**12/27/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC.

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-210

Radiochemistry

Lab Sample ID: F7L200205-007
Work Order: KEJTD
Matrix: SOLID

Date Collected: 10/14/07 1016
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7360468		Yld %
Actinium 228	0.44		0.19		0.32	12/26/07	01/16/08
Americium 241	0.0	U	0.12		0.21	12/26/07	01/16/08
Cesium 137	0.032	U	0.049	0.200	0.083	12/26/07	01/16/08
Cobalt 60	0.008	U	0.063		0.12	12/26/07	01/16/08
Europium 152	0.0	U	0.096		0.18	12/26/07	01/16/08
Europium 154	0.16	U	0.42		0.75	12/26/07	01/16/08
Potassium 40	9.1		1.7		0.7	12/26/07	01/16/08
Radium (226)	0.51	J	0.14	1.00	0.11	12/26/07	01/16/08
Thorium 232	0.44		0.19		0.32	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361094		Yld % 86
Thorium 228	0.50	J	0.15	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.60	J	0.17	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361096		Yld % 95
Uranium 233/234	0.30	J	0.11	1.00	0.05	12/27/07	01/02/08
Uranium 235/236	0.005	U	0.024	1.00	0.061	12/27/07	01/02/08
Uranium 238	0.37	J	0.12	1.00	0.04	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-211

Radiochemistry

Lab Sample ID: F7L200205-008
Work Order: KEJTJ
Matrix: SOLID

Date Collected: 10/19/07 1020
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.23	U	0.18		0.27	12/26/07	01/16/08
Americium 241	-0.002	U	0.13		0.14	12/26/07	01/16/08
Cesium 137	-0.01	U	0.15	0.20	0.10	12/26/07	01/16/08
Cobalt 60	0.008	U	0.042		0.083	12/26/07	01/16/08
Europium 152	0.020	U	0.083		0.15	12/26/07	01/16/08
Europium 154	0.0	U	0.32		0.62	12/26/07	01/16/08
Potassium 40	**9.6**		1.7		0.5	**12/26/07**	**01/16/08**
Radium (226)	**0.34**	**J**	0.14	1.00	0.16	**12/26/07**	**01/16/08**
Thorium 232	0.23	U	0.18		0.27	12/26/07	01/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 95**
Uranium 233/234	**0.38**	**J**	0.12	1.00	0.04	**12/27/07**	**01/02/08**
Uranium 235/236	0.021	U	0.033	1.00	0.049	12/27/07	01/02/08
Uranium 238	**0.35**	**J**	0.12	1.00	0.04	**12/27/07**	**01/02/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8004275**		**Yld % 61**
Thorium 228	**0.33**	**J**	0.15	1.00	0.10	**01/04/08**	**01/11/08**
Thorium 230	**0.36**	**J**	0.15	1.00	0.07	**01/04/08**	**01/11/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-211 DUP

Radiochemistry

Lab Sample ID: F7L200205-008X
Work Order: KEJTJ
Matrix: SOLID

Date Collected: 10/19/07 1020
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8004275**		**Yld % 62**
Thorium 228	**0.83**	**J**	**0.23**	1.00	**0.1**	**01/04/08**	**01/11/08**
Thorium 230	**0.57**	**J**	**0.18**	1.00	**0.06**	**01/04/08**	**01/11/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-212

Radiochemistry

Lab Sample ID: F7L200205-009
Work Order: KEJTP
Matrix: SOLID

Date Collected: 10/19/07 1021
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7360468		Yld %
Actinium 228	0.28		0.19		0.27	12/26/07	01/16/08
Americium 241	-0.027	U	0.076		0.13	12/26/07	01/16/08
Cesium 137	0.013	U	0.036	0.200	0.064	12/26/07	01/16/08
Cobalt 60	-0.012	U	0.056		0.10	12/26/07	01/16/08
Europium 152	-0.003	U	0.073		0.14	12/26/07	01/16/08
Europium 154	0.005	U	0.34		0.64	12/26/07	01/16/08
Potassium 40	7.5		1.5		1.1	12/26/07	01/16/08
Radium (226)	0.43	J	0.15	1.00	0.14	12/26/07	01/16/08
Thorium 232	0.28		0.19		0.27	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361094		Yld % 86
Thorium 228	0.39	J	0.13	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.44	J	0.14	1.00	0.07	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361096		Yld % 94
Uranium 233/234	0.25	J	0.10	1.00	0.05	12/27/07	01/02/08
Uranium 235/236	0.005	U	0.026	1.00	0.066	12/27/07	01/02/08
Uranium 238	0.29	J	0.11	1.00	0.05	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-213

Radiochemistry

Lab Sample ID: F7L200205-010
Work Order: KEJTQ
Matrix: SOLID

Date Collected: 10/19/07 1025
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 7360468		Yld %
Actinium 228	0.43		0.16		0.26	12/26/07	01/16/08
Americium 241	0.092	U	0.080		0.13	12/26/07	01/16/08
Cesium 137	-0.001	U	0.041	0.200	0.077	12/26/07	01/16/08
Cobalt 60	-0.011	U	0.045		0.085	12/26/07	01/16/08
Europium 152	0.033	U	0.087		0.15	12/26/07	01/16/08
Europium 154	0.09	U	0.32		0.58	12/26/07	01/16/08
Potassium 40	9.0		1.6		0.9	12/26/07	01/16/08
Radium (226)	0.43	J	0.14	1.00	0.16	12/26/07	01/16/08
Thorium 232	0.43		0.16		0.26	12/26/07	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7361094		Yld % 78
Thorium 228	0.60	J	0.17	1.00	0.06	12/27/07	01/03/08
Thorium 230	0.49	J	0.15	1.00	0.03	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7361096		Yld % 85
Uranium 233/234	0.39	J	0.13	1.00	0.05	12/27/07	01/02/08
Uranium 235/236	0.024	U	0.035	1.00	0.033	12/27/07	01/02/08
Uranium 238	0.36	J	0.12	1.00	0.04	12/27/07	01/02/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-214

Radiochemistry

Lab Sample ID: F7L200205-011
Work Order: KEJTW
Matrix: SOLID

Date Collected: 10/19/07 1026
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.22	U	0.19		0.31	12/26/07	01/17/08
Americium 241	0.02	U	0.10		0.18	12/26/07	01/17/08
Cesium 137	-0.008	U	0.043	0.200	0.078	12/26/07	01/17/08
Cobalt 60	0.0	U	0.0091		0.034	12/26/07	01/17/08
Europium 152	0.03	U	0.11		0.19	12/26/07	01/17/08
Europium 154	-0.04	U	0.37		0.68	12/26/07	01/17/08
Potassium 40	**9.5**		**1.5**		**0.8**	**12/26/07**	**01/17/08**
Radium (226)	**0.34**	**J**	**0.13**	**1.00**	**0.18**	**12/26/07**	**01/17/08**
Thorium 232	0.22	U	0.19		0.31	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 85**
Thorium 228	**0.62**	**J**	**0.17**	**1.00**	**0.07**	**12/27/07**	**01/03/08**
Thorium 230	**0.58**	**J**	**0.17**	**1.00**	**0.05**	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 86**
Uranium 233/234	**0.42**	**J**	**0.14**	**1.00**	**0.06**	**12/27/07**	**01/03/08**
Uranium 235/236	0.006	U	0.027	1.00	0.070	12/27/07	01/03/08
Uranium 238	**0.49**	**J**	**0.15**	**1.00**	**0.04**	**12/27/07**	**01/03/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-215

Radiochemistry

Lab Sample ID: F7L200205-012
Work Order: KEJT0
Matrix: SOLID

Date Collected: 10/19/07 1030
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.20	U	0.15		0.22	12/26/07	01/17/08
Americium 241	-0.01	U	0.11		0.18	12/26/07	01/17/08
Cesium 137	-0.004	U	0.036	0.200	0.065	12/26/07	01/17/08
Cobalt 60	0.0	U	0.070		0.13	12/26/07	01/17/08
Europium 152	0.03	U	0.10		0.18	12/26/07	01/17/08
Europium 154	0.09	U	0.30		0.54	12/26/07	01/17/08
Potassium 40	**9.8**		**1.4**		**0.5**	**12/26/07**	**01/17/08**
Radium (226)	**0.26**	**J**	**0.12**	**1.00**	**0.18**	**12/26/07**	**01/17/08**
Thorium 232	0.20	U	0.15		0.22	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 87**
Thorium 228	**0.252**	**J**	**0.090**	**1.00**	**0.052**	**12/27/07**	**01/03/08**
Thorium 230	**0.42**	**J**	**0.12**	**1.00**	**0.03**	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 89**
Uranium 233/234	**0.44**	**J**	**0.12**	**1.00**	**0.04**	**12/27/07**	**01/02/08**
Uranium 235/236	0.0	U	0.0081	1.00	0.025	12/27/07	01/02/08
Uranium 238	**0.289**	**J**	**0.097**	**1.00**	**0.037**	**12/27/07**	**01/02/08**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-216

Radiochemistry

Lab Sample ID: F7L200205-013
Work Order: KEJT1
Matrix: SOLID

Date Collected: 10/19/07 1031
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.20	U	0.23		0.39	12/26/07	01/17/08
Americium 241	0.005	U	0.10		0.18	12/26/07	01/17/08
Cesium 137	-0.020	U	0.066	0.200	0.12	12/26/07	01/17/08
Cobalt 60	0.0	U	0.082		0.15	12/26/07	01/17/08
Europium 152	-0.03	U	0.13		0.23	12/26/07	01/17/08
Europium 154	0.04	U	0.26		0.51	12/26/07	01/17/08
Potassium 40	9.0		1.7		0.7	12/26/07	01/17/08
Radium (226)	0.41	J	0.12	1.00	0.11	12/26/07	01/17/08
Thorium 232	0.20	U	0.23		0.39	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 86**
Thorium 228	0.35	J	0.13	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.43	J	0.14	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 91**
Uranium 233/234	0.28	J	0.10	1.00	0.04	12/27/07	01/02/08
Uranium 235/236	0.046	J	0.046	1.00	0.031	12/27/07	01/02/08
Uranium 238	0.29	J	0.11	1.00	0.04	12/27/07	01/02/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-217

Radiochemistry

Lab Sample ID: F7L200205-014
Work Order: KEJT3
Matrix: SOLID

Date Collected: 10/19/07 1035
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.30	U	0.17		0.33	12/26/07	01/17/08
Americium 241	0.022	U	0.084		0.15	12/26/07	01/17/08
Cesium 137	-0.03	U	0.67	0.20	0.1	12/26/07	01/17/08
Cobalt 60	0.020	U	0.060		0.11	12/26/07	01/17/08
Europium 152	-0.04	U	0.11		0.20	12/26/07	01/17/08
Europium 154	0.08	U	0.40		0.73	12/26/07	01/17/08
Potassium 40	**7.3**		**1.5**		**0.6**	**12/26/07**	**01/17/08**
Radium (226)	**0.46**	**J**	**0.15**	**1.00**	**0.15**	**12/26/07**	**01/17/08**
Thorium 232	0.30	U	0.17		0.33	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 83**
Thorium 228	**0.31**	**J**	**0.12**	**1.00**	**0.07**	**12/27/07**	**01/03/08**
Thorium 230	**0.37**	**J**	**0.13**	**1.00**	**0.07**	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 92**
Uranium 233/234	**0.30**	**J**	**0.11**	**1.00**	**0.06**	**12/27/07**	**01/02/08**
Uranium 235/236	0.018	U	0.033	1.00	0.056	12/27/07	01/02/08
Uranium 238	**0.214**	**J**	**0.091**	**1.00**	**0.049**	**12/27/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-218

Radiochemistry

Lab Sample ID: F7L200205-015
Work Order: KEJT5
Matrix: SOLID

Date Collected: 10/19/07 1036
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.56		0.23		0.27	12/26/07	01/17/08
Americium 241	0.039	U	0.082		0.14	12/26/07	01/17/08
Cesium 137	0.036	U	0.049	0.200	0.080	12/26/07	01/17/08
Cobalt 60	0.0	U	0.061		0.12	12/26/07	01/17/08
Europium 152	0.019	U	0.089		0.16	12/26/07	01/17/08
Europium 154	0.0	U	0.33		0.64	12/26/07	01/17/08
Potassium 40	9.6		1.6		0.4	12/26/07	01/17/08
Radium (226)	0.34	J	0.12	1.00	0.13	12/26/07	01/17/08
Thorium 232	0.56		0.23		0.27	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 82**
Thorium 228	0.44	J	0.15	1.00	0.1	12/27/07	01/03/08
Thorium 230	0.45	J	0.14	1.00	0.06	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 94**
Uranium 233/234	0.178	J	0.083	1.00	0.049	12/27/07	01/02/08
Uranium 235/236	0.035	J	0.041	1.00	0.032	12/27/07	01/02/08
Uranium 238	0.26	J	0.10	1.00	0.04	12/27/07	01/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 7354140**		**Yld % 80**
Strontium 90	-0.005	U	0.18	3.00	0.32	12/20/07	01/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-219

Radiochemistry

Lab Sample ID: F7L200205-016
Work Order: KEJT7
Matrix: SOLID

Date Collected: 10/19/07 1040
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.15	U	0.20		0.33	12/26/07	01/17/08
Americium 241	0.038	U	0.075		0.13	12/26/07	01/17/08
Cesium 137	0.0	U	0.039	0.200	0.073	12/26/07	01/17/08
Cobalt 60	-0.005	U	0.043		0.083	12/26/07	01/17/08
Europium 152	-0.031	U	0.090		0.16	12/26/07	01/17/08
Europium 154	-0.04	U	0.30		0.57	12/26/07	01/17/08
Potassium 40	**8.3**		**1.4**		**0.4**	**12/26/07**	**01/17/08**
Radium (226)	**0.44**	**J**	0.12	1.00	**0.08**	**12/26/07**	**01/17/08**
Thorium 232	0.15	U	0.20		0.33	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 87**
Thorium 228	**0.34**	**J**	0.13	1.00	**0.06**	**12/27/07**	**01/03/08**
Thorium 230	**0.42**	**J**	0.14	1.00	**0.06**	**12/27/07**	**01/03/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 87**
Uranium 233/234	**0.37**	**J**	0.13	1.00	**0.04**	**12/27/07**	**01/02/08**
Uranium 235/236	0.035	U	0.044	1.00	0.054	12/27/07	01/02/08
Uranium 238	**0.24**	**J**	0.10	1.00	**0.05**	**12/27/07**	**01/02/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-220

Radiochemistry

Lab Sample ID: F7L200205-017
Work Order: KEJVD
Matrix: SOLID

Date Collected: 10/19/07 1041
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.15	U	0.17		0.30	12/26/07	01/17/08
Americium 241	0.04	U	0.10		0.18	12/26/07	01/17/08
Cesium 137	0.018	U	0.046	0.200	0.079	12/26/07	01/17/08
Cobalt 60	-0.0003	U	0.033		0.067	12/26/07	01/17/08
Europium 152	-0.02	U	0.12		0.21	12/26/07	01/17/08
Europium 154	0.0	U	0.65		1.1	12/26/07	01/17/08
Potassium 40	8.6		1.4		0.7	12/26/07	01/17/08
Radium (226)	0.78	J	0.17	1.00	0.15	12/26/07	01/17/08
Thorium 232	0.15	U	0.17		0.30	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 87**
Thorium 228	0.55	J	0.16	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.39	J	0.13	1.00	0.06	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 94**
Uranium 233/234	0.41	J	0.13	1.00	0.07	12/27/07	01/02/08
Uranium 235/236	0.021	U	0.033	1.00	0.049	12/27/07	01/02/08
Uranium 238	0.30	J	0.11	1.00	0.07	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-221

Radiochemistry

Lab Sample ID: F7L200205-018
Work Order: KEJVG
Matrix: SOLID

Date Collected: 10/19/07 1045
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.31		0.20		0.29	12/26/07	01/17/08
Americium 241	0.050	U	0.094		0.16	12/26/07	01/17/08
Cesium 137	0.013	U	0.042	0.200	0.074	12/26/07	01/17/08
Cobalt 60	-0.004	U	0.048		0.089	12/26/07	01/17/08
Europium 152	-0.004	U	0.11		0.19	12/26/07	01/17/08
Europium 154	-0.11	U	0.39		0.69	12/26/07	01/17/08
Potassium 40	10.1		1.5		0.6	12/26/07	01/17/08
Radium (226)	0.35	J	0.13	1.00	0.19	12/26/07	01/17/08
Thorium 232	0.31		0.20		0.29	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 90**
Thorium 228	0.43	J	0.14	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.27	J	0.11	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 93**
Uranium 233/234	0.28	J	0.11	1.00	0.05	12/27/07	01/02/08
Uranium 235/236	0.020	U	0.035	1.00	0.059	12/27/07	01/02/08
Uranium 238	0.48	J	0.14	1.00	0.07	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-222

Radiochemistry

Lab Sample ID: F7L200205-019
Work Order: KEJVJ
Matrix: SOLID

Date Collected: 10/19/07 1046
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 7360468		Yld %
Actinium 228	0.11	U	0.21		0.37	12/26/07	01/17/08
Americium 241	-0.04	U	0.11		0.20	12/26/07	01/17/08
Cesium 137	-0.015	U	0.057	0.200	0.10	12/26/07	01/17/08
Cobalt 60	0.0	U	0.082		0.16	12/26/07	01/17/08
Europium 152	-0.005	U	0.12		0.23	12/26/07	01/17/08
Europium 154	-0.07	U	0.39		0.72	12/26/07	01/17/08
Potassium 40	7.8		1.6		1	12/26/07	01/17/08
Radium (226)	0.43	J	0.12	1.00	0.11	12/26/07	01/17/08
Thorium 232	0.11	U	0.21		0.37	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361094		Yld % 88
Thorium 228	0.35	J	0.12	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.50	J	0.15	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7361096		Yld % 93
Uranium 233/234	0.34	J	0.12	1.00	0.05	12/27/07	01/02/08
Uranium 235/236	0.009	U	0.024	1.00	0.050	12/27/07	01/02/08
Uranium 238	0.34	J	0.12	1.00	0.04	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-223

Radiochemistry

Lab Sample ID: F7L200205-020
Work Order: KEJVM
Matrix: SOLID

Date Collected: 10/19/07 1046
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.35		0.20		0.27	12/26/07	01/17/08
Americium 241	0.008	U	0.090		0.16	12/26/07	01/17/08
Cesium 137	0.00002	U	0.049	0.200	0.10	12/26/07	01/17/08
Cobalt 60	0.0	U	0.072		0.14	12/26/07	01/17/08
Europium 152	-0.03	U	0.12		0.21	12/26/07	01/17/08
Europium 154	0.0009	U	0.44		0.83	12/26/07	01/17/08
Potassium 40	8.5		1.6		0.5	12/26/07	01/17/08
Radium (226)	0.34	J	0.14	1.00	0.19	12/26/07	01/17/08
Thorium 232	0.35		0.20		0.27	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361094**		**Yld % 89**
Thorium 228	0.45	J	0.14	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.53	J	0.15	1.00	0.06	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361096**		**Yld % 87**
Uranium 233/234	0.43	J	0.13	1.00	0.04	12/27/07	01/02/08
Uranium 235/236	0.009	U	0.023	1.00	0.048	12/27/07	01/02/08
Uranium 238	0.30	J	0.11	1.00	0.02	12/27/07	01/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-224

Radiochemistry

Lab Sample ID: F7L200205-021
Work Order: KEJVP
Matrix: SOLID

Date Collected: 10/19/07 1049
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.31		0.17		0.23	12/26/07	01/17/08
Americium 241	0.060	U	0.066		0.11	12/26/07	01/17/08
Cesium 137	0.0	U	0.050	0.200	0.092	12/26/07	01/17/08
Cobalt 60	0.0	U	0.011		0.039	12/26/07	01/17/08
Europium 152	0.024	U	0.089		0.16	12/26/07	01/17/08
Europium 154	0.09	U	0.25		0.46	12/26/07	01/17/08
Potassium 40	8.4		1.5		1	12/26/07	01/17/08
Radium (226)	0.43	J	0.13	1.00	0.11	12/26/07	01/17/08
Thorium 232	0.31		0.17		0.23	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361098**		**Yld % 86**
Thorium 228	0.32	J	0.12	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.35	J	0.13	1.00	0.06	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361099**		**Yld % 90**
Uranium 233/234	0.22	J	0.10	1.00	0.07	12/27/07	01/03/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	12/27/07	01/03/08
Uranium 238	0.203	J	0.096	1.00	0.061	12/27/07	01/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-224 DUP

Radiochemistry

Lab Sample ID: F7L200205-021X
Work Order: KEJVP
Matrix: SOLID

Date Collected: 10/19/07 1049
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7361098**	**Yld % 80**
Thorium 228	0.47	J	0.15	1.00	0.08	12/27/07	01/03/08
Thorium 230	0.49	J	0.15	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7361099**	**Yld % 86**
Uranium 233/234	0.37	J	0.12	1.00	0.06	12/27/07	01/03/08
Uranium 235/236	0.036	J	0.042	1.00	0.032	12/27/07	01/03/08
Uranium 238	0.31	J	0.11	1.00	0.04	12/27/07	01/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-205

Radiochemistry

Lab Sample ID: F7L200205-022
Work Order: KEJVW
Matrix: SOLID

Date Collected: 10/19/07 1007
Date Received: 12/20/07 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 7360468**		**Yld %**
Actinium 228	0.38		0.20		0.27	12/26/07	01/17/08
Americium 241	0.039	U	0.095		0.16	12/26/07	01/17/08
Cesium 137	-0.0002	U	0.036	0.200	0.070	12/26/07	01/17/08
Cobalt 60	0.0	U	0.012		0.044	12/26/07	01/17/08
Europium 152	0.01	U	0.11		0.19	12/26/07	01/17/08
Europium 154	0.23	U	0.31		0.50	12/26/07	01/17/08
Potassium 40	10.2		1.7		0.4	12/26/07	01/17/08
Radium (226)	0.43	J	0.13	1.00	0.12	12/26/07	01/17/08
Thorium 232	0.38		0.20		0.27	12/26/07	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361098**		**Yld % 91**
Thorium 228	0.31	J	0.12	1.00	0.07	12/27/07	01/03/08
Thorium 230	0.40	J	0.13	1.00	0.05	12/27/07	01/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7361099**		**Yld % 95**
Uranium 233/234	0.27	J	0.11	1.00	0.05	12/27/07	01/03/08
Uranium 235/236	0.020	U	0.035	1.00	0.059	12/27/07	01/03/08
Uranium 238	0.213	J	0.092	1.00	0.026	12/27/07	01/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Oct-2007	15-203	F7L200205001	N	Gen Prep	)OE A-01-R TH MOI	3
14-Oct-2007	15-203	F7L200205001	N	Gen Prep	DOE A-01-R U MOD	3
14-Oct-2007	15-203	F7L200205001	N	Gen Prep	DOE GA-01-R MOD	3
14-Oct-2007	15-203DUP	F7L200205001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Oct-2007	15-203DUP	F7L200205001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Oct-2007	15-210	F7L200205007	N	Gen Prep	)OE A-01-R TH MOI	3
14-Oct-2007	15-210	F7L200205007	N	Gen Prep	DOE A-01-R U MOD	3
14-Oct-2007	15-210	F7L200205007	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-204	F7L200205002	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-204	F7L200205002	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-204	F7L200205002	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-206	F7L200205003	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-206	F7L200205003	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-206	F7L200205003	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-206DUP	F7L200205003DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-207	F7L200205004	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-207	F7L200205004	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-207	F7L200205004	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-208	F7L200205005	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-208	F7L200205005	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-208	F7L200205005	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-208	F7L200205005	N	Gen Prep	)OE SR-03-RC MOI	3
19-Oct-2007	15-209	F7L200205006	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-209	F7L200205006	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-209	F7L200205006	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-211	F7L200205008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Oct-2007	15-211	F7L200205008	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-211	F7L200205008	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-211DUP	F7L200205008DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-212	F7L200205009	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-212	F7L200205009	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-212	F7L200205009	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-213	F7L200205010	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-213	F7L200205010	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-213	F7L200205010	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-214	F7L200205011	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-214	F7L200205011	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-214	F7L200205011	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-215	F7L200205012	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-215	F7L200205012	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-215	F7L200205012	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-216	F7L200205013	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-216	F7L200205013	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-216	F7L200205013	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-217	F7L200205014	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-217	F7L200205014	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-217	F7L200205014	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-218	F7L200205015	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-218	F7L200205015	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-218	F7L200205015	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-218	F7L200205015	N	Gen Prep	)OE SR-03-RC MOI	3
19-Oct-2007	15-219	F7L200205016	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Oct-2007	15-219	F7L200205016	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-219	F7L200205016	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-220	F7L200205017	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-220	F7L200205017	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-220	F7L200205017	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-221	F7L200205018	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-221	F7L200205018	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-221	F7L200205018	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-222	F7L200205019	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-222	F7L200205019	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-222	F7L200205019	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-223	F7L200205020	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-223	F7L200205020	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-223	F7L200205020	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-224	F7L200205021	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-224	F7L200205021	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-224	F7L200205021	N	Gen Prep	DOE GA-01-R MOD	3
19-Oct-2007	15-224DUP	F7L200205021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-224DUP	F7L200205021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-205	F7L200205022	N	Gen Prep	)OE A-01-R TH MOI	3
19-Oct-2007	15-205	F7L200205022	N	Gen Prep	DOE A-01-R U MOD	3
19-Oct-2007	15-205	F7L200205022	N	Gen Prep	DOE GA-01-R MOD	3

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F7L200205										
DOE A-01-R U MOD	15-205	SO	N							
				URANIUM-238	1.00	0.213J	0.092	U	pCi/g	
DOE A-01-R U MOD	15-224	SO	N							
				URANIUM-238	1.00	0.203J	0.096	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F7L200205

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F7L200205	15-205	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F7L200205	15-224	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F7L200205

Method Blank Outlier Report

Lab Reporting Batch : F7L200205 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 01/03/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F7L270000094MB **Preparation Batch :** 7361094

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.033	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F7L200205 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 01/03/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F7L270000098MB **Preparation Batch :** 7361098

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.061	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F7L200205 **Lab ID:** TestAme

Analysis Method : DOE A-01-R U MOD **Analysis Date :** 01/03/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F7L270000099MB **Preparation Batch :** 7361099

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.055**	**1.00**	**pCi/g**	**J**	

URANIUM-238 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-205	F7L200205022	1	0.213	J	pCi/g
15-224	F7L200205021	1	0.203	J	pCi/g

LDC #: 18448J35
SDG #: F7L200205
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: _____

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-203	11 2	15-214	21 2	15-224	31	
2 1	15-204	12 2	15-215	22 2	15-205	32	
3 2	15-206	13 2	15-216	23 2	15-206DUP	33	
4 2	15-207	14 2	15-217	24 1	PBS1	34	
5 2	15-208	15 2	15-218	25 2	PBS2	35	
6 2	15-209	16 2	15-219	26		36	
7 2	15-210	17 2	15-220	27		37	
8 2	15-211	18 2	15-221	28		38	
9 2	15-212	19 2	15-222	29		39	
10 2	15-213	20 2	15-223	30		40	

Notes: _____

LDC #: 18448J73
SDG #: F7L200205
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 2	15-203	11 2	15-214	21 3	15-224	31	
2 2	15-204	12 2	15-215	22 3	15-205	32	
3 2	15-206	13 2	15-216	23 2	15-203DUP	33	
4 2	15-207	14 2	15-217	24 1	15-211DUP	34	
5 2	15-208	15 2	15-218	25 3	15-224DUP	35	
6 2	15-209	16 2	15-219	26 1	PBS1	36	
7 2	15-210	17 2	15-220	27 2	PBS2	37	
8 1	15-211	18 2	15-221	28 3	PBS3	38	
9 2	15-212	19 2	15-222	29		39	
10 2	15-213	20 2	15-223	30		40	

Notes:

LDC #: 18448J59
SDG #: F7L200205
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-203	11 1	15-214	21 2	15-224	31	
2 1	15-204	12 1	15-215	22 2	15-205	32	
3 1	15-206	13 1	15-216	23 1	15-203DUP	33	
4 1	15-207	14 1	15-217	24 2	15-224DUP	34	
5 1	15-208	15 1	15-218	25 1	PBS1	35	
6 1	15-209	16 1	15-219	26 2	PBS2	36	
7 1	15-210	17 1	15-220	27		37	
8 1	15-211	18 1	15-221	28		38	
9 1	15-212	19 1	15-222	29		39	
10 1	15-213	20 1	15-223	30		40	

Notes:

LDC #: 18448J61
SDG #: F7L200205
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: _____

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 10-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	NA	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	NA	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-208	11		21		31	
2	15-218	12		22		32	
3	PBS	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31628

01-25 ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1,2 & 32	~~1017344~~ 106- 0639552	TEST America ~~STL~~
PROJECT LOCATION	**PROJECT NO.**	
Alameda, CA	3210.028D	
SAMPLER NAME	**AIRBILL NUMBER**	**LABORATORY ID (FOR LABORATORY)**
V Richards	~~9~~ DEG	F8A040142
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
Lisa Bienkowskie	949-756-7500 *	

ANALYSES REQUIRED: EA 901.1 gamma; Thorium; Uranium; AD SR DOE SR-01/SR-02

Project Information Section — Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EA 901.1 gamma	Thorium	Uranium	AD SR DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-306	12/6/07	10:18	1	X		S	21 DY	X	X	X			1IR-3-04b	6"	12"	Reg
15-307	12/6/07	10:27	1	X		S	~~3~~ 21 DY	X	X	X			1IR-3-05a	0"	6"	Reg
15-308	12/6/07	10:30	2	X		S	21 DY	X	X	X	X		1IR-3-05b	6"	12"	Reg
15-309	12/6/07	10:35	1	X		S	21 DY	X	X	X			1IR-3-06a	0"	6"	Reg
15-310	12/6/07	10:38	1	X		S	21 DY	X	X	X			1IR-3-06b	6"	12"	Reg
15-311	12/6/07	10:45	1	X		S	21 DY	X	X	X			1IR-3-07a	0"	6"	Reg
15-312	12/6/07	10:48	1	X		S	21 DY	X	X	X		OK Disregard	1IR-3-07b	6"	12"	Reg
15-313	12/6/07	10:51	1	X		S	21 DY	X	X	X			1IR-3-08a	0"	6"	Reg
15-314	12/6/07	10:53	1	X		S	21 DY	X	X	X			1IR-3-08b	6"	12"	Reg
15-315	12/6/07	11:00	1	X		S	21 DY	X	X	X			1IR-3-09a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/3/08	
COMPANY: TtSC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: * NO 3-day TAT S2 1-3-08
~~3 DY~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Renovation

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059050

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31630

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.06295.52 TO#7341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA ~~STL~~

LABORATORY ID (FOR LABORATORY): F8A040142

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Gamma	Thorium	URANIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-327	12/6/07	13:27	1	X		S	21DY	X	X	X		1IR-4-036	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/3/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~3~~ + 21 dy Turnaiths
COMPANY Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * 10-3 days TAT 1-3-08 SL
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Renovation

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605905D

Tetra Tech EC, Inc.

Client Sample ID: 15-306

Radiochemistry

Lab Sample ID: F8A040142-001
Work Order: KE3J7
Matrix: SOLID

Date Collected: 12/06/07 1018
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.55		0.17		0.28	01/07/08	01/28/08
Americium 241	0.055	U	0.084		0.14	01/07/08	01/28/08
Cesium 137	0.064	U	0.046	0.200	0.066	01/07/08	01/28/08
Cobalt 60	-0.01	U	0.056		0.10	01/07/08	01/28/08
Europium 152	-0.027	U	0.091		0.16	01/07/08	01/28/08
Europium 154	0.06	U	0.34		0.62	01/07/08	01/28/08
Potassium 40	8.0		1.4		0.7	01/07/08	01/28/08
Radium (226)	0.64	J	0.14	1.00	0.07	01/07/08	01/28/08
Thorium 232	0.55		0.17		0.28	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 81**
Thorium 228	0.50	J	0.16	1.00	0.09	01/07/08	01/19/08
Thorium 230	0.38	J	0.14	1.00	0.06	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 92**
Uranium 233/234	0.34	J	0.13	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.024	U	0.038	1.00	0.057	01/07/08	01/18/08
Uranium 238	0.36	J	0.13	1.00	0.03	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-306 DUP

Radiochemistry

Lab Sample ID: F8A040142-001X
Work Order: KE3J7
Matrix: SOLID

Date Collected: 12/06/07 1018
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007086		Yld % 90
Thorium 228	0.49	J	0.15	1.00	0.06	01/07/08	01/19/08
Thorium 230	0.56	J	0.16	1.00	0.05	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007087		Yld % 92
Uranium 233/234	0.58	J	0.16	1.00	0.06	01/07/08	01/18/08
Uranium 235/236	0.012	U	0.025	1.00	0.033	01/07/08	01/18/08
Uranium 238	0.44	J	0.14	1.00	0.04	01/07/08	01/18/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007190		Yld %
Actinium 228	0.48		0.19		0.23	01/07/08	01/28/08
Americium 241	-0.004	U	0.11		0.18	01/07/08	01/28/08
Cesium 137	0.031	U	0.046	0.200	0.077	01/07/08	01/28/08
Cobalt 60	-0.004	U	0.041		0.077	01/07/08	01/28/08
Europium 152	-0.02	U	0.13		0.22	01/07/08	01/28/08
Europium 154	0.03	U	0.36		0.66	01/07/08	01/28/08
Potassium 40	10.6		1.5		0.3	01/07/08	01/28/08
Radium (226)	0.46	J	0.14	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.48		0.19		0.23	01/07/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-307

Radiochemistry

Lab Sample ID: F8A040142-002
Work Order: KE383
Matrix: SOLID

Date Collected: 12/06/07 1027
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007190		Yld %
Actinium 228	0.34		0.15		0.28	01/07/08	01/28/08
Americium 241	-0.005	U	0.11		0.18	01/07/08	01/28/08
Cesium 137	0.144	J	0.054	0.200	0.040	01/07/08	01/28/08
Cobalt 60	-0.005	U	0.040		0.075	01/07/08	01/28/08
Europium 152	0.023	U	0.090		0.16	01/07/08	01/28/08
Europium 154	-0.08	U	0.41		0.72	01/07/08	01/28/08
Potassium 40	10.2		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.71	J	0.13	1.00	0.09	01/07/08	01/28/08
Thorium 232	0.34		0.15		0.28	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007086		Yld % 91
Thorium 228	0.42	J	0.13	1.00	0.07	01/07/08	01/19/08
Thorium 230	0.49	J	0.15	1.00	0.07	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007087		Yld % 96
Uranium 233/234	0.36	J	0.13	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.033	U	0.045	1.00	0.062	01/07/08	01/18/08
Uranium 238	0.40	J	0.13	1.00	0.03	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-308

Radiochemistry

Lab Sample ID: F8A040142-003
Work Order: KE387
Matrix: SOLID

Date Collected: 12/06/07 1030
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.39	U	0.28		0.41	01/07/08	01/28/08
Americium 241	0.0	U	0.11		0.19	01/07/08	01/28/08
Cesium 137	0.0	U	0.087	0.200	0.16	01/07/08	01/28/08
Cobalt 60	0.006	U	0.061		0.12	01/07/08	01/28/08
Europium 152	0.05	U	0.12		0.20	01/07/08	01/28/08
Europium 154	-0.08	U	0.46		0.84	01/07/08	01/28/08
Potassium 40	**7.8**		1.6		0.6	01/07/08	01/28/08
Radium (226)	0.42	J	0.15	1.00	0.18	01/07/08	01/28/08
Thorium 232	0.39	U	0.28		0.41	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 86**
Uranium 233/234	0.59	J	0.17	1.00	0.06	01/07/08	01/18/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	01/07/08	01/18/08
Uranium 238	0.52	J	0.16	1.00	0.05	01/07/08	01/18/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8005018**		**Yld % 52**
Strontium 90	-0.23	U	0.34	3.00	0.62	01/04/08	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022120**		**Yld % 90**
Thorium 228	0.46	J	0.20	2.00	0.12	01/22/08	01/24/08
Thorium 230	0.55	J	0.22	2.00	0.11	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-308 DUP

Radiochemistry

Lab Sample ID: F8A040142-003X
Work Order: KE387
Matrix: SOLID

Date Collected: 12/06/07 1030
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**		**Batch # 8005018**	**Yld % 60**
Strontium 90	0.01	U	0.27	3.00	0.48	01/04/08	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022120**	**Yld % 85**
Thorium 228	**1.48**	**J**	**0.39**	2.00	**0.13**	**01/22/08**	**01/25/08**
Thorium 230	**0.72**	**J**	**0.26**	2.00	**0.11**	**01/22/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-309

Radiochemistry

Lab Sample ID: F8A040142-004
Work Order: KE388
Matrix: SOLID

Date Collected: 12/06/07 1035
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007190		Yld %
Actinium 228	0.31	U	0.22		0.32	01/07/08	01/28/08
Americium 241	0.015	U	0.089		0.15	01/07/08	01/28/08
Cesium 137	0.010	U	0.045	0.200	0.094	01/07/08	01/28/08
Cobalt 60	**0.076**		**0.053**		**0.063**	**01/07/08**	**01/28/08**
Europium 152	0.0	U	0.11		0.21	01/07/08	01/28/08
Europium 154	-0.12	U	0.41		0.74	01/07/08	01/28/08
Potassium 40	**9.3**		**1.8**		**1**	**01/07/08**	**01/28/08**
Radium (226)	**0.58**	**J**	**0.16**	**1.00**	**0.13**	**01/07/08**	**01/28/08**
Thorium 232	0.31	U	0.22		0.32	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007086		Yld % 43
Thorium 228	**0.58**	**J**	**0.23**	**1.00**	**0.15**	**01/07/08**	**01/19/08**
Thorium 230	**0.68**	**J**	**0.25**	**1.00**	**0.11**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007087		Yld % 96
Uranium 233/234	**0.27**	**J**	**0.11**	**1.00**	**0.06**	**01/07/08**	**01/18/08**
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/07/08	01/18/08
Uranium 238	**0.35**	**J**	**0.12**	**1.00**	**0.04**	**01/07/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-310

Radiochemistry

Lab Sample ID: F8A040142-005
Work Order: KE389
Matrix: SOLID

Date Collected: 12/06/07 1038
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.58		0.16		0.1	01/07/08	01/28/08
Americium 241	0.24	U	0.22		0.36	01/07/08	01/28/08
Cesium 137	-0.00007	U	0.030	0.200	0.055	01/07/08	01/28/08
Cobalt 60	0.0	U	0.049		0.090	01/07/08	01/28/08
Europium 152	-0.020	U	0.084		0.15	01/07/08	01/28/08
Europium 154	-0.04	U	0.21		0.39	01/07/08	01/28/08
Potassium 40	10.7		1.4		0.6	01/07/08	01/28/08
Radium (226)	0.353	J	0.099	1.00	0.11	01/07/08	01/28/08
Thorium 232	0.58		0.16		0.1	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 72**
Thorium 228	0.46	J	0.16	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.52	J	0.16	1.00	0.05	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 94**
Uranium 233/234	0.39	J	0.13	1.00	0.06	01/07/08	01/18/08
Uranium 235/236	-0.0045	U	0.0063	1.00	0.058	01/07/08	01/18/08
Uranium 238	0.49	J	0.14	1.00	0.04	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-311

Radiochemistry

Lab Sample ID: F8A040142-006
Work Order: KE39A
Matrix: SOLID

Date Collected: 12/06/07 1045
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007190		Yld %
Actinium 228	0.30		0.13		0.21	01/07/08	01/28/08
Americium 241	0.036	U	0.078		0.13	01/07/08	01/28/08
Cesium 137	0.002	U	0.042	0.200	0.078	01/07/08	01/28/08
Cobalt 60	0.0	U	0.058		0.11	01/07/08	01/28/08
Europium 152	0.061	U	0.078		0.13	01/07/08	01/28/08
Europium 154	-0.10	U	0.35		0.62	01/07/08	01/28/08
Potassium 40	7.6		1.4		0.9	01/07/08	01/28/08
Radium (226)	0.48	J	0.14	1.00	0.1	01/07/08	01/28/08
Thorium 232	0.30		0.13		0.21	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007086		Yld % 75
Thorium 228	0.38	J	0.15	1.00	0.09	01/07/08	01/19/08
Thorium 230	0.53	J	0.17	1.00	0.07	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007087		Yld % 96
Uranium 233/234	0.28	J	0.11	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.017	U	0.035	1.00	0.065	01/07/08	01/18/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-312

Radiochemistry

Lab Sample ID: F8A040142-007
Work Order: KE39E
Matrix: SOLID

Date Collected: 12/06/07 1048
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.12	U	0.17		0.29	01/07/08	01/28/08
Americium 241	-0.026	U	0.085		0.15	01/07/08	01/28/08
Cesium 137	0.005	U	0.050	0.200	0.093	01/07/08	01/28/08
Cobalt 60	0.0	U	0.012		0.046	01/07/08	01/28/08
Europium 152	0.05	U	0.11		0.18	01/07/08	01/28/08
Europium 154	0.1	U	0.38		0.69	01/07/08	01/28/08
Potassium 40	**9.6**		**1.7**		**0.5**	**01/07/08**	**01/28/08**
Radium (226)	**0.21**	**J**	**0.12**	**1.00**	**0.18**	**01/07/08**	**01/28/08**
Thorium 232	0.12	U	0.17		0.29	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 37**
Thorium 228	**0.68**	**J**	**0.28**	**1.00**	**0.23**	**01/07/08**	**01/19/08**
Thorium 230	**0.38**	**J**	**0.20**	**1.00**	**0.13**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 89**
Uranium 233/234	**0.27**	**J**	**0.11**	**1.00**	**0.04**	**01/07/08**	**01/18/08**
Uranium 235/236	-0.0024	U	0.0048	1.00	0.055	01/07/08	01/18/08
Uranium 238	**0.36**	**J**	**0.13**	**1.00**	**0.05**	**01/07/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-313

Radiochemistry

Lab Sample ID: F8A040142-008
Work Order: KE39F
Matrix: SOLID

Date Collected: 12/06/07 1051
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.67		0.21		0.23	01/07/08	01/28/08
Americium 241	0.001	U	0.10		0.18	01/07/08	01/28/08
Cesium 137	0.224		0.080	0.200	0.064	01/07/08	01/28/08
Cobalt 60	0.024	U	0.050		0.086	01/07/08	01/28/08
Europium 152	-0.008	U	0.10		0.19	01/07/08	01/28/08
Europium 154	-0.19	U	0.41		0.71	01/07/08	01/28/08
Potassium 40	8.8		1.3		0.3	01/07/08	01/28/08
Radium (226)	0.51	J	0.14	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.67		0.21		0.23	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 51**
Thorium 228	0.62	J	0.22	1.00	0.12	01/07/08	01/21/08
Thorium 230	0.41	J	0.18	1.00	0.12	01/07/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 89**
Uranium 233/234	0.29	J	0.11	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.006	U	0.028	1.00	0.072	01/07/08	01/18/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-314

Radiochemistry

Lab Sample ID: F8A040142-009
Work Order: KE39H
Matrix: SOLID

Date Collected: 12/06/07 1053
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.0	U	0.20		0.36	01/07/08	01/28/08
Americium 241	-0.03	U	0.10		0.17	01/07/08	01/28/08
Cesium 137	**0.074**	**J**	**0.045**	**0.200**	**0.064**	**01/07/08**	**01/28/08**
Cobalt 60	-0.0009	U	0.050		0.093	01/07/08	01/28/08
Europium 152	-0.06	U	0.13		0.22	01/07/08	01/28/08
Europium 154	-0.05	U	0.35		0.63	01/07/08	01/28/08
Potassium 40	**9.4**		**1.4**		**0.3**	**01/07/08**	**01/28/08**
Radium (226)	**0.28**	**J**	**0.11**	**1.00**	**0.16**	**01/07/08**	**01/28/08**
Thorium 232	0.0	U	0.20		0.36	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 35**
Thorium 228	**0.88**	**J**	**0.33**	**1.00**	**0.20**	**01/07/08**	**01/19/08**
Thorium 230	**0.50**	**J**	**0.24**	**1.00**	**0.15**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 90**
Uranium 233/234	**0.59**	**J**	**0.16**	**1.00**	**0.05**	**01/07/08**	**01/18/08**
Uranium 235/236	**0.038**	**J**	**0.044**	**1.00**	**0.034**	**01/07/08**	**01/18/08**
Uranium 238	**0.50**	**J**	**0.15**	**1.00**	**0.04**	**01/07/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-315

Radiochemistry

Lab Sample ID: F8A040142-010
Work Order: KE39K
Matrix: SOLID

Date Collected: 12/06/07 1100
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007190		Yld %
Actinium 228	0.52		0.17		0.18	01/07/08	01/28/08
Americium 241	0.06	U	0.12		0.19	01/07/08	01/28/08
Cesium 137	0.161	J	0.079	0.200	0.10	01/07/08	01/28/08
Cobalt 60	-0.009	U	0.048		0.094	01/07/08	01/28/08
Europium 152	0.02	U	0.11		0.20	01/07/08	01/28/08
Europium 154	0.07	U	0.35		0.66	01/07/08	01/28/08
Potassium 40	9.8		1.8		0.5	01/07/08	01/28/08
Radium (226)	0.57	J	0.16	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.52		0.17		0.18	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007086		Yld % 84
Thorium 228	0.74	J	0.19	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.73	J	0.19	1.00	0.05	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007087		Yld % 96
Uranium 233/234	0.62	J	0.16	1.00	0.04	01/07/08	01/18/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/07/08	01/18/08
Uranium 238	0.43	J	0.14	1.00	0.04	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-327

Radiochemistry

Lab Sample ID: F8A040142-011
Work Order: KE39L
Matrix: SOLID

Date Collected: 12/06/07 1327
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007190**		**Yld %**
Actinium 228	0.12	U	0.23		0.39	01/07/08	01/28/08
Americium 241	0.038	U	0.091		0.16	01/07/08	01/28/08
Cesium 137	-0.01	U	0.10	0.20	0.11	01/07/08	01/28/08
Cobalt 60	0.0	U	0.072		0.14	01/07/08	01/28/08
Europium 152	0.034	U	0.076		0.13	01/07/08	01/28/08
Europium 154	0.02	U	0.36		0.69	01/07/08	01/28/08
Potassium 40	6.9		1.5		0.6	01/07/08	01/28/08
Radium (226)	0.46	J	0.13	1.00	0.1	01/07/08	01/28/08
Thorium 232	0.12	U	0.23		0.39	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007086**		**Yld % 85**
Thorium 228	0.52	J	0.16	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.48	J	0.15	1.00	0.07	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007087**		**Yld % 90**
Uranium 233/234	0.29	J	0.11	1.00	0.06	01/07/08	01/18/08
Uranium 235/236	0.008	U	0.026	1.00	0.061	01/07/08	01/18/08
Uranium 238	0.35	J	0.12	1.00	0.05	01/07/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-306	F8A040142001	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-306	F8A040142001	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-306	F8A040142001	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-306DUP	F8A040142001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-306DUP	F8A040142001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-306DUP	F8A040142001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-307	F8A040142002	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-307	F8A040142002	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-307	F8A040142002	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-308	F8A040142003	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-308	F8A040142003	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-308	F8A040142003	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-308	F8A040142003	N	Gen Prep	)OE SR-03-RC MOI	3
06-Dec-2007	15-308DUP	F8A040142003DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-308DUP	F8A040142003DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
06-Dec-2007	15-309	F8A040142004	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-309	F8A040142004	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-309	F8A040142004	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-310	F8A040142005	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-310	F8A040142005	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-310	F8A040142005	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-311	F8A040142006	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-311	F8A040142006	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-311	F8A040142006	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-312	F8A040142007	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-312	F8A040142007	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-312	F8A040142007	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-313	F8A040142008	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-313	F8A040142008	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-313	F8A040142008	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-314	F8A040142009	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-314	F8A040142009	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-314	F8A040142009	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-315	F8A040142010	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-315	F8A040142010	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-315	F8A040142010	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-327	F8A040142011	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-327	F8A040142011	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-327	F8A040142011	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040142										
DOE A-01-R TH MOD	15-306	SO	N							
				THORIUM-230	1.00	0.38J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-307	SO	N							
				THORIUM-228	1.00	0.42J	0.13	U	pCi/g	
				THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-308	SO	N							
				THORIUM-230	2.00	0.55J	0.22	J	pCi/g	
DOE A-01-R TH MOD	15-310	SO	N							
				THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-311	SO	N							
				THORIUM-228	1.00	0.38J	0.15	U	pCi/g	
				THORIUM-230	1.00	0.53J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-312	SO	N							
				THORIUM-230	1.00	0.38J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-313	SO	N							
				THORIUM-230	1.00	0.41J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-314	SO	N							
				THORIUM-230	1.00	0.50J	0.24	U	pCi/g	
DOE A-01-R TH MOD	15-327	SO	N							
				THORIUM-230	1.00	0.48J	0.15	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A040142

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A040142	15-306	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-307	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040142	15-307	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-308	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8A040142	15-310	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-311	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040142	15-311	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-312	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-313	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-314	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040142	15-327	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A040142

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 8022120
Preparation Batch : 8022120
Lab Reporting Batch : F8A040142

Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Lab ID: TestAme

Analysis Date : 01/25/2008
Preparation Date :

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	Matrix	Analyte Name	Percent Recovery	RPD	Rejection Point	Lower Limit	Upper Limit	RPD
F8A220000120LCS	SO	THORIUM-230	117		10.00	30.00	110.00	40.00

Associated Samples

Client Sample ID	Lab Sample ID
15-308	F8A040142003

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 3210.015D - Alameda-IR Sites 1,2+32

Method Blank Outlier Report

Lab Reporting Batch : F8A040142
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A070000086MB

Lab ID: TestAme
Analysis Date : 01/19/2008
Preparation Date :
Preparation Batch : 8007086

THORIUM-228

	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.088	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-307	F8A040142002	1	0.42	J	pCi/g
15-311	F8A040142006	1	0.38	J	pCi/g

THORIUM-230

	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.112	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-306	F8A040142001	1	0.38	J	pCi/g
15-307	F8A040142002	1	0.49	J	pCi/g
15-310	F8A040142005	1	0.52	J	pCi/g
15-311	F8A040142006	1	0.53	J	pCi/g
15-312	F8A040142007	1	0.38	J	pCi/g
15-313	F8A040142008	1	0.41	J	pCi/g
15-314	F8A040142009	1	0.50	J	pCi/g
15-327	F8A040142011	1	0.48	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A040142
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A220000120MB

Lab ID: TestAme
Analysis Date : 01/25/2008
Preparation Date :
Preparation Batch : 8022120

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	0.096	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18448K35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-18-08

SDG #: F8A040142 ADR Page: 1 of 1

Laboratory : Test America gmg Reviewer: MG

2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	no FDup
IX.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

all soil

1	15-306	11	15-327	21		31	
2	15-307	12	15-306DUP	22		32	
3	15-308	13	PBS	23		33	
4	15-309	14		24		34	
5	15-310	15		25		35	
6	15-311	16		26		36	
7	15-312	17		27		37	
8	15-313	18		28		38	
9	15-314	19		29		39	
10	15-315	20		30		40	

Notes:

LDC #: 18448K73
SDG #: F8A040142
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-306	11	15-327	21		31	
2	15-307	12	15-306DUP	22		32	
3 2	15-308	13 2	15-308DUP	23		33	
4	15-309	14 1	PBS1	24		34	
5	15-310	15 2	PBS2	25		35	
6	15-311	16		26		36	
7	15-312	17		27		37	
8	15-313	18		28		38	
9	15-314	19		29		39	
10	15-315	20		30		40	

Notes:

LDC #: 18448K59
SDG #: F8A040142
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-306	11	15-327	21		31	
2	15-307	12	15-306DUP	22		32	
3	15-308	13	PBS	23		33	
4	15-309	14		24		34	
5	15-310	15		25		35	
6	15-311	16		26		36	
7	15-312	17		27		37	
8	15-313	18		28		38	
9	15-314	19		29		39	
10	15-315	20		30		40	

Notes:

LDC #: 18448K61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-18-08
SDG #: F8A040142 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	MP
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
soil

1	15-308	11		21		31	
2	15-308DUP	12		22		32	
3	PBS	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31631

D 1-25 ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552 (92) 7017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; 90Sr DOE SR-01-Rev.0

LABORATORY NAME: TESTAMERICA S+L S2

LABORATORY ID (FOR LABORATORY): FBA040256

Project Information Section Do not submit to Laboratory

17 p

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-328	12/7/07	8:40	2	X		S	3Day		1IR-4-04a	0"	6"	Res
15-329	12/7/07	8:43	1	X		S	3Day		1IR-4-04-b	6"	12"	Res
15-330	12/7/07	8:50	1	X		S	3Day		1IR-4-05a	0"	6"	Res
15-331	12/7/07	8:53	1	X		S	3Day		1IR-4-05b	6"	12"	Res
15-332	12/7/07	8:58	1	X		S	3Day		1IR-4-06a	0"	6"	Res
15-333	12/7/07	9:00	1	X		S	3Day		1IR-4-06b	6"	12"	Res
15-334	12/7/07	9:05	1	X		S	3Day		1IR-4-07a	0"	6"	Res
15-335	12/7/07	9:08	1	X		S	3Day		1IR-4-07b	6"	12"	Res
15-336	12/7/07	9:11	1	X		S	3Day		1IR-4-08a	0"	6"	Res
15-337	12/7/07	9:13	1	X		S	3Day		1IR-4-08b	6"	12"	Res

RELINQUISHED BY (Signature)	DATE 1/3/08	RECEIVED BY (Signature)	
COMPANY TT / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3Day~~ + 21 DAY Ingrowths

COMPOSITE DESCRIPTION: *NO3-daysTAT 1-3-08 S2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Renovation

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160590S1

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31634

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 1017344 (106.0629552)
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 GAMMA; Thorium; Uranium; 90 SR DOE SR-01/SI-02

LABORATORY NAME: ~~STL~~ TESTAMERICA SL2
LABORATORY ID (FOR LABORATORY): F8A040256

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-348	12/7/07	13:13	2	X		S	~~30d~~		1IR-6A-02b	6"	12"	Res
15-349	12/7/07	13:20	1	X		S	~~30d~~		1IR-6A-03a	0"	6"	Res
15-350	12/7/07	13:22	1	X		S	~~30d~~		1IR-6A-03b	6"	12"	Res
15-351	12/7/07	13:27	1	X		S	~~30d~~		1IR-6A-04a	0"	6"	Res
15-352	12/7/07	13:30	1	X		S	~~30d~~		1IR-6A-04b	6"	12"	Res
15-353	12/7/07	13:32	1	X		S	~~30d~~		1IR-6A-05a	0"	6"	Res
15-354	12/7/07	13:34	1	X		S	~~30d~~		1IR-6A-05b	6"	12"	Res

RELINQUISHED BY (Signature)	DATE 1/3/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~30d~~ + 21 dy Insrawths
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: # no 3-days TAT - 1-3-08 SL
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Renovation

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1600 2057

Tetra Tech EC, Inc.

Client Sample ID: 15-328

Radiochemistry

Lab Sample ID: F8A040256-001
Work Order: KE4AD
Matrix: SOLID

Date Collected: 12/07/07 0840
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.31		0.14		0.23	01/07/08	01/28/08
Americium 241	0.003	U	0.092		0.16	01/07/08	01/28/08
Cesium 137	0.034	U	0.045	0.200	0.075	01/07/08	01/28/08
Cobalt 60	-0.005	U	0.061		0.11	01/07/08	01/28/08
Europium 152	-0.02	U	0.11		0.19	01/07/08	01/28/08
Europium 154	0.11	U	0.36		0.64	01/07/08	01/28/08
Potassium 40	11.2		1.6		0.3	01/07/08	01/28/08
Radium (226)	0.30	J	0.12	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.31		0.14		0.23	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 83**
Uranium 233/234	0.31	J	0.12	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.039	U	0.049	1.00	0.059	01/07/08	01/18/08
Uranium 238	0.38	J	0.13	1.00	0.05	01/07/08	01/18/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8005018**		**Yld % 65**
Strontium 90	-0.01	U	0.25	3.00	0.45	01/04/08	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 89**
Thorium 228	0.27	J	0.16	2.00	0.16	01/22/08	01/24/08
Thorium 230	0.42	J	0.19	2.00	0.11	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-328 DUP

Radiochemistry

Lab Sample ID: F8A040256-001X
Work Order: KE4AD
Matrix: SOLID

Date Collected: 12/07/07 0840
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 90**
Uranium 233/234	0.25	J	0.10	1.00	0.04	01/07/08	01/18/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	01/07/08	01/18/08
Uranium 238	0.220	J	0.094	1.00	0.026	01/07/08	01/18/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.12	U	0.17		0.29	01/07/08	01/28/08
Americium 241	0.033	U	0.084		0.14	01/07/08	01/28/08
Cesium 137	0.007	U	0.046	0.200	0.085	01/07/08	01/28/08
Cobalt 60	-0.013	U	0.047		0.088	01/07/08	01/28/08
Europium 152	-0.02	U	0.11		0.19	01/07/08	01/28/08
Europium 154	-0.11	U	0.43		0.78	01/07/08	01/28/08
Potassium 40	7.9		1.5		0.7	01/07/08	01/28/08
Radium (226)	0.16	U	0.10	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.12	U	0.17		0.29	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 87**
Thorium 228	0.18	J	0.13	2.00	0.13	01/22/08	01/24/08
Thorium 230	0.59	J	0.23	2.00	0.11	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-329

Radiochemistry

Lab Sample ID: F8A040256-002
Work Order: KE4AH
Matrix: SOLID

Date Collected: 12/07/07 0843
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.34		0.16		0.29	01/07/08	01/28/08
Americium 241	0.0003	U	0.097		0.17	01/07/08	01/28/08
Cesium 137	-0.009	U	0.043	0.200	0.078	01/07/08	01/28/08
Cobalt 60	0.012	U	0.038		0.070	01/07/08	01/28/08
Europium 152	-0.03	U	0.11		0.20	01/07/08	01/28/08
Europium 154	0.01	U	0.32		0.60	01/07/08	01/28/08
Potassium 40	8.3		1.3		0.6	01/07/08	01/28/08
Radium (226)	0.39	J	0.14	1.00	0.19	01/07/08	01/28/08
Thorium 232	0.34		0.16		0.29	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 95**
Uranium 233/234	0.26	J	0.10	1.00	0.06	01/07/08	01/17/08
Uranium 235/236	0.024	U	0.034	1.00	0.032	01/07/08	01/17/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 93**
Thorium 228	0.47	J	0.21	2.00	0.15	01/22/08	01/25/08
Thorium 230	1.18	J	0.33	2.00	0.11	01/22/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-330

Radiochemistry

Lab Sample ID: F8A040256-003
Work Order: KE4AM
Matrix: SOLID

Date Collected: 12/07/07 0850
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.22	U	0.25		0.40	01/07/08	01/28/08
Americium 241	-0.04	U	0.11		0.20	01/07/08	01/28/08
Cesium 137	-0.007	U	0.057	0.200	0.10	01/07/08	01/28/08
Cobalt 60	-0.017	U	0.068		0.13	01/07/08	01/28/08
Europium 152	0.02	U	0.11		0.20	01/07/08	01/28/08
Europium 154	0.0	U	0.39		0.75	01/07/08	01/28/08
Potassium 40	**9.6**		**1.8**		**0.6**	**01/07/08**	**01/28/08**
Radium (226)	**0.42**	**J**	0.12	1.00	0.06	**01/07/08**	**01/28/08**
Thorium 232	0.22	U	0.25		0.40	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 96**
Uranium 233/234	**0.31**	**J**	0.12	1.00	0.05	**01/07/08**	**01/17/08**
Uranium 235/236	0.045	U	0.051	1.00	0.061	01/07/08	01/17/08
Uranium 238	**0.27**	**J**	0.11	1.00	0.03	**01/07/08**	**01/17/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 92**
Thorium 228	**0.30**	**J**	0.16	2.00	0.11	**01/22/08**	**01/24/08**
Thorium 230	**0.71**	**J**	0.25	2.00	0.09	**01/22/08**	**01/24/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-331

Radiochemistry

Lab Sample ID: F8A040256-004
Work Order: KE4AP
Matrix: SOLID

Date Collected: 12/07/07 0853
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007191		Yld %
Actinium 228	0.48		0.18		0.30	01/07/08	01/28/08
Americium 241	0.027	U	0.085		0.15	01/07/08	01/28/08
Cesium 137	-0.03	U	1.3	0.2	0.1	01/07/08	01/28/08
Cobalt 60	0.037	U	0.046		0.073	01/07/08	01/28/08
Europium 152	0.05	U	0.11		0.19	01/07/08	01/28/08
Europium 154	0.001	U	0.40		0.77	01/07/08	01/28/08
Potassium 40	8.6		1.6		0.5	01/07/08	01/28/08
Radium (226)	0.61	J	0.15	1.00	0.10	01/07/08	01/28/08
Thorium 232	0.48		0.18		0.30	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007176		Yld % 87
Uranium 233/234	0.40	J	0.14	1.00	0.07	01/07/08	01/17/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	01/07/08	01/17/08
Uranium 238	0.46	J	0.15	1.00	0.05	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8022135		Yld % 93
Thorium 228	0.25	J	0.15	2.00	0.13	01/22/08	01/24/08
Thorium 230	0.65	J	0.23	2.00	0.1	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-332

Radiochemistry

Lab Sample ID: F8A040256-005
Work Order: KE4AR
Matrix: SOLID

Date Collected: 12/07/07 0858
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.47		0.19		0.23	01/07/08	01/28/08
Americium 241	-0.02	U	0.11		0.19	01/07/08	01/28/08
Cesium 137	0.030	U	0.038	0.200	0.062	01/07/08	01/28/08
Cobalt 60	-0.007	U	0.039		0.073	01/07/08	01/28/08
Europium 152	-0.03	U	0.12		0.21	01/07/08	01/28/08
Europium 154	-0.06	U	0.35		0.62	01/07/08	01/28/08
Potassium 40	11.3		1.5		0.3	01/07/08	01/28/08
Radium (226)	0.47	J	0.15	1.00	0.19	01/07/08	01/28/08
Thorium 232	0.47		0.19		0.23	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 92**
Uranium 233/234	0.64	J	0.17	1.00	0.05	01/07/08	01/17/08
Uranium 235/236	0.036	U	0.044	1.00	0.054	01/07/08	01/17/08
Uranium 238	0.47	J	0.14	1.00	0.04	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 86**
Thorium 228	0.41	J	0.19	2.00	0.14	01/22/08	01/24/08
Thorium 230	0.58	J	0.22	2.00	0.09	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-333

Radiochemistry

Lab Sample ID: F8A040256-006
Work Order: KE4AT
Matrix: SOLID

Date Collected: 12/07/07 0900
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8007191**	**Yld %**
Actinium 228	0.33		0.20		0.27	01/07/08	01/28/08
Americium 241	0.048	U	0.059		0.096	01/07/08	01/28/08
Cesium 137	0.001	U	0.033	0.200	0.063	01/07/08	01/28/08
Cobalt 60	0.0	U	0.011		0.039	01/07/08	01/28/08
Europium 152	-0.001	U	0.082		0.15	01/07/08	01/28/08
Europium 154	0.0	U	0.059		0.22	01/07/08	01/28/08
Potassium 40	8.8		1.5		0.7	01/07/08	01/28/08
Radium (226)	0.45	J	0.11	1.00	0.04	01/07/08	01/28/08
Thorium 232	0.33		0.20		0.27	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8007176**	**Yld % 99**
Uranium 233/234	0.38	J	0.13	1.00	0.06	01/07/08	01/17/08
Uranium 235/236	0.024	U	0.033	1.00	0.032	01/07/08	01/17/08
Uranium 238	0.38	J	0.12	1.00	0.04	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022135**	**Yld % 89**
Thorium 228	0.47	J	0.21	2.00	0.15	01/22/08	01/25/08
Thorium 230	0.30	J	0.17	2.00	0.13	01/22/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-334

Radiochemistry

Lab Sample ID: F8A040256-007
Work Order: KE4AW
Matrix: SOLID

Date Collected: 12/07/07 0905
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.32		0.16		0.19	01/07/08	01/28/08
Americium 241	0.040	U	0.080		0.13	01/07/08	01/28/08
Cesium 137	0.050	U	0.045	0.200	0.070	01/07/08	01/28/08
Cobalt 60	0.030	U	0.034		0.053	01/07/08	01/28/08
Europium 152	-0.020	U	0.093		0.17	01/07/08	01/28/08
Europium 154	0.09	U	0.32		0.58	01/07/08	01/28/08
Potassium 40	9.4		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.28	J	0.12	1.00	0.18	01/07/08	01/28/08
Thorium 232	0.32		0.16		0.19	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 82**
Uranium 233/234	0.26	J	0.11	1.00	0.05	01/07/08	01/18/08
Uranium 235/236	0.028	U	0.039	1.00	0.037	01/07/08	01/18/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/07/08	01/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 90**
Thorium 228	0.20	J	0.14	2.00	0.14	01/22/08	01/24/08
Thorium 230	0.36	J	0.18	2.00	0.13	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-335

Radiochemistry

Lab Sample ID: F8A040256-008
Work Order: KE4A1
Matrix: SOLID

Date Collected: 12/07/07 0908
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007191		Yld %
Actinium 228	0.43		0.22		0.30	01/07/08	01/28/08
Americium 241	0.016	U	0.098		0.17	01/07/08	01/28/08
Cesium 137	0.0	U	0.057	0.200	0.10	01/07/08	01/28/08
Cobalt 60	0.024	U	0.044		0.076	01/07/08	01/28/08
Europium 152	0.004	U	0.10		0.18	01/07/08	01/28/08
Europium 154	0.11	U	0.31		0.55	01/07/08	01/28/08
Potassium 40	9.7		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.20	J	0.11	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.43		0.22		0.30	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007176		Yld % 89
Uranium 233/234	0.24	J	0.10	1.00	0.06	01/07/08	01/17/08
Uranium 235/236	0.006	U	0.027	1.00	0.069	01/07/08	01/17/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8022135		Yld % 85
Thorium 228	0.30	J	0.18	2.00	0.20	01/22/08	01/24/08
Thorium 230	0.25	J	0.15	2.00	0.11	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-336

Radiochemistry

Lab Sample ID: F8A040256-009
Work Order: KE4A2
Matrix: SOLID

Date Collected: 12/07/07 0911
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.22	U	0.22		0.34	01/07/08	01/28/08
Americium 241	0.03	U	0.11		0.18	01/07/08	01/28/08
Cesium 137	0.0	U	0.078	0.200	0.14	01/07/08	01/28/08
Cobalt 60	0.0	U	0.015		0.055	01/07/08	01/28/08
Europium 152	-0.05	U	0.14		0.24	01/07/08	01/28/08
Europium 154	-0.11	U	0.46		0.83	01/07/08	01/28/08
Potassium 40	**9.6**		1.8		0.6	01/07/08	01/28/08
Radium (226)	0.33	J	0.12	1.00	0.13	01/07/08	01/28/08
Thorium 232	0.22	U	0.22		0.34	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 92**
Uranium 233/234	0.30	J	0.11	1.00	0.04	01/07/08	01/17/08
Uranium 235/236	-0.0023	U	0.0047	1.00	0.053	01/07/08	01/17/08
Uranium 238	0.36	J	0.13	1.00	0.05	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 73**
Thorium 228	0.46	J	0.23	2.00	0.15	01/22/08	01/24/08
Thorium 230	0.57	J	0.26	2.00	0.14	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-337

Radiochemistry

Lab Sample ID: F8A040256-010
Work Order: KE4A4
Matrix: SOLID

Date Collected: 12/07/07 0913
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.47		0.22		0.26	01/07/08	01/28/08
Americium 241	-0.014	U	0.091		0.16	01/07/08	01/28/08
Cesium 137	-0.01	U	0.10	0.20	0.10	01/07/08	01/28/08
Cobalt 60	-0.004	U	0.059		0.11	01/07/08	01/28/08
Europium 152	-0.02	U	0.10		0.19	01/07/08	01/28/08
Europium 154	0.25	U	0.39		0.67	01/07/08	01/28/08
Potassium 40	10.7		1.8		0.5	01/07/08	01/28/08
Radium (226)	0.55	J	0.14	1.00	0.1	01/07/08	01/28/08
Thorium 232	0.47		0.22		0.26	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 92**
Uranium 233/234	0.75	J	0.19	1.00	0.05	01/07/08	01/17/08
Uranium 235/236	0.032	U	0.046	1.00	0.070	01/07/08	01/17/08
Uranium 238	0.59	J	0.16	1.00	0.05	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 83**
Thorium 228	0.46	J	0.22	2.00	0.17	01/22/08	01/24/08
Thorium 230	0.46	J	0.21	2.00	0.12	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-348

Radiochemistry

Lab Sample ID: F8A040256-011
Work Order: KE4A6
Matrix: SOLID

Date Collected: 12/07/07 1313
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.41		0.15		0.17	01/07/08	01/28/08
Americium 241	-0.12	U	0.31		0.53	01/07/08	01/28/08
Cesium 137	0.032	U	0.036	0.200	0.057	01/07/08	01/28/08
Cobalt 60	-0.002	U	0.035		0.066	01/07/08	01/28/08
Europium 152	0.043	U	0.071		0.12	01/07/08	01/28/08
Europium 154	-0.06	U	0.25		0.45	01/07/08	01/28/08
Potassium 40	9.8		1.3		0.6	01/07/08	01/28/08
Radium (226)	0.37	J	0.11	1.00	0.12	01/07/08	01/28/08
Thorium 232	0.41		0.15		0.17	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 89**
Uranium 233/234	0.41	J	0.13	1.00	0.05	01/07/08	01/17/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/07/08	01/17/08
Uranium 238	0.193	J	0.091	1.00	0.044	01/07/08	01/17/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8008233**		**Yld % 77**
Strontium 90	0.30	U	0.30	3.00	0.49	01/08/08	01/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 78**
Thorium 228	0.63	J	0.26	2.00	0.18	01/22/08	01/24/08
Thorium 230	0.63	J	0.25	2.00	0.12	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-348 DUP

Radiochemistry

Lab Sample ID: F8A040256-011X
Work Order: KE4A6
Matrix: SOLID

Date Collected: 12/07/07 1313
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**	**Batch # 8008233**		**Yld % 70**
Strontium 90	0.23	U	0.32	3.00	0.52	01/08/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-349

Radiochemistry

Lab Sample ID: F8A040256-012
Work Order: KE4A7
Matrix: SOLID

Date Collected: 12/07/07 1320
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.26	U	0.25		0.39	01/07/08	01/28/08
Americium 241	-0.02	U	0.11		0.19	01/07/08	01/28/08
Cesium 137	0.089	U	0.065	0.200	0.095	01/07/08	01/28/08
Cobalt 60	0.0	U	0.085		0.16	01/07/08	01/28/08
Europium 152	-0.02	U	0.12		0.21	01/07/08	01/28/08
Europium 154	-0.13	U	0.44		0.80	01/07/08	01/28/08
Potassium 40	**10.7**		**1.9**		**0.5**	**01/07/08**	**01/28/08**
Radium (226)	**0.34**	**J**	**0.13**	**1.00**	**0.14**	**01/07/08**	**01/28/08**
Thorium 232	0.26	U	0.25		0.39	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 97**
Uranium 233/234	**0.202**	**J**	**0.090**	**1.00**	**0.051**	**01/07/08**	**01/17/08**
Uranium 235/236	0.012	U	0.023	1.00	0.032	01/07/08	01/17/08
Uranium 238	**0.222**	**J**	**0.094**	**1.00**	**0.046**	**01/07/08**	**01/17/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 57**
Thorium 228	**0.37**	**J**	**0.24**	**2.00**	**0.24**	**01/22/08**	**01/24/08**
Thorium 230	**0.45**	**J**	**0.25**	**2.00**	**0.18**	**01/22/08**	**01/24/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-350

Radiochemistry

Lab Sample ID: F8A040256-013
Work Order: KE4A8
Matrix: SOLID

Date Collected: 12/07/07 1322
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.30	U	0.26		0.40	01/07/08	01/28/08
Americium 241	0.030	U	0.088		0.15	01/07/08	01/28/08
Cesium 137	-0.01	U	0.10	0.20	0.11	01/07/08	01/28/08
Cobalt 60	0.042	U	0.042		0.058	01/07/08	01/28/08
Europium 152	0.006	U	0.11		0.21	01/07/08	01/28/08
Europium 154	0.11	U	0.37		0.68	01/07/08	01/28/08
Potassium 40	**10.6**		**1.9**		**0.5**	**01/07/08**	**01/28/08**
Radium (226)	**0.45**	**J**	**0.18**	**1.00**	**0.17**	**01/07/08**	**01/28/08**
Thorium 232	0.30	U	0.26		0.40	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 89**
Uranium 233/234	**0.206**	**J**	**0.095**	**1.00**	**0.044**	**01/07/08**	**01/17/08**
Uranium 235/236	0.0	U	0.011	1.00	0.035	01/07/08	01/17/08
Uranium 238	**0.28**	**J**	**0.11**	**1.00**	**0.04**	**01/07/08**	**01/17/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 88**
Thorium 228	**0.46**	**J**	**0.21**	**2.00**	**0.17**	**01/22/08**	**01/24/08**
Thorium 230	**0.53**	**J**	**0.22**	**2.00**	**0.13**	**01/22/08**	**01/24/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-351

Radiochemistry

Lab Sample ID: F8A040256-014
Work Order: KE4A9
Matrix: SOLID

Date Collected: 12/07/07 1327
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8007191**	**Yld %**
Actinium 228	0.29		0.14		0.19	01/07/08	01/28/08
Americium 241	-0.01	U	0.27		0.48	01/07/08	01/28/08
Cesium 137	0.076	J	0.042	0.200	0.059	01/07/08	01/28/08
Cobalt 60	0.0	U	0.064		0.11	01/07/08	01/28/08
Europium 152	0.035	U	0.064		0.11	01/07/08	01/28/08
Europium 154	-0.03	U	0.26		0.48	01/07/08	01/28/08
Potassium 40	10.3		1.3		0.5	01/07/08	01/28/08
Radium (226)	0.359	J	0.099	1.00	0.10	01/07/08	01/28/08
Thorium 232	0.29		0.14		0.19	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8007176**	**Yld % 91**
Uranium 233/234	0.38	J	0.13	1.00	0.06	01/07/08	01/17/08
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/07/08	01/17/08
Uranium 238	0.36	J	0.12	1.00	0.05	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022135**	**Yld % 88**
Thorium 228	0.26	J	0.17	2.00	0.20	01/22/08	01/24/08
Thorium 230	0.40	J	0.19	2.00	0.06	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-352

Radiochemistry

Lab Sample ID: F8A040256-015
Work Order: KE4CA
Matrix: SOLID

Date Collected: 12/07/07 1330
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.31		0.13		0.24	01/07/08	01/28/08
Americium 241	-0.0004	U	0.078		0.14	01/07/08	01/28/08
Cesium 137	0.012	U	0.048	0.200	0.086	01/07/08	01/28/08
Cobalt 60	0.0	U	0.060		0.11	01/07/08	01/28/08
Europium 152	0.051	U	0.071		0.12	01/07/08	01/28/08
Europium 154	-0.06	U	0.36		0.67	01/07/08	01/28/08
Potassium 40	9.5		1.6		0.8	01/07/08	01/28/08
Radium (226)	0.33	J	0.12	1.00	0.14	01/07/08	01/28/08
Thorium 232	0.31		0.13		0.24	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 83**
Uranium 233/234	0.34	J	0.13	1.00	0.06	01/07/08	01/17/08
Uranium 235/236	0.058	J	0.058	1.00	0.039	01/07/08	01/17/08
Uranium 238	0.23	J	0.10	1.00	0.05	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 93**
Thorium 228	0.35	J	0.18	2.00	0.15	01/22/08	01/24/08
Thorium 230	0.61	J	0.23	2.00	0.08	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-353

Radiochemistry

Lab Sample ID: F8A040256-016
Work Order: KE4CC
Matrix: SOLID

Date Collected: 12/07/07 1332
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007191**		**Yld %**
Actinium 228	0.17	U	0.24		0.40	01/07/08	01/28/08
Americium 241	0.047	U	0.074		0.12	01/07/08	01/28/08
Cesium 137	**0.092**	**J**	0.053	0.200	**0.069**	**01/07/08**	**01/28/08**
Cobalt 60	0.0	U	0.067		0.13	01/07/08	01/28/08
Europium 152	0.047	U	0.094		0.16	01/07/08	01/28/08
Europium 154	-0.09	U	0.42		0.76	01/07/08	01/28/08
Potassium 40	**7.7**		1.5		**0.5**	**01/07/08**	**01/28/08**
Radium (226)	**0.25**	**J**	0.13	1.00	**0.19**	**01/07/08**	**01/28/08**
Thorium 232	0.17	U	0.24		0.40	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007176**		**Yld % 88**
Uranium 233/234	**0.41**	**J**	0.14	1.00	**0.05**	**01/07/08**	**01/17/08**
Uranium 235/236	0.024	U	0.037	1.00	0.056	01/07/08	01/17/08
Uranium 238	**0.35**	**J**	0.13	1.00	**0.05**	**01/07/08**	**01/17/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022135**		**Yld % 97**
Thorium 228	**0.53**	**J**	0.21	2.00	**0.13**	**01/22/08**	**01/24/08**
Thorium 230	**0.32**	**J**	0.16	2.00	**0.05**	**01/22/08**	**01/24/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-354

Radiochemistry

Lab Sample ID: F8A040256-017
Work Order: KE4CE
Matrix: SOLID

Date Collected: 12/07/07 1334
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007191		Yld %
Actinium 228	0.37		0.19		0.25	01/07/08	01/28/08
Americium 241	0.030	U	0.095		0.16	01/07/08	01/28/08
Cesium 137	0.036	U	0.048	0.200	0.078	01/07/08	01/28/08
Cobalt 60	0.002	U	0.047		0.089	01/07/08	01/28/08
Europium 152	-0.03	U	0.13		0.23	01/07/08	01/28/08
Europium 154	0.08	U	0.29		0.52	01/07/08	01/28/08
Potassium 40	10.1		1.5		0.3	01/07/08	01/28/08
Radium (226)	0.19	J	0.12	1.00	0.18	01/07/08	01/28/08
Thorium 232	0.37		0.19		0.25	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007176		Yld % 85
Uranium 233/234	0.24	J	0.11	1.00	0.08	01/07/08	01/17/08
Uranium 235/236	0.023	U	0.037	1.00	0.055	01/07/08	01/17/08
Uranium 238	0.35	J	0.13	1.00	0.08	01/07/08	01/17/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8022135		Yld % 89
Thorium 228	0.28	J	0.16	2.00	0.13	01/22/08	01/24/08
Thorium 230	0.29	J	0.15	2.00	0.06	01/22/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Dec-2007	15-328	F8A040256001	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-328	F8A040256001	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-328	F8A040256001	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-328	F8A040256001	N	Gen Prep	)OE SR-03-RC MOI	3
07-Dec-2007	15-328DUP	F8A040256001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-328DUP	F8A040256001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-328DUP	F8A040256001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-329	F8A040256002	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-329	F8A040256002	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-329	F8A040256002	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-330	F8A040256003	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-330	F8A040256003	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-330	F8A040256003	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-331	F8A040256004	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-331	F8A040256004	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-331	F8A040256004	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-332	F8A040256005	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-332	F8A040256005	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-332	F8A040256005	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-333	F8A040256006	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-333	F8A040256006	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-333	F8A040256006	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-334	F8A040256007	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-334	F8A040256007	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-334	F8A040256007	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-335	F8A040256008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Dec-2007	15-335	F8A040256008	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-335	F8A040256008	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-336	F8A040256009	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-336	F8A040256009	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-336	F8A040256009	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-337	F8A040256010	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-337	F8A040256010	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-337	F8A040256010	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-348	F8A040256011	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-348	F8A040256011	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-348	F8A040256011	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-348	F8A040256011	N	Gen Prep	)OE SR-03-RC MOI	3
07-Dec-2007	15-348DUP	F8A040256011DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
07-Dec-2007	15-349	F8A040256012	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-349	F8A040256012	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-349	F8A040256012	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-350	F8A040256013	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-350	F8A040256013	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-350	F8A040256013	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-351	F8A040256014	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-351	F8A040256014	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-351	F8A040256014	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-352	F8A040256015	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-352	F8A040256015	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-352	F8A040256015	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-353	F8A040256016	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Dec-2007	15-353	F8A040256016	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-353	F8A040256016	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-354	F8A040256017	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-354	F8A040256017	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-354	F8A040256017	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040256										
DOE A-01-R TH MOD	15-328	SO	N	THORIUM-230	2.00	0.42J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-329	SO	N	THORIUM-230	2.00	1.18J	0.33	U	pCi/g	
DOE A-01-R TH MOD	15-330	SO	N	THORIUM-230	2.00	0.71J	0.25	U	pCi/g	
DOE A-01-R TH MOD	15-331	SO	N	THORIUM-230	2.00	0.65J	0.23	U	pCi/g	
DOE A-01-R TH MOD	15-332	SO	N	THORIUM-230	2.00	0.58J	0.22	U	pCi/g	
DOE A-01-R TH MOD	15-333	SO	N	THORIUM-230	2.00	0.30J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-334	SO	N	THORIUM-230	2.00	0.36J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-335	SO	N	THORIUM-230	2.00	0.25J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-336	SO	N	THORIUM-230	2.00	0.57J	0.26	U	pCi/g	
DOE A-01-R TH MOD	15-337	SO	N	THORIUM-230	2.00	0.46J	0.21	U	pCi/g	
DOE A-01-R TH MOD	15-348	SO	N	THORIUM-230	2.00	0.63J	0.25	U	pCi/g	
DOE A-01-R TH MOD	15-349	SO	N	THORIUM-230	2.00	0.45J	0.25	U	pCi/g	
DOE A-01-R TH MOD	15-350	SO	N	THORIUM-230	2.00	0.53J	0.22	U	pCi/g	
DOE A-01-R TH MOD	15-351	SO	N	THORIUM-230	2.00	0.40J	0.19	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040256										
DOE A-01-R TH MOD	15-352	SO	N							
				THORIUM-230	2.00	0.61J	0.23	U	pCi/g	
DOE A-01-R TH MOD	15-353	SO	N							
				THORIUM-230	2.00	0.32J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-354	SO	N							
				THORIUM-230	2.00	0.29J	0.15	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A040256

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A040256	15-328	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-329	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-330	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-331	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-332	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-333	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-334	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-335	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-336	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-337	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-348	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-349	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-350	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-351	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-352	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-353	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040256	15-354	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A040256

Method Blank Outlier Report

Lab Reporting Batch : F8A040256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/24/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A220000135MB
Preparation Batch : 8022135

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.32**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-328	F8A040256001	2	0.42	J	pCi/g
15-329	F8A040256002	2	1.18	J	pCi/g
15-330	F8A040256003	2	0.71	J	pCi/g
15-331	F8A040256004	2	0.65	J	pCi/g
15-332	F8A040256005	2	0.58	J	pCi/g
15-333	F8A040256006	2	0.30	J	pCi/g
15-334	F8A040256007	2	0.36	J	pCi/g
15-335	F8A040256008	2	0.25	J	pCi/g
15-336	F8A040256009	2	0.57	J	pCi/g
15-337	F8A040256010	2	0.46	J	pCi/g
15-348	F8A040256011	2	0.63	J	pCi/g
15-349	F8A040256012	2	0.45	J	pCi/g
15-350	F8A040256013	2	0.53	J	pCi/g
15-351	F8A040256014	2	0.40	J	pCi/g
15-352	F8A040256015	2	0.61	J	pCi/g
15-353	F8A040256016	2	0.32	J	pCi/g
15-354	F8A040256017	2	0.29	J	pCi/g

LDC #: 18448L35
SDG #: F8A040256
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9m8

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	No Dup
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-328	11	15-348	21		31	
2	15-329	12	15-349	22		32	
3	15-330	13	15-350	23		33	
4	15-331	14	15-351	24		34	
5	15-332	15	15-352	25		35	
6	15-333	16	15-353	26		36	
7	15-334	17	15-354	27		37	
8	15-335	18	15-328DUP	28		38	
9	15-336	19	PBS	29		39	
10	15-337	20		30		40	

Notes:

LDC #: 18448L73
SDG #: F8A040256
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08 ~~12-7-07~~
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-328	11	15-348	21		31	
2	15-329	12	15-349	22		32	
3	15-330	13	15-350	23		33	
4	15-331	14	15-351	24		34	
5	15-332	15	15-352	25		35	
6	15-333	16	15-353	26		36	
7	15-334	17	15-354	27		37	
8	15-335	18	15-328DUP	28		38	
9	15-336	19	PBS	29		39	
10	15-337	20		30		40	

Notes:

LDC #: 18448L59
SDG #: F8A040256
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-328	11	15-348	21		31	
2	15-329	12	15-349	22		32	
3	15-330	13	15-350	23		33	
4	15-331	14	15-351	24		34	
5	15-332	15	15-352	25		35	
6	15-333	16	15-353	26		36	
7	15-334	17	15-354	27		37	
8	15-335	18	15-328DUP	28		38	
9	15-336	19	PBS	29		39	
10	15-337	20		30		40	

Notes:

LDC #: 18448L61
SDG #: F8A040256
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-18-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	ce
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-328	11		21		31	
2	15-348	12		22		32	
3	15-348DUP	13		23		33	
4	PBS1	14		24		34	
5	PBS2	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31636

D-1-25

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	ANALYSES REQUIRED	LABORATORY NAME	Project Information Section Do not submit to Laboratory
IR sites 1,7 & 32	~~1017341~~ 106.0629553	EPA 901.1m gamma#; Thorium; Uranium; 908 3R DPE 52-01-08	TESTAMERICA ~~STL~~ S2	
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D			
SAMPLER NAME: V Richards	AIRBILL NUMBER		LABORATORY ID (FOR LABORATORY): F8A040259	
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500			12 P

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT*	EPA 901.1m gamma#	Thorium	Uranium	908 3R DPE						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-365	12/10/07	9:35	1	X		S	21DY	X	X	X								1IR-6B-05a	0"	6"	Res
15-366	12/10/07	9:35	1	X		S	21DY	X	X	X								1IR-6B-05b	6"	12"	Res
15-367	12/10/07	9:42	1	X		S	21DY	X	X	X								1IR-6B-06a	0"	6"	Res
15-368	12/10/07	9:45	2	X		S	21DY	X	X	X	X							1IR-6B-06b	6"	12"	Res
15-369	12/10/07	9:50	1	X		S	21DY	X	X	X								1IR-6B07a	0"	6"	Res
15-370	12/10/07	9:53	1	X		S	21DY	X	X	X								1IR-6B-07b	6"	12"	Res
15-371	12/10/07	9:58	1	X		S	21DY	X	X	X								1IR-6B-08a	0"	6"	Res
15-372	12/10/07	10:00	1	X		S	21DY	X	X	X								1IR-6B-08b	6"	12"	Res
15-373	12/10/07	10:06	1	X		S	21DY	X	X	X								1IR-6B-09a	0"	6"	Res
15-374	12/10/07	10:09	1	X		S	21DY	X	X	X								1IR-6B-09b	6"	12"	Res

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/3/08	
COMPANY: TtEC/FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~3 Dy~~ + 21 Dy Ingrowths

COMPOSITE DESCRIPTION: * no 3day - 1-3-08 S2

SAMPLING COMMENT: IR = Installation Renovation

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059052

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31638

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 166.0629552 ~~7017344~~
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Brenkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA ~~STL~~ SV

LABORATORY ID (FOR LABORATORY): F8A040259

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	6010, 1M gamma	Thorium	Uranium	40 DOC 52-a/b-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-375	12/10/07	10:13	1	X		S	~~21~~ 21 DY	X	X	X			IR-68-10a	0"	6"	Reg
15-376	12/10/07	10:15	1	X		S	~~21~~ 21 DY	X	X	X		OK (VA)	IR-68-10b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/3/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~3 DY~~ +21 Dy Jugrowths
COMPANY Tetra Tech	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * ~~21d~~ no 3-dup - 1-3-08 SV
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Renovation

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160598052

Tetra Tech EC, Inc.

Client Sample ID: 15-365

Radiochemistry

Lab Sample ID: F8A040259-001
Work Order: KE4CX
Matrix: SOLID

Date Collected: 12/10/07 0935
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007192		Yld %
Actinium 228	0.30		0.16		0.27	01/07/08	01/28/08
Americium 241	0.005	U	0.098		0.17	01/07/08	01/28/08
Cesium 137	0.165	J	0.047	0.200	0.024	01/07/08	01/28/08
Cobalt 60	0.0	U	0.076		0.14	01/07/08	01/28/08
Europium 152	0.04	U	0.11		0.18	01/07/08	01/28/08
Europium 154	0.0	U	0.31		0.59	01/07/08	01/28/08
Potassium 40	9.2		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.36	J	0.12	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.30		0.16		0.27	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007258		Yld % 45
Thorium 228	0.35	J	0.18	1.00	0.12	01/07/08	01/19/08
Thorium 230	0.27	J	0.15	1.00	0.11	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007260		Yld % 92
Uranium 233/234	0.213	J	0.096	1.00	0.064	01/07/08	01/19/08
Uranium 235/236	0.020	U	0.035	1.00	0.060	01/07/08	01/19/08
Uranium 238	0.183	J	0.086	1.00	0.041	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-365 DUP

Radiochemistry

Lab Sample ID: F8A040259-001X
Work Order: KE4CX
Matrix: SOLID

Date Collected: 12/10/07 0935
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 88**
Thorium 228	0.38	J	0.13	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.29	J	0.12	1.00	0.06	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 91**
Uranium 233/234	0.34	J	0.12	1.00	0.05	01/07/08	01/19/08
Uranium 235/236	0.005	U	0.026	1.00	0.068	01/07/08	01/19/08
Uranium 238	0.27	J	0.11	1.00	0.04	01/07/08	01/19/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.37		0.23		0.32	01/07/08	01/28/08
Americium 241	0.026	U	0.096		0.17	01/07/08	01/28/08
Cesium 137	0.057	U	0.054	0.200	0.084	01/07/08	01/28/08
Cobalt 60	-0.0003	U	0.048		0.096	01/07/08	01/28/08
Europium 152	0.002	U	0.079		0.15	01/07/08	01/28/08
Europium 154	-0.09	U	0.34		0.63	01/07/08	01/28/08
Potassium 40	10.5		1.7		0.5	01/07/08	01/28/08
Radium (226)	0.36	J	0.14	1.00	0.18	01/07/08	01/28/08
Thorium 232	0.37		0.23		0.32	01/07/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-366

Radiochemistry

Lab Sample ID: F8A040259-002
Work Order: KE4C1
Matrix: SOLID

Date Collected: 12/10/07 0935
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007192		Yld %
Actinium 228	0.13	U	0.15		0.25	01/07/08	01/28/08
Americium 241	0.0	U	0.081		0.14	01/07/08	01/28/08
Cesium 137	0.015	U	0.044	0.200	0.078	01/07/08	01/28/08
Cobalt 60	-0.004	U	0.047		0.089	01/07/08	01/28/08
Europium 152	0.011	U	0.070		0.13	01/07/08	01/28/08
Europium 154	0.12	U	0.27		0.48	01/07/08	01/28/08
Potassium 40	**10.2**		**1.5**		**0.9**	**01/07/08**	**01/28/08**
Radium (226)	**0.32**	**J**	**0.11**	**1.00**	**0.15**	**01/07/08**	**01/28/08**
Thorium 232	0.13	U	0.15		0.25	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007258		Yld % 82
Thorium 228	**0.49**	**J**	**0.16**	**1.00**	**0.07**	**01/07/08**	**01/19/08**
Thorium 230	**0.39**	**J**	**0.14**	**1.00**	**0.06**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007260		Yld % 90
Uranium 233/234	**0.24**	**J**	**0.10**	**1.00**	**0.04**	**01/07/08**	**01/19/08**
Uranium 235/236	-0.0024	U	0.0047	1.00	0.054	01/07/08	01/19/08
Uranium 238	**0.30**	**J**	**0.11**	**1.00**	**0.05**	**01/07/08**	**01/19/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-367

Radiochemistry

Lab Sample ID: F8A040259-003
Work Order: KE4C2
Matrix: SOLID

Date Collected: 12/10/07 0942
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007192		Yld %
Actinium 228	0.42		0.22		0.28	01/07/08	01/28/08
Americium 241	0.050	U	0.096		0.16	01/07/08	01/28/08
Cesium 137	0.104	J	0.062	0.200	0.083	01/07/08	01/28/08
Cobalt 60	0.0	U	0.083		0.16	01/07/08	01/28/08
Europium 152	0.04	U	0.12		0.22	01/07/08	01/28/08
Europium 154	0.008	U	0.36		0.70	01/07/08	01/28/08
Potassium 40	9.0		1.8		1.0	01/07/08	01/28/08
Radium (226)	0.30	J	0.13	1.00	0.15	01/07/08	01/28/08
Thorium 232	0.42		0.22		0.28	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007258		Yld % 79
Thorium 228	0.80	J	0.20	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.49	J	0.16	1.00	0.08	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8007260		Yld % 97
Uranium 233/234	0.33	J	0.12	1.00	0.05	01/07/08	01/19/08
Uranium 235/236	0.042	U	0.050	1.00	0.066	01/07/08	01/19/08
Uranium 238	0.25	J	0.10	1.00	0.05	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-368

Radiochemistry

Lab Sample ID: F8A040259-004
Work Order: KE4C3
Matrix: SOLID

Date Collected: 12/10/07 0945
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007192		Yld %
Actinium 228	0.37		0.12		0.20	01/07/08	01/28/08
Americium 241	0.07	U	0.27		0.46	01/07/08	01/28/08
Cesium 137	0.033	U	0.034	0.200	0.055	01/07/08	01/28/08
Cobalt 60	-0.001	U	0.027		0.053	01/07/08	01/28/08
Europium 152	0.004	U	0.066		0.12	01/07/08	01/28/08
Europium 154	0.07	U	0.20		0.36	01/07/08	01/28/08
Potassium 40	10.3		1.3		0.5	01/07/08	01/28/08
Radium (226)	0.45	J	0.11	1.00	0.11	01/07/08	01/28/08
Thorium 232	0.37		0.12		0.20	01/07/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007260		Yld % 86
Uranium 233/234	0.40	J	0.13	1.00	0.05	01/07/08	01/19/08
Uranium 235/236	0.013	U	0.026	1.00	0.036	01/07/08	01/19/08
Uranium 238	0.28	J	0.11	1.00	0.04	01/07/08	01/19/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8005018		Yld % 70
Strontium 90	0.15	U	0.22	3.00	0.36	01/04/08	01/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8022209		Yld % 65
Thorium 228	0.26	J	0.19	2.00	0.22	01/22/08	01/25/08
Thorium 230	0.38	J	0.21	2.00	0.15	01/22/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-368 DUP

Radiochemistry

Lab Sample ID: F8A040259-004X
Work Order: KE4C3
Matrix: SOLID

Date Collected: 12/10/07 0945
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8022209	Yld % 83
Thorium 228	0.42	J	0.20	2.00	0.13	01/22/08	01/25/08
Thorium 230	0.31	J	0.17	2.00	0.11	01/22/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-369

Radiochemistry

Lab Sample ID: F8A040259-005
Work Order: KE4C6
Matrix: SOLID

Date Collected: 12/10/07 0950
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007192		Yld %
Actinium 228	0.18	U	0.15		0.23	01/07/08	01/28/08
Americium 241	0.024	U	0.062		0.11	01/07/08	01/28/08
Cesium 137	**0.130**	**J**	0.055	0.200	**0.068**	**01/07/08**	**01/28/08**
Cobalt 60	0.0009	U	0.041		0.081	01/07/08	01/28/08
Europium 152	0.004	U	0.094		0.17	01/07/08	01/28/08
Europium 154	-0.07	U	0.37		0.67	01/07/08	01/28/08
Potassium 40	**9.3**		1.6		**0.8**	**01/07/08**	**01/28/08**
Radium (226)	**0.48**	**J**	0.12	1.00	**0.08**	**01/07/08**	**01/28/08**
Thorium 232	0.18	U	0.15		0.23	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007258		Yld % 72
Thorium 228	**0.34**	**J**	0.14	1.00	**0.09**	**01/07/08**	**01/19/08**
Thorium 230	**0.36**	**J**	0.14	1.00	**0.06**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007260		Yld % 96
Uranium 233/234	**0.29**	**J**	0.11	1.00	**0.04**	**01/07/08**	**01/19/08**
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/07/08	01/19/08
Uranium 238	**0.36**	**J**	0.12	1.00	**0.04**	**01/07/08**	**01/19/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-370

Radiochemistry

Lab Sample ID: F8A040259-006
Work Order: KE4C7
Matrix: SOLID

Date Collected: 12/10/07 0953
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.26	U	0.20		0.30	01/07/08	01/28/08
Americium 241	0.053	U	0.091		0.15	01/07/08	01/28/08
Cesium 137	0.046	U	0.046	0.200	0.073	01/07/08	01/28/08
Cobalt 60	0.0	U	0.063		0.12	01/07/08	01/28/08
Europium 152	-0.03	U	0.10		0.18	01/07/08	01/28/08
Europium 154	0.0	U	0.28		0.56	01/07/08	01/28/08
Potassium 40	**10.8**		1.7		0.4	01/07/08	01/28/08
Radium (226)	0.26	J	0.12	1.00	0.17	01/07/08	01/28/08
Thorium 232	0.26	U	0.20		0.30	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 68**
Thorium 228	0.50	J	0.17	1.00	0.09	01/07/08	01/19/08
Thorium 230	0.53	J	0.17	1.00	0.05	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 87**
Uranium 233/234	0.24	J	0.10	1.00	0.06	01/07/08	01/19/08
Uranium 235/236	0.008	U	0.027	1.00	0.063	01/07/08	01/19/08
Uranium 238	0.26	J	0.11	1.00	0.06	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-371

Radiochemistry

Lab Sample ID: F8A040259-007
Work Order: KE4C8
Matrix: SOLID

Date Collected: 12/10/07 0958
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007192		Yld %
Actinium 228	0.43		0.23		0.29	01/07/08	01/28/08
Americium 241	-0.003	U	0.067		0.12	01/07/08	01/28/08
Cesium 137	0.086	U	0.057	0.200	0.092	01/07/08	01/28/08
Cobalt 60	-0.016	U	0.058		0.11	01/07/08	01/28/08
Europium 152	-0.02	U	0.12		0.21	01/07/08	01/28/08
Europium 154	0.06	U	0.35		0.67	01/07/08	01/28/08
Potassium 40	7.9		1.6		1.0	01/07/08	01/28/08
Radium (226)	0.33	J	0.13	1.00	0.13	01/07/08	01/28/08
Thorium 232	0.43		0.23		0.29	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007258		Yld % 72
Thorium 228	0.32	J	0.14	1.00	0.1	01/07/08	01/19/08
Thorium 230	0.30	J	0.13	1.00	0.07	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007260		Yld % 90
Uranium 233/234	0.221	J	0.099	1.00	0.056	01/07/08	01/19/08
Uranium 235/236	0.0	U	0.012	1.00	0.036	01/07/08	01/19/08
Uranium 238	0.30	J	0.11	1.00	0.04	01/07/08	01/19/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-372

Radiochemistry

Lab Sample ID: F8A040259-008
Work Order: KE4C9
Matrix: SOLID

Date Collected: 12/10/07 1000
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.42		0.15		0.26	01/07/08	01/28/08
Americium 241	0.047	U	0.084		0.14	01/07/08	01/28/08
Cesium 137	0.060	U	0.050	0.200	0.077	01/07/08	01/28/08
Cobalt 60	-0.009	U	0.046		0.084	01/07/08	01/28/08
Europium 152	0.030	U	0.096		0.17	01/07/08	01/28/08
Europium 154	-0.04	U	0.30		0.56	01/07/08	01/28/08
Potassium 40	10.1		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.29	J	0.11	1.00	0.15	01/07/08	01/28/08
Thorium 232	0.42		0.15		0.26	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 75**
Thorium 228	0.41	J	0.15	1.00	0.07	01/07/08	01/21/08
Thorium 230	0.53	J	0.17	1.00	0.03	01/07/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 94**
Uranium 233/234	0.33	J	0.12	1.00	0.04	01/07/08	01/19/08
Uranium 235/236	0.047	U	0.049	1.00	0.052	01/07/08	01/19/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-373

Radiochemistry

Lab Sample ID: F8A040259-009
Work Order: KE4DA
Matrix: SOLID

Date Collected: 12/10/07 1006
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.61		0.20		0.21	01/07/08	01/28/08
Americium 241	0.03	U	0.11		0.18	01/07/08	01/28/08
Cesium 137	0.207		0.072	0.200	0.053	01/07/08	01/28/08
Cobalt 60	-0.004	U	0.049		0.091	01/07/08	01/28/08
Europium 152	0.016	U	0.098		0.17	01/07/08	01/28/08
Europium 154	-0.003	U	0.19		0.38	01/07/08	01/28/08
Potassium 40	8.7		1.3		0.8	01/07/08	01/28/08
Radium (226)	0.36	J	0.12	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.61		0.20		0.21	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 73**
Thorium 228	0.54	J	0.18	1.00	0.12	01/07/08	01/19/08
Thorium 230	0.55	J	0.17	1.00	0.07	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 92**
Uranium 233/234	0.50	J	0.15	1.00	0.08	01/07/08	01/19/08
Uranium 235/236	0.034	U	0.042	1.00	0.051	01/07/08	01/19/08
Uranium 238	0.52	J	0.15	1.00	0.08	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-374

Radiochemistry

Lab Sample ID: F8A040259-010
Work Order: KE4DC
Matrix: SOLID

Date Collected: 12/10/07 1009
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8007192		Yld %
Actinium 228	0.29	U	0.22		0.31	01/07/08	01/28/08
Americium 241	0.020	U	0.085		0.15	01/07/08	01/28/08
Cesium 137	0.046	U	0.055	0.200	0.088	01/07/08	01/28/08
Cobalt 60	-0.026	U	0.089		0.16	01/07/08	01/28/08
Europium 152	-0.02	U	0.14		0.25	01/07/08	01/28/08
Europium 154	0.0	U	0.76		1.4	01/07/08	01/28/08
Potassium 40	7.4		1.6		0.7	01/07/08	01/28/08
Radium (226)	0.50	J	0.15	1.00	0.10	01/07/08	01/28/08
Thorium 232	0.29	U	0.22		0.31	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007258		Yld % 65
Thorium 228	0.63	J	0.20	1.00	0.09	01/07/08	01/19/08
Thorium 230	0.28	J	0.13	1.00	0.08	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8007260		Yld % 88
Uranium 233/234	0.27	J	0.11	1.00	0.06	01/07/08	01/19/08
Uranium 235/236	0.008	U	0.027	1.00	0.065	01/07/08	01/19/08
Uranium 238	0.29	J	0.12	1.00	0.08	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-375

Radiochemistry

Lab Sample ID: F8A040259-011
Work Order: KE4DD
Matrix: SOLID

Date Collected: 12/10/07 1013
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.30	U	0.21		0.30	01/07/08	01/28/08
Americium 241	-0.004	U	0.10		0.18	01/07/08	01/28/08
Cesium 137	0.059	U	0.063	0.200	0.11	01/07/08	01/28/08
Cobalt 60	-0.006	U	0.062		0.12	01/07/08	01/28/08
Europium 152	-0.04	U	0.12		0.20	01/07/08	01/28/08
Europium 154	0.05	U	0.36		0.68	01/07/08	01/28/08
Potassium 40	**8.9**		1.6		**0.5**	**01/07/08**	**01/28/08**
Radium (226)	0.56	J	0.13	1.00	**0.09**	**01/07/08**	**01/28/08**
Thorium 232	0.30	U	0.21		0.30	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 32**
Thorium 228	0.33	J	0.22	1.00	**0.22**	**01/07/08**	**01/19/08**
Thorium 230	0.46	J	0.24	1.00	**0.16**	**01/07/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 88**
Uranium 233/234	0.28	J	0.11	1.00	**0.05**	**01/07/08**	**01/19/08**
Uranium 235/236	0.024	U	0.037	1.00	0.056	01/07/08	01/19/08
Uranium 238	0.25	J	0.10	1.00	**0.04**	**01/07/08**	**01/19/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-376

Radiochemistry

Lab Sample ID: F8A040259-012
Work Order: KE4DE
Matrix: SOLID

Date Collected: 12/10/07 1015
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007192**		**Yld %**
Actinium 228	0.30		0.11		0.19	01/07/08	01/28/08
Americium 241	0.03	U	0.25		0.44	01/07/08	01/28/08
Cesium 137	-0.0002	U	0.033	0.200	0.061	01/07/08	01/28/08
Cobalt 60	-0.003	U	0.035		0.066	01/07/08	01/28/08
Europium 152	-0.011	U	0.083		0.15	01/07/08	01/28/08
Europium 154	0.0	U	0.36		0.64	01/07/08	01/28/08
Potassium 40	11.1		1.4		0.5	01/07/08	01/28/08
Radium (226)	0.343	J	0.098	1.00	0.11	01/07/08	01/28/08
Thorium 232	0.30		0.11		0.19	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007258**		**Yld % 81**
Thorium 228	0.34	J	0.13	1.00	0.08	01/07/08	01/19/08
Thorium 230	0.46	J	0.15	1.00	0.06	01/07/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8007260**		**Yld % 87**
Uranium 233/234	0.25	J	0.10	1.00	0.04	01/07/08	01/19/08
Uranium 235/236	0.035	U	0.043	1.00	0.053	01/07/08	01/19/08
Uranium 238	0.30	J	0.11	1.00	0.03	01/07/08	01/19/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Dec-2007	15-365	F8A040259001	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-365	F8A040259001	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-365	F8A040259001	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-365DUP	F8A040259001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-365DUP	F8A040259001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-365DUP	F8A040259001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-366	F8A040259002	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-366	F8A040259002	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-366	F8A040259002	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-367	F8A040259003	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-367	F8A040259003	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-367	F8A040259003	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-368	F8A040259004	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-368	F8A040259004	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-368	F8A040259004	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-368	F8A040259004	N	Gen Prep	)OE SR-03-RC MOI	3
10-Dec-2007	15-368DUP	F8A040259004DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-369	F8A040259005	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-369	F8A040259005	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-369	F8A040259005	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-370	F8A040259006	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-370	F8A040259006	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-370	F8A040259006	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-371	F8A040259007	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-371	F8A040259007	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-371	F8A040259007	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Dec-2007	15-372	F8A040259008	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-372	F8A040259008	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-372	F8A040259008	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-373	F8A040259009	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-373	F8A040259009	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-373	F8A040259009	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-374	F8A040259010	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-374	F8A040259010	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-374	F8A040259010	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-375	F8A040259011	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-375	F8A040259011	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-375	F8A040259011	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-376	F8A040259012	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-376	F8A040259012	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-376	F8A040259012	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040259										
DOE A-01-R TH MOD	15-365	SO	N							
				THORIUM-228	1.00	0.35J	0.18	U	pCi/g	
				THORIUM-230	1.00	0.27J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-366	SO	N							
				THORIUM-230	1.00	0.39J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-368	SO	N							
				THORIUM-230	2.00	0.38J	0.21	U	pCi/g	
DOE A-01-R TH MOD	15-369	SO	N							
				THORIUM-228	1.00	0.34J	0.14	U	pCi/g	
				THORIUM-230	1.00	0.36J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-371	SO	N							
				THORIUM-228	1.00	0.32J	0.14	U	pCi/g	
				THORIUM-230	1.00	0.30J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-374	SO	N							
				THORIUM-230	1.00	0.28J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-375	SO	N							
				THORIUM-228	1.00	0.33J	0.22	U	pCi/g	
DOE A-01-R TH MOD	15-376	SO	N							
				THORIUM-228	1.00	0.34J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A040259

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A040259	15-365	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040259	15-365	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-366	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-368	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-369	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040259	15-369	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-371	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040259	15-371	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-374	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040259	15-375	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A040259	15-376	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A040259

Method Blank Outlier Report

Lab Reporting Batch : F8A040259
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A070000258MB

Lab ID: TestAme
Analysis Date : 01/19/2008
Preparation Date :
Preparation Batch : 8007258

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-228					
Method Blank Result:	**0.073**	**1.00**	**pCi/g**	**J**	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-365	F8A040259001	1	0.35	J	pCi/g
15-369	F8A040259005	1	0.34	J	pCi/g
15-371	F8A040259007	1	0.32	J	pCi/g
15-375	F8A040259011	1	0.33	J	pCi/g
15-376	F8A040259012	1	0.34	J	pCi/g

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.087**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-365	F8A040259001	1	0.27	J	pCi/g
15-366	F8A040259002	1	0.39	J	pCi/g
15-369	F8A040259005	1	0.36	J	pCi/g
15-371	F8A040259007	1	0.30	J	pCi/g
15-374	F8A040259010	1	0.28	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A040259
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A220000209MB

Lab ID: TestAme
Analysis Date : 01/25/2008
Preparation Date :
Preparation Batch : 8022209

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	0.106	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-368	F8A040259004	2	0.38	J	pCi/g

LDC #: 18448M35
SDG #: F8A040259
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

MG

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	No FDup
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-365	11	15-375	21		31	
2	15-366	12	15-376	22		32	
3	15-367	13	15-365DUP	23		33	
4	15-368	14	PBS	24		34	
5	15-369	15		25		35	
6	15-370	16		26		36	
7	15-371	17		27		37	
8	15-372	18		28		38	
9	15-373	19		29		39	
10	15-374	20		30		40	

Notes:

LDC #: 18448M73
SDG #: F8A040259
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N ~~A~~	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	ccc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-365	11 1	15-375	21		31	
2 1	15-366	12 1	15-376	22		32	
3 1	15-367	13 1	15-365DUP	23		33	
4 2	15-368	14 2	15-368DUP	24		34	
5 1	15-369	15 1	PBS 1	25		35	
6 1	15-370	16 2	PBS2	26		36	
7 1	15-371	17		27		37	
8 1	15-372	18		28		38	
9 1	15-373	19		29		39	
10 1	15-374	20		30		40	

Notes:

LDC #: 18448M59
SDG #: F8A040259
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
All Soil

1	15-365	11	15-375	21		31	
2	15-366	12	15-376	22		32	
3	15-367	13	15-365DUP	23		33	
4	15-368	14	PBS	24		34	
5	15-369	15		25		35	
6	15-370	16		26		36	
7	15-371	17		27		37	
8	15-372	18		28		38	
9	15-373	19		29		39	
10	15-374	20		30		40	

Notes:

LDC #: 18448M61
SDG #: F8A040259
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	ce
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-368	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31643

CHAIN-OF-CUSTODY RECORD

D1-25

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552 / 101734
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Gamma	Thorium	Uranium	90 Sr DOE 9-0/Sr-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-387	12/11/07	12:45	1	X		S	21DY	X	X	X			B-1IR-8Ab	2.5'	3'	Reg
15-388	12/11/07	12:50	1	X		S	21DY	X	X	X			B-1IR-8Ba	2'	2.5'	Reg
15-389	12/11/07	12:53	1	X		S	21DY	X	X	X			B-1IR-8Bb	2.5'	3'	Reg
15-390	12/11/07	12:58	2	X		S	21DY	X	X	X	X		1IR-8AB-02a	0"	6"	Reg
15-391	12/11/07	13:02	1	X		S	21DY	X	X	X			1IR-8AB-02b	6"	12"	Reg
15-392	12/11/07	13:07	1	X		S	21DY	X	X	X			1IR-8AB-03a	0"	6"	Reg
15-393	12/11/07	13:09	1	X		S	21DY	X	X	X			1IR-8AB-03b	6"	12"	Reg
15-394	12/11/07	13:10	1	X		S	21DY	X	X	X			1IR-8AB-04a	0"	6"	Reg
15-395	12/11/07	13:13	1	X		S	21DY	X	X	X			1IR-8AB-04b	6"	12"	Reg
15-396	12/11/07	13:17	1	X		S	21DY	X	X	X			1IR-8AB-05a	0"	6"	Reg

LABORATORY NAME: STL / TESTAMERICA SC
LABORATORY ID (FOR LABORATORY): F8A040261

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY: AR / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~30~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION: * no 3days - 31-3-08 S2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Remediate Remediation Site Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605053

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31644

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552 ~~1017341~~
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	FPG Gollum gamma	Thorium	Uranium	COMMENTS
15-397	12/11/07	13:20	1	X		S	~~21~~ 14DY	X	X	X	

LABORATORY NAME: STL TESTAmerica
LABORATORY ID (FOR LABORATORY): F8A040261

Project Information Section Do not submit to Laboratory

LOCATION	DEPTH START	DEPTH END	QC
IR-8AB-05b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	1/3/08	
COMPANY: TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~3DY~~ + 21DY Ingrowths

COMPOSITE DESCRIPTION: * NO 3-days 1-3-08 SZ

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = ~~Regional~~ Installation Restoration Site

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059053

Tetra Tech EC, Inc.

Client Sample ID: 15-387

Radiochemistry

Lab Sample ID: F8A040261-001
Work Order: KE4DF
Matrix: SOLID

Date Collected: 12/11/07 1245
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.45		0.18		0.21	01/07/08	01/28/08
Americium 241	-0.040	U	0.098		0.17	01/07/08	01/28/08
Cesium 137	0.013	U	0.042	0.200	0.075	01/07/08	01/28/08
Cobalt 60	0.0	U	0.0089		0.033	01/07/08	01/28/08
Europium 152	-0.006	U	0.11		0.20	01/07/08	01/28/08
Europium 154	0.08	U	0.41		0.74	01/07/08	01/28/08
Potassium 40	9.7		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.36	J	0.12	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.45		0.18		0.21	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 82**
Thorium 228	0.82	J	0.20	1.00	0.08	01/06/08	01/21/08
Thorium 230	0.65	J	0.18	1.00	0.06	01/06/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 99**
Uranium 233/234	0.53	J	0.14	1.00	0.04	01/06/08	01/17/08
Uranium 235/236	0.011	U	0.022	1.00	0.030	01/06/08	01/17/08
Uranium 238	0.48	J	0.14	1.00	0.04	01/06/08	01/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-387 DUP

Radiochemistry

Lab Sample ID: F8A040261-001X
Work Order: KE4DF
Matrix: SOLID

Date Collected: 12/11/07 1245
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007193		Yld %
Actinium 228	0.43		0.16		0.28	01/07/08	11/28/08
Americium 241	-0.017	U	0.091		0.16	01/07/08	11/28/08
Cesium 137	-0.007	U	0.039	0.200	0.073	01/07/08	11/28/08
Cobalt 60	0.0	U	0.012		0.046	01/07/08	11/28/08
Europium 152	0.0	U	0.11		0.20	01/07/08	11/28/08
Europium 154	0.20	U	0.33		0.57	01/07/08	11/28/08
Potassium 40	7.9		1.5		0.5	01/07/08	11/28/08
Radium (226)	0.26	J	0.13	1.00	0.18	01/07/08	11/28/08
Thorium 232	0.43		0.16		0.28	01/07/08	11/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-388

Radiochemistry

Lab Sample ID: F8A040261-002
Work Order: KE4DH
Matrix: SOLID

Date Collected: 12/11/07 1250
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.32		0.16		0.21	01/07/08	01/28/08
Americium 241	0.004	U	0.094		0.16	01/07/08	01/28/08
Cesium 137	0.012	U	0.044	0.200	0.078	01/07/08	01/28/08
Cobalt 60	0.0006	U	0.052		0.098	01/07/08	01/28/08
Europium 152	0.059	U	0.096		0.16	01/07/08	01/28/08
Europium 154	0.03	U	0.32		0.59	01/07/08	01/28/08
Potassium 40	10		1.4		0.3	01/07/08	01/28/08
Radium (226)	0.38	J	0.12	1.00	0.15	01/07/08	01/28/08
Thorium 232	0.32		0.16		0.21	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 88**
Thorium 228	0.30	J	0.12	1.00	0.1	01/06/08	01/19/08
Thorium 230	0.53	J	0.16	1.00	0.06	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 97**
Uranium 233/234	0.27	J	0.10	1.00	0.04	01/06/08	01/17/08
Uranium 235/236	0.024	U	0.034	1.00	0.032	01/06/08	01/17/08
Uranium 238	0.36	J	0.12	1.00	0.04	01/06/08	01/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-389

Radiochemistry

Lab Sample ID: F8A040261-003
Work Order: KE4DJ
Matrix: SOLID

Date Collected: 12/11/07 1253
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.36		0.18		0.15	01/07/08	01/28/08
Americium 241	0.0	U	0.12		0.22	01/07/08	01/28/08
Cesium 137	-0.010	U	0.051	0.200	0.095	01/07/08	01/28/08
Cobalt 60	0.0	U	0.015		0.056	01/07/08	01/28/08
Europium 152	0.0	U	0.14		0.25	01/07/08	01/28/08
Europium 154	-0.06	U	0.35		0.67	01/07/08	01/28/08
Potassium 40	10.5		1.9		0.6	01/07/08	01/28/08
Radium (226)	0.21	J	0.14	1.00	0.20	01/07/08	01/28/08
Thorium 232	0.36		0.18		0.15	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 71**
Thorium 228	0.51	J	0.17	1.00	0.08	01/06/08	01/19/08
Thorium 230	0.26	J	0.12	1.00	0.08	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 91**
Uranium 233/234	0.25	J	0.10	1.00	0.06	01/06/08	01/17/08
Uranium 235/236	0.020	U	0.035	1.00	0.060	01/06/08	01/17/08
Uranium 238	0.30	J	0.11	1.00	0.05	01/06/08	01/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-390

Radiochemistry

Lab Sample ID: F8A040261-004
Work Order: KE4DK
Matrix: SOLID

Date Collected: 12/11/07 1258
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.38		0.16		0.28	01/07/08	01/28/08
Americium 241	0.036	U	0.081		0.14	01/07/08	01/28/08
Cesium 137	-0.002	U	0.061	0.200	0.11	01/07/08	01/28/08
Cobalt 60	-0.0005	U	0.049		0.097	01/07/08	01/28/08
Europium 152	0.0003	U	0.098		0.18	01/07/08	01/28/08
Europium 154	-0.09	U	0.39		0.72	01/07/08	01/28/08
Potassium 40	5.8		1.4		1.0	01/07/08	01/28/08
Radium (226)	0.44	J	0.12	1.00	0.09	01/07/08	01/28/08
Thorium 232	0.38		0.16		0.28	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 86**
Thorium 228	0.26	J	0.11	1.00	0.08	01/06/08	01/19/08
Thorium 230	0.34	J	0.13	1.00	0.06	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 91**
Uranium 233/234	0.29	J	0.11	1.00	0.05	01/06/08	01/18/08
Uranium 235/236	0.0	U	0.011	1.00	0.033	01/06/08	01/18/08
Uranium 238	0.223	J	0.096	1.00	0.048	01/06/08	01/18/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8005018**		**Yld % 72**
Strontium 90	0.14	U	0.22	3.00	0.36	01/04/08	01/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-391

Radiochemistry

Lab Sample ID: F8A040261-005
Work Order: KE4DL
Matrix: SOLID

Date Collected: 12/11/07 1302
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	**0.34**		0.12		**0.18**	01/07/08	01/28/08
Americium 241	0.01	U	0.32		0.55	01/07/08	01/28/08
Cesium 137	0.012	U	0.029	0.200	0.051	01/07/08	01/28/08
Cobalt 60	-0.005	U	0.031		0.058	01/07/08	01/28/08
Europium 152	-0.025	U	0.092		0.16	01/07/08	01/28/08
Europium 154	0.02	U	0.25		0.46	01/07/08	01/28/08
Potassium 40	**9.2**		1.3		**0.5**	01/07/08	01/28/08
Radium (226)	**0.50**	J	0.12	1.00	**0.13**	01/07/08	01/28/08
Thorium 232	**0.34**		0.12		**0.18**	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 85**
Thorium 228	**0.85**	J	0.21	1.00	**0.08**	01/06/08	01/19/08
Thorium 230	**0.56**	J	0.16	1.00	**0.05**	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 94**
Uranium 233/234	**0.34**	J	0.12	1.00	**0.04**	01/06/08	01/18/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/06/08	01/18/08
Uranium 238	**0.42**	J	0.13	1.00	**0.04**	01/06/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-392

Radiochemistry

Lab Sample ID: F8A040261-006
Work Order: KE4DN
Matrix: SOLID

Date Collected: 12/11/07 1307
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.24	U	0.14		0.30	01/07/08	01/28/08
Americium 241	0.0	U	0.092		0.16	01/07/08	01/28/08
Cesium 137	**0.184**	**J**	0.063	0.200	**0.068**	**01/07/08**	**01/28/08**
Cobalt 60	-0.017	U	0.051		0.092	01/07/08	01/28/08
Europium 152	-0.025	U	0.092		0.16	01/07/08	01/28/08
Europium 154	0.0	U	0.34		0.64	01/07/08	01/28/08
Potassium 40	**7.3**		1.4		**0.9**	**01/07/08**	**01/28/08**
Radium (226)	**0.41**	**J**	0.11	1.00	**0.06**	**01/07/08**	**01/28/08**
Thorium 232	0.24	U	0.14		0.30	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 82**
Thorium 228	**0.39**	**J**	0.14	1.00	**0.09**	**01/06/08**	**01/19/08**
Thorium 230	**0.27**	**J**	0.11	1.00	**0.07**	**01/06/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 99**
Uranium 233/234	**0.28**	**J**	0.10	1.00	**0.06**	**01/06/08**	**01/18/08**
Uranium 235/236	-0.0043	U	0.0061	1.00	0.056	01/06/08	01/18/08
Uranium 238	**0.223**	**J**	0.093	1.00	**0.049**	**01/06/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-393

Radiochemistry

Lab Sample ID: F8A040261-007
Work Order: KE4DR
Matrix: SOLID

Date Collected: 12/11/07 1309
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.25		0.16		0.21	01/07/08	01/28/08
Americium 241	0.030	U	0.072		0.12	01/07/08	01/28/08
Cesium 137	0.016	U	0.036	0.200	0.065	01/07/08	01/28/08
Cobalt 60	-0.0005	U	0.042		0.085	01/07/08	01/28/08
Europium 152	0.01	U	0.082		0.15	01/07/08	01/28/08
Europium 154	0.0	U	0.47		0.87	01/07/08	01/28/08
Potassium 40	9.2		1.6		0.4	01/07/08	01/28/08
Radium (226)	0.27	J	0.12	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.25		0.16		0.21	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 80**
Thorium 228	0.45	J	0.16	1.00	0.11	01/06/08	01/19/08
Thorium 230	0.61	J	0.17	1.00	0.03	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 87**
Uranium 233/234	0.46	J	0.14	1.00	0.06	01/06/08	01/18/08
Uranium 235/236	0.027	U	0.038	1.00	0.037	01/06/08	01/18/08
Uranium 238	0.39	J	0.13	1.00	0.04	01/06/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-394

Radiochemistry

Lab Sample ID: F8A040261-008
Work Order: KE4DV
Matrix: SOLID

Date Collected: 12/11/07 1310
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8007193		Yld %
Actinium 228	0.38		0.15		0.27	01/07/08	01/28/08
Americium 241	0.051	U	0.090		0.15	01/07/08	01/28/08
Cesium 137	0.258		0.066	0.200	0.039	01/07/08	01/28/08
Cobalt 60	0.024	U	0.046		0.080	01/07/08	01/28/08
Europium 152	-0.01	U	0.090		0.16	01/07/08	01/28/08
Europium 154	-0.02	U	0.36		0.66	01/07/08	01/28/08
Potassium 40	8.3		1.4		0.9	01/07/08	01/28/08
Radium (226)	0.36	J	0.12	1.00	0.16	01/07/08	01/28/08
Thorium 232	0.38		0.15		0.27	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8006015		Yld % 78
Thorium 228	0.42	J	0.15	1.00	0.09	01/06/08	01/19/08
Thorium 230	0.52	J	0.16	1.00	0.05	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8006014		Yld % 88
Uranium 233/234	0.25	J	0.11	1.00	0.05	01/06/08	01/18/08
Uranium 235/236	0.024	U	0.037	1.00	0.055	01/06/08	01/18/08
Uranium 238	0.30	J	0.12	1.00	0.05	01/06/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-395

Radiochemistry

Lab Sample ID: F8A040261-009
Work Order: KE4DW
Matrix: SOLID

Date Collected: 12/11/07 1313
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.24	U	0.18		0.27	01/07/08	01/28/08
Americium 241	0.020	U	0.087		0.15	01/07/08	01/28/08
Cesium 137	0.033	U	0.047	0.200	0.078	01/07/08	01/28/08
Cobalt 60	-0.007	U	0.043		0.080	01/07/08	01/28/08
Europium 152	-0.011	U	0.091		0.16	01/07/08	01/28/08
Europium 154	-0.004	U	0.30		0.55	01/07/08	01/28/08
Potassium 40	**8.3**		**1.3**		**0.7**	**01/07/08**	**01/28/08**
Radium (226)	**0.23**	**J**	**0.11**	1.00	**0.16**	**01/07/08**	**01/28/08**
Thorium 232	0.24	U	0.18		0.27	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 84**
Thorium 228	**0.29**	**J**	**0.12**	1.00	**0.07**	**01/06/08**	**01/19/08**
Thorium 230	**0.40**	**J**	**0.14**	1.00	**0.03**	**01/06/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 84**
Uranium 233/234	**0.31**	**J**	**0.12**	1.00	**0.08**	**01/06/08**	**01/18/08**
Uranium 235/236	0.011	U	0.026	1.00	0.055	01/06/08	01/18/08
Uranium 238	**0.27**	**J**	**0.11**	1.00	**0.08**	**01/06/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-396

Radiochemistry

Lab Sample ID: F8A040261-010
Work Order: KE4DX
Matrix: SOLID

Date Collected: 12/11/07 1317
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.19	U	0.20		0.31	01/07/08	01/28/08
Americium 241	0.073	U	0.097		0.16	01/07/08	01/28/08
Cesium 137	0.030	U	0.051	0.200	0.086	01/07/08	01/28/08
Cobalt 60	0.005	U	0.053		0.10	01/07/08	01/28/08
Europium 152	-0.006	U	0.11		0.20	01/07/08	01/28/08
Europium 154	-0.04	U	0.35		0.67	01/07/08	01/28/08
Potassium 40	**7.4**		**1.5**		**0.6**	**01/07/08**	**01/28/08**
Radium (226)	**0.47**	**J**	**0.14**	**1.00**	**0.09**	**01/07/08**	**01/28/08**
Thorium 232	0.19	U	0.20		0.31	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 79**
Thorium 228	**0.38**	**J**	**0.14**	**1.00**	**0.07**	**01/06/08**	**01/19/08**
Thorium 230	**0.25**	**J**	**0.11**	**1.00**	**0.03**	**01/06/08**	**01/19/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 82**
Uranium 233/234	**0.51**	**J**	**0.16**	**1.00**	**0.06**	**01/06/08**	**01/18/08**
Uranium 235/236	-0.0053	U	0.0075	1.00	0.069	01/06/08	01/18/08
Uranium 238	**0.35**	**J**	**0.13**	**1.00**	**0.08**	**01/06/08**	**01/18/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-397

Radiochemistry

Lab Sample ID: F8A040261-011
Work Order: KE4D1
Matrix: SOLID

Date Collected: 12/11/07 1320
Date Received: 01/04/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8007193**		**Yld %**
Actinium 228	0.28	U	0.20		0.28	01/07/08	01/28/08
Americium 241	0.074	U	0.090		0.15	01/07/08	01/28/08
Cesium 137	-0.03	U	0.94	0.20	0.12	01/07/08	01/28/08
Cobalt 60	0.0	U	0.071		0.13	01/07/08	01/28/08
Europium 152	0.03	U	0.10		0.18	01/07/08	01/28/08
Europium 154	0.0	U	0.078		0.29	01/07/08	01/28/08
Potassium 40	7.3		1.5		0.5	01/07/08	01/28/08
Radium (226)	0.53	J	0.15	1.00	0.13	01/07/08	01/28/08
Thorium 232	0.28	U	0.20		0.28	01/07/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006015**		**Yld % 81**
Thorium 228	0.38	J	0.14	1.00	0.06	01/06/08	01/19/08
Thorium 230	0.49	J	0.15	1.00	0.05	01/06/08	01/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8006014**		**Yld % 87**
Uranium 233/234	0.29	J	0.11	1.00	0.05	01/06/08	01/18/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/06/08	01/18/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/06/08	01/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-Dec-2007	15-387	F8A040261001	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-387	F8A040261001	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-387	F8A040261001	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-387DUP	F8A040261001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-388	F8A040261002	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-388	F8A040261002	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-388	F8A040261002	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-389	F8A040261003	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-389	F8A040261003	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-389	F8A040261003	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-390	F8A040261004	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-390	F8A040261004	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-390	F8A040261004	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-390	F8A040261004	N	Gen Prep	)OE SR-03-RC MOI	3
11-Dec-2007	15-391	F8A040261005	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-391	F8A040261005	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-391	F8A040261005	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-392	F8A040261006	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-392	F8A040261006	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-392	F8A040261006	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-393	F8A040261007	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-393	F8A040261007	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-393	F8A040261007	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-394	F8A040261008	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-394	F8A040261008	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-394	F8A040261008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-Dec-2007	15-395	F8A040261009	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-395	F8A040261009	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-395	F8A040261009	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-396	F8A040261010	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-396	F8A040261010	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-396	F8A040261010	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-397	F8A040261011	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-397	F8A040261011	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-397	F8A040261011	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A040261										
DOE A-01-R TH MOD	15-389	SO	N	THORIUM-230	1.00	0.26J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-390	SO	N	THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-392	SO	N	THORIUM-230	1.00	0.27J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-395	SO	N	THORIUM-230	1.00	0.40J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-396	SO	N	THORIUM-230	1.00	0.25J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-388	SO	N	URANIUM-233/234	1.00	0.27J	0.10	U	pCi/g	
DOE A-01-R U MOD	15-389	SO	N	URANIUM-233/234	1.00	0.25J	0.10	U	pCi/g	
DOE A-01-R U MOD	15-392	SO	N	URANIUM-233/234	1.00	0.28J	0.10	U	pCi/g	
DOE A-01-R U MOD	15-394	SO	N	URANIUM-233/234	1.00	0.25J	0.11	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Te

Reason for Qualified Results

SDG Nos. : F8A040261

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A040261	15-388	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A040261	15-389	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040261	15-389	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A040261	15-390	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040261	15-392	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040261	15-392	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A040261	15-394	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A040261	15-395	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A040261	15-396	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A040261

Method Blank Outlier Report

Lab Reporting Batch : F8A040261
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 01/17/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A060000014MB
Preparation Batch : 8006014

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.056	1.00	pCi/g	J	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-388	F8A040261002	1	0.27	J	pCi/g
15-389	F8A040261003	1	0.25	J	pCi/g
15-392	F8A040261006	1	0.28	J	pCi/g
15-394	F8A040261008	1	0.25	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A040261
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A060000015MB

Lab ID: TestAme
Analysis Date : 01/19/2008
Preparation Date :
Preparation Batch : 8006015

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.091	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-389	F8A040261003	1	0.26	J	pCi/g
15-390	F8A040261004	1	0.34	J	pCi/g
15-392	F8A040261006	1	0.27	J	pCi/g
15-395	F8A040261009	1	0.40	J	pCi/g
15-396	F8A040261010	1	0.25	J	pCi/g

LDC #: 18448N35
SDG #: F8A040261
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

gMS

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	N. Dup
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-387	11	15-397	21		31	
2	15-388	12	15-387DUP	22		32	
3	15-389	13	PBS	23		33	
4	15-390	14		24		34	
5	15-391	15		25		35	
6	15-392	16		26		36	
7	15-393	17		27		37	
8	15-394	18		28		38	
9	15-395	19		29		39	
10	15-396	20		30		40	

Notes:

LDC #: 18448N73
SDG #: F8A040261
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	client specified
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-387	11	15-397	21		31	
2	15-388	12	PBS	22		32	
3	15-389	13		23		33	
4	15-390	14		24		34	
5	15-391	15		25		35	
6	15-392	16		26		36	
7	15-393	17		27		37	
8	15-394	18		28		38	
9	15-395	19		29		39	
10	15-396	20		30		40	

Notes:

LDC #: 18448N59
SDG #: F8A040261
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	client specific
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	NA	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-387	11	15-397	21		31	
2	15-388	12	PBS	22		32	
3	15-389	13		23		33	
4	15-390	14		24		34	
5	15-391	15		25		35	
6	15-392	16		26		36	
7	15-393	17		27		37	
8	15-394	18		28		38	
9	15-395	19		29		39	
10	15-396	20		30		40	

Notes:

LDC #: 18448N61
SDG #: F8A040261
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-390	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31656

ENTERED 01-11

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 1C6C69552 ~~TC19347~~
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Benkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: ~~TestAmerica~~ STL

LABORATORY ID (FOR LABORATORY): FBA080208

Project Information Section Do not submit to Laboratory

10 P

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	Perchlorate EPA 6850	Thorium	Uranium	9/R DOE 52-01/42-08	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-477	12/13/07	7:58	1	X		S	~~28~~ 21 DY	X	X	X			B-1 IR-13Ba	2'	2.5'	REG
15-478	12/13/07	8:00	2	X		S	~~28~~ 21 DY	X	X	X	X		B-1 IR-13Bb	2.5'	3'	Reg
15-479	12/13/07	8:05	1	X		S	~~28~~ 21 DY	X	X	X			1-IR-13B-07a	0"	6"	Reg
15-480	12/13/07	8:07	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-07b	6"	12"	Reg
15-481	12/13/07	8:10	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-03a	2'	2.5'	Reg
15-482	12/13/07	8:13	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-03b	2.5'	3'	Reg
15-483	12/13/07	8:17	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-04a	0"	6"	Reg
15-484	12/13/07	8:19	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-04b	6"	12"	Reg
15-485	12/13/07	8:21	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-05a	2'	2.5'	Reg
15-486	12/13/07	8:23	1	X		S	~~28~~ 21 DY	X	X	X			1IR-13B-05b	2.5'	3'	Reg

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)
COMPANY Tetra Tech	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~3 DY~~ + 21 DY Turnaround ~~MS~~ dup 1-8-08

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160599077

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31657

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.06.79553 / 7017341	LABORATORY NAME: TestAmerica STL	Project Information Section Do not submit to Laboratory
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D	LABORATORY ID (FOR LABORATORY): F8A080208	
SAMPLER NAME: V Richards	AIRBILL NUMBER:		
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500		

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; DOE SR-01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Thorium	Uranium	DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-487	12/13/07	8:47	1	X		S	2DY ~~21~~	X	X	X			B-1IR-15a	2'	2.5'	Reg
15-488	12/13/07	8:50	2	X		S	2DY ~~21~~	X	X	X	X		B-1IR-15b	2.5'	3'	Reg
15-489	12/13/07	8:55	2	X		W	2DY ~~21~~	X	X	X		F8B120265 *	Equipment Rinsate			ER
15-490	12/13/07	8:57	1	X		S	2DY ~~21~~	X	X	X			1IR-15-02a	0"	6"	Reg
15-491	12/13/07	9:00	1	X		S	2DY ~~21~~	X	X	X			1IR-15-02b	6"	12"	Reg
15-492	12/13/07	9:03	1	X		S	2DY ~~21~~	X	X	X			B-1IR-16a	2'	2.5'	Reg
15-493	12/13/07	9:05	1	X		S	2DY ~~21~~	X	X	X			B-1IR-16b	2.5'	3'	Reg
15-494	—	—	VOID										VOID			
15-495	—	—	VOID										VOID			
15-496	12/13/07	9:08	1	X		S	2DY ~~21~~	X	X	X			1IR-16-02a	2'	2.5'	Reg

RELINQUISHED BY (Signature): [signature]	DATE: 1/7/08	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: * no 3day - 1-8-08 SL; ~~3~~ DY + 21 DY Ingrowths
COMPANY: Tt EC / [illegible]	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION: * RA-226 via 903.0M 2-8-08 SL
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COMPANY:	TIME:	COMPANY:	COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059097

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31668

ENTERED 01-29

PROJECT NAME	PURCHASE ORDER NO. 106.062955
PROJECT LOCATION	PROJECT NO.
SAMPLER NAME	AIRBILL NUMBER
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER

ANALYSES REQUIRED

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): F8A080208

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: no 3-day 1-8-08 S²
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR-INSTALLATION RESTORATION

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160590988

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31649

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME	PURCHASE ORDER NO. 106.0629552
PROJECT LOCATION	PROJECT NO.
SAMPLER NAME	AIRBILL NUMBER
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER

ANALYSES REQUIRED

LABORATORY NAME: Testamerica

LABORATORY ID (FOR LABORATORY): F8A080208

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-505	13-07	502	1	X			21 D		1IR18ABC-01a	0"	6"	Reg.
15-509	13-07	506	1	X			21 D		1IR15ABC-01b	6"	1'	Reg.
15-510	13-07	517	2	X		W	21 D	F8B120265 **	Equipment Rinsate	/	/	EQ
15-511	13-07	521	1	X			21 D		1IR13ABC-02a	0"	6"	Reg.
15-512	13-07	0530	1	X			21 D		1IR13ABC-02b	6"	1'	Reg.
15-513	13-07	0539	1	X			21 D		1IR13ABC-03a	0"	6"	Reg.
15-514	13-07	0541	1	X			21 D		1IR13ABC-03b	6"	1'	Reg.
15-515	13-07	0853	1	X			21 D		1IR18ABC-04a	2'	2.6'	Reg.
15-516	13-07	0857	1	X			21 D		1IR13ABC-05a	2'	2.6'	Reg.
15-517	13-07	1104	1	X			21 D		1IR13ABC-05b	2.6'	3'	Reg.

RELINQUISHED BY (Signature)	DATE 1/9/08	RECEIVED BY (Signature)	
COMPANY TTA/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * NO3 dup S2
5D + 21D Ingrowths

COMPOSITE DESCRIPTION
Ra-226 via 903.0m 2-8-0852

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1600 9097

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31659

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1, 2 + 32	~~7017341~~ 106.0629552	Test America ~~STL~~
PROJECT LOCATION	**PROJECT NO.**	**LABORATORY ID (FOR LABORATORY)**
Alameda CA	3210.028D	F8A080208
SAMPLER NAME	**AIRBILL NUMBER**	
V Richards		
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
Lisa Bienkowskie	949-756-7500	

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m gamma; Thorium; Uranium; ~~DOE SR-01/~~ SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m gamma	Thorium	Uranium	SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-497	12/13/07	9:10	1	X		S	21 DY	X	X	X			1IR-16-02b	2.5'	3'	Reg
15-498	12/13/07	9:22	2	X		S	21 DY	X	X	X	X		B-1IR-17a	2'	2.5'	Reg
15-499	12/13/07	9:25	1	X		S	21 DY	X	X	X			B-1IR-17b	2.5'	3'	Reg
15-500	12/13/07	9:27	1	X		S	21 DY	X	X	X			1IR-17-02a	2'	2.5'	Reg
15-501	12/13/07	9:30	1	X		S	21 DY	X	X	X			1IR-17-02b	2.5'	3'	Reg
15-502	12/13/07	9:50	1	X		S	21 DY	X	X	X			B-1IR-18Aa	2'	2.5'	Reg
15-503	12/13/07	9:53	1	X		S	21 DY	X	X	X			B-1IR-18Ab	2.5'	3'	Reg
15-504	12/13/07	9:55	1	X		S	21 DY	X	X	X			B-1IR-18Ba	2'	2.5'	Reg
15-505	12/13/07	9:57	1	X		S	21 DY	X	X	X			B-1IR-18Bb	2.5'	3'	Reg
15-506	12/13/07	10:02	1	X		S	21 DY	X	X	X			B-1IR-18Ca	2'	2.5'	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/7/08	
COMPANY: TtEC/Berkeley	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: no 3-day 1-8-8 SZ
~~3 Dy~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Restoration

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059094

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31660

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO. ~~1017341~~ 106.06795 52	LABORATORY NAME: Test America ~~STL~~	Project Information Section Do not submit to Laboratory
PROJECT LOCATION: Alameda CA	PROJECT NO. 3210.028D		
SAMPLER NAME: V Richards	AIRBILL NUMBER	LABORATORY ID (FOR LABORATORY): F8A080208	
PROJECT CONTACT: Lisa Bienkowske	PROJECT CONTACT PHONE NUMBER: 949-756-7500		

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT*	EPA Radium gamma	Thorium	Uranium	2% SR DOE SR-01/U-02					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-507	12/13/07	10:05	1	X		S	21 DY	X	X	X							B-1IR-18C6	2.5'	3'	RG

RELINQUISHED BY (Signature) [signature]	DATE 1/7/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS no 3-day 1-8-08 SJ ~~3DY~~ +21 DY Ingrowths
COMPANY TtEC / Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)** TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COMPANY	TIME	COMPANY	COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059097

Tetra Tech EC, Inc.

Client Sample ID: 15-518

Radiochemistry

Lab Sample ID: F8A080208-001
Work Order: KE7GD
Matrix: SOLID

Date Collected: 12/13/07 0914
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.26	U	0.18		0.27	01/10/08	01/31/08
Americium 241	-0.04	U	0.10		0.18	01/10/08	01/31/08
Cesium 137	**0.269**		**0.059**	**0.200**	**0.022**	**01/10/08**	**01/31/08**
Cobalt 60	-0.001	U	0.043		0.083	01/10/08	01/31/08
Europium 152	-0.04	U	0.12		0.21	01/10/08	01/31/08
Europium 154	0.13	U	0.28		0.48	01/10/08	01/31/08
Potassium 40	**9.5**		**1.4**		**0.3**	**01/10/08**	**01/31/08**
Radium (226)	**0.31**	**J**	**0.12**	**1.00**	**0.18**	**01/10/08**	**01/31/08**
Thorium 232	0.26	U	0.18		0.27	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 28**
Thorium 228	**0.34**	**J**	**0.22**	**1.00**	**0.22**	**01/10/08**	**01/24/08**
Thorium 230	**0.43**	**J**	**0.25**	**1.00**	**0.22**	**01/10/08**	**01/24/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 91**
Uranium 233/234	**0.41**	**J**	**0.13**	**1.00**	**0.04**	**01/10/08**	**01/22/08**
Uranium 235/236	0.025	U	0.036	1.00	0.034	01/10/08	01/22/08
Uranium 238	**0.36**	**J**	**0.12**	**1.00**	**0.04**	**01/10/08**	**01/22/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 75**
Strontium 90	-0.21	U	0.30	3.00	0.54	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-518 DUP

Radiochemistry

Lab Sample ID: F8A080208-001X
Work Order: KE7GD
Matrix: SOLID

Date Collected: 12/13/07 0914
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8009071		Yld % 72
Strontium 90	-0.16	U	0.31	3.00	0.56	01/09/08	01/21/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8010286		Yld %
Actinium 228	0.40		0.20		0.24	01/10/08	01/31/08
Americium 241	-0.023	U	0.097		0.17	01/10/08	01/31/08
Cesium 137	0.245		0.077	0.200	0.052	01/10/08	01/31/08
Cobalt 60	0.0	U	0.012		0.043	01/10/08	01/31/08
Europium 152	0.045	U	0.092		0.16	01/10/08	01/31/08
Europium 154	0.0	U	0.39		0.74	01/10/08	01/31/08
Potassium 40	8.4		1.5		0.8	01/10/08	01/31/08
Radium (226)	0.58	J	0.14	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.40		0.20		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8010316		Yld % 87
Thorium 228	0.30	J	0.12	1.00	0.06	01/10/08	01/24/08
Thorium 230	0.24	J	0.10	1.00	0.03	01/10/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8010317		Yld % 90
Uranium 233/234	0.27	J	0.11	1.00	0.06	01/10/08	01/22/08
Uranium 235/236	-0.0047	U	0.0067	1.00	0.061	01/10/08	01/22/08
Uranium 238	0.32	J	0.12	1.00	0.05	01/10/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-519

Radiochemistry

Lab Sample ID: F8A080208-002
Work Order: KE7GQ
Matrix: SOLID

Date Collected: 12/13/07 0917
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.30		0.17		0.23	01/10/08	01/31/08
Americium 241	0.025	U	0.091		0.15	01/10/08	01/31/08
Cesium 137	0.002	U	0.044	0.200	0.080	01/10/08	01/31/08
Cobalt 60	-0.004	U	0.044		0.083	01/10/08	01/31/08
Europium 152	-0.04	U	0.11		0.19	01/10/08	01/31/08
Europium 154	0.005	U	0.29		0.55	01/10/08	01/31/08
Potassium 40	8.3		1.3		0.3	01/10/08	01/31/08
Radium (226)	0.27	J	0.11	1.00	0.17	01/10/08	01/31/08
Thorium 232	0.30		0.17		0.23	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 58
Thorium 228	0.54	J	0.20	1.00	0.11	01/10/08	01/23/08
Thorium 230	0.51	J	0.19	1.00	0.10	01/10/08	01/23/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 90
Uranium 233/234	0.38	J	0.13	1.00	0.04	01/10/08	01/23/08
Uranium 235/236	0.036	U	0.045	1.00	0.054	01/10/08	01/23/08
Uranium 238	0.25	J	0.10	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-520

Radiochemistry

Lab Sample ID: F8A080208-003
Work Order: KE7GT
Matrix: SOLID

Date Collected: 12/13/07 0926
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.27	U	0.20		0.28	01/10/08	01/31/08
Americium 241	0.009	U	0.070		0.12	01/10/08	01/31/08
Cesium 137	-0.01	U	0.051	0.200	0.093	01/10/08	01/31/08
Cobalt 60	0.017	U	0.030		0.053	01/10/08	01/31/08
Europium 152	0.020	U	0.089		0.16	01/10/08	01/31/08
Europium 154	0.19	U	0.31		0.53	01/10/08	01/31/08
Potassium 40	8.1		1.6		1	01/10/08	01/31/08
Radium (226)	0.49	J	0.12	1.00	0.05	01/10/08	01/31/08
Thorium 232	0.27	U	0.20		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 48**
Thorium 228	1.02		0.30	1.00	0.10	01/10/08	01/22/08
Thorium 230	0.50	J	0.20	1.00	0.08	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 89**
Uranium 233/234	0.56	J	0.16	1.00	0.08	01/10/08	01/23/08
Uranium 235/236	0.060	J	0.056	1.00	0.053	01/10/08	01/23/08
Uranium 238	0.44	J	0.14	1.00	0.08	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-521

Radiochemistry

Lab Sample ID: F8A080208-004
Work Order: KE7GW
Matrix: SOLID

Date Collected: 12/13/07 0928
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.18	U	0.19		0.30	01/10/08	01/31/08
Americium 241	0.034	U	0.082		0.14	01/10/08	01/31/08
Cesium 137	-0.03	U	0.84	0.20	0.10	01/10/08	01/31/08
Cobalt 60	0.006	U	0.051		0.099	01/10/08	01/31/08
Europium 152	0.007	U	0.094		0.17	01/10/08	01/31/08
Europium 154	-0.0006	U	0.46		0.86	01/10/08	01/31/08
Potassium 40	8.9		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.26	J	0.12	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.18	U	0.19		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 76
Thorium 228	0.65	J	0.19	1.00	0.07	01/10/08	01/22/08
Thorium 230	0.38	J	0.14	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 96
Uranium 233/234	0.42	J	0.13	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.068	J	0.060	1.00	0.059	01/10/08	01/23/08
Uranium 238	0.45	J	0.14	1.00	0.07	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-522

Radiochemistry

Lab Sample ID: F8A080208-005
Work Order: KE7G0
Matrix: SOLID

Date Collected: 12/13/07 0938
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.33		0.12		0.20	01/10/08	01/31/08
Americium 241	0.12	U	0.22		0.37	01/10/08	01/31/08
Cesium 137	-0.002	U	0.029	0.200	0.054	01/10/08	01/31/08
Cobalt 60	0.0	U	0.043		0.079	01/10/08	01/31/08
Europium 152	-0.021	U	0.082		0.14	01/10/08	01/31/08
Europium 154	-0.0007	U	0.19		0.37	01/10/08	01/31/08
Potassium 40	9.2		1.2		0.5	01/10/08	01/31/08
Radium (226)	0.378	J	0.0995	1.00	0.10	01/10/08	01/31/08
Thorium 232	0.33		0.12		0.20	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 66**
Thorium 228	0.36	J	0.16	1.00	0.11	01/10/08	01/22/08
Thorium 230	0.27	J	0.13	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 74**
Uranium 233/234	0.19	J	0.10	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	-0.0029	U	0.0058	1.00	0.066	01/10/08	01/23/08
Uranium 238	0.41	J	0.15	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-523

Radiochemistry

Lab Sample ID: F8A080208-006
Work Order: KE7G3
Matrix: SOLID

Date Collected: 12/13/07 0943
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.18	U	0.17		0.26	01/10/08	01/31/08
Americium 241	0.050	U	0.083		0.14	01/10/08	01/31/08
Cesium 137	0.014	U	0.038	0.200	0.068	01/10/08	01/31/08
Cobalt 60	-0.001	U	0.046		0.091	01/10/08	01/31/08
Europium 152	-0.008	U	0.088		0.16	01/10/08	01/31/08
Europium 154	0.02	U	0.35		0.66	01/10/08	01/31/08
Potassium 40	**8.3**		1.5		**0.9**	**01/10/08**	**01/31/08**
Radium (226)	**0.37**	**J**	0.11	1.00	**0.08**	**01/10/08**	**01/31/08**
Thorium 232	0.18	U	0.17		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 69**
Thorium 228	**0.26**	**J**	0.13	1.00	**0.10**	**01/10/08**	**01/22/08**
Thorium 230	**0.40**	**J**	0.15	1.00	**0.07**	**01/10/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 92**
Uranium 233/234	**0.27**	**J**	0.10	1.00	**0.04**	**01/10/08**	**01/23/08**
Uranium 235/236	-0.0022	U	0.0043	1.00	0.049	01/10/08	01/23/08
Uranium 238	**0.32**	**J**	0.11	1.00	**0.03**	**01/10/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-524

Radiochemistry

Lab Sample ID: F8A080208-007
Work Order: KE7G5
Matrix: SOLID

Date Collected: 12/13/07 0949
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.25	U	0.20		0.29	01/10/08	01/31/08
Americium 241	-0.02	U	0.10		0.17	01/10/08	01/31/08
Cesium 137	-0.002	U	0.044	0.200	0.081	01/10/08	01/31/08
Cobalt 60	-0.014	U	0.064		0.12	01/10/08	01/31/08
Europium 152	-0.01	U	0.10		0.18	01/10/08	01/31/08
Europium 154	0.1	U	0.31		0.57	01/10/08	01/31/08
Potassium 40	7.0		1.4		0.8	01/10/08	01/31/08
Radium (226)	0.33	J	0.12	1.00	0.14	01/10/08	01/31/08
Thorium 232	0.25	U	0.20		0.29	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 33**
Thorium 228	0.67	J	0.29	1.00	0.17	01/10/08	01/22/08
Thorium 230	0.68	J	0.29	1.00	0.14	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 99**
Uranium 233/234	0.49	J	0.15	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.023	U	0.036	1.00	0.053	01/10/08	01/23/08
Uranium 238	0.53	J	0.15	1.00	0.03	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-525

Radiochemistry

Lab Sample ID: F8A080208-008
Work Order: KE7G7
Matrix: SOLID

Date Collected: 12/13/07 0951
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.27		0.18		0.26	01/10/08	01/31/08
Americium 241	0.032	U	0.092		0.16	01/10/08	01/31/08
Cesium 137	0.003	U	0.038	0.200	0.070	01/10/08	01/31/08
Cobalt 60	0.00004	U	0.052		0.097	01/10/08	01/31/08
Europium 152	0.07	U	0.10		0.17	01/10/08	01/31/08
Europium 154	-0.08	U	0.32		0.57	01/10/08	01/31/08
Potassium 40	9.3		1.4		0.3	01/10/08	01/31/08
Radium (226)	0.36	J	0.12	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.27		0.18		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 73**
Thorium 228	0.43	J	0.15	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.40	J	0.15	1.00	0.08	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 92**
Uranium 233/234	0.36	J	0.13	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.024	U	0.037	1.00	0.055	01/10/08	01/23/08
Uranium 238	0.39	J	0.13	1.00	0.06	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-526

Radiochemistry

Lab Sample ID: F8A080208-009
Work Order: KE7G8
Matrix: SOLID

Date Collected: 12/13/07 0959
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.25		0.16		0.24	01/10/08	01/31/08
Americium 241	0.029	U	0.078		0.13	01/10/08	01/31/08
Cesium 137	0.113	J	0.051	0.200	0.069	01/10/08	01/31/08
Cobalt 60	0.009	U	0.042		0.076	01/10/08	01/31/08
Europium 152	-0.015	U	0.090		0.16	01/10/08	01/31/08
Europium 154	-0.03	U	0.31		0.57	01/10/08	01/31/08
Potassium 40	9.7		1.3		0.3	01/10/08	01/31/08
Radium (226)	0.62	J	0.14	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.25		0.16		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 77**
Thorium 228	0.68	J	0.20	1.00	0.11	01/10/08	01/23/08
Thorium 230	0.53	J	0.17	1.00	0.06	01/10/08	01/23/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 90**
Uranium 233/234	0.31	J	0.12	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.026	U	0.036	1.00	0.035	01/10/08	01/23/08
Uranium 238	0.40	J	0.13	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-527

Radiochemistry

Lab Sample ID: F8A080208-010
Work Order: KE7HC
Matrix: SOLID

Date Collected: 12/13/07 1001
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.20	U	0.21		0.33	01/10/08	01/31/08
Americium 241	0.07	U	0.10		0.17	01/10/08	01/31/08
Cesium 137	-0.001	U	0.047	0.200	0.089	01/10/08	01/31/08
Cobalt 60	0.0	U	0.013		0.050	01/10/08	01/31/08
Europium 152	-0.02	U	0.14		0.25	01/10/08	01/31/08
Europium 154	-0.006	U	0.40		0.76	01/10/08	01/31/08
Potassium 40	9.1		1.7		0.5	01/10/08	01/31/08
Radium (226)	0.47	J	0.14	1.00	0.1	01/10/08	01/31/08
Thorium 232	0.20	U	0.21		0.33	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 76**
Thorium 228	0.39	J	0.14	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.39	J	0.14	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 89**
Uranium 233/234	0.34	J	0.13	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	01/10/08	01/23/08
Uranium 238	0.42	J	0.14	1.00	0.03	01/10/08	01/23/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-477

Radiochemistry

Lab Sample ID: F8A080208-011
Work Order: KE7HE
Matrix: SOLID

Date Collected: 12/13/07 0758
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.22	U	0.25		0.41	01/10/08	01/31/08
Americium 241	-0.12	U	0.18		0.29	01/10/08	01/31/08
Cesium 137	-0.02	U	0.26	0.20	0.12	01/10/08	01/31/08
Cobalt 60	0.011	U	0.076		0.14	01/10/08	01/31/08
Europium 152	0.02	U	0.22		0.37	01/10/08	01/31/08
Europium 154	-0.004	U	0.52		0.95	01/10/08	01/31/08
Potassium 40	6.5		1.4		1.2	01/10/08	01/31/08
Radium (226)	7.16		0.63	1.00	0.19	01/10/08	01/31/08
Thorium 232	0.22	U	0.25		0.41	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 67
Thorium 228	0.33	J	0.15	1.00	0.11	01/10/08	01/22/08
Thorium 230	0.32	J	0.14	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 88
Uranium 233/234	0.28	J	0.11	1.00	0.07	01/10/08	01/23/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	01/10/08	01/23/08
Uranium 238	0.36	J	0.13	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-478

Radiochemistry

Lab Sample ID: F8A080208-012
Work Order: KE7HJ
Matrix: SOLID

Date Collected: 12/13/07 0800
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.18	U	0.16		0.25	01/10/08	01/31/08
Americium 241	-0.08	U	0.47		0.79	01/10/08	01/31/08
Cesium 137	-0.012	U	0.041	0.200	0.072	01/10/08	01/31/08
Cobalt 60	-0.004	U	0.044		0.079	01/10/08	01/31/08
Europium 152	0.02	U	0.13		0.23	01/10/08	01/31/08
Europium 154	0.28	U	0.30		0.48	01/10/08	01/31/08
Potassium 40	**7.5**		**1.2**		**0.7**	**01/10/08**	**01/31/08**
Radium (226)	**5.96**		**0.48**	**1.00**	**0.13**	**01/10/08**	**01/31/08**
Thorium 232	0.18	U	0.16		0.25	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 76**
Thorium 228	**0.21**	**J**	**0.11**	**1.00**	**0.09**	**01/10/08**	**01/22/08**
Thorium 230	**1.04**		**0.25**	**1.00**	**0.08**	**01/10/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 85**
Uranium 233/234	**0.95**	**J**	**0.22**	**1.00**	**0.06**	**01/10/08**	**01/23/08**
Uranium 235/236	-0.0026	U	0.0051	1.00	0.058	01/10/08	01/23/08
Uranium 238	**0.76**	**J**	**0.19**	**1.00**	**0.05**	**01/10/08**	**01/23/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 69**
Strontium 90	0.17	U	0.35	3.00	0.58	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-479

Radiochemistry

Lab Sample ID: F8A080208-013
Work Order: KE7HK
Matrix: SOLID

Date Collected: 12/13/07 0805
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.29		0.19		0.28	01/10/08	01/31/08
Americium 241	0.016	U	0.077		0.13	01/10/08	01/31/08
Cesium 137	0.006	U	0.032	0.200	0.060	01/10/08	01/31/08
Cobalt 60	0.013	U	0.041		0.076	01/10/08	01/31/08
Europium 152	0.0008	U	0.089		0.16	01/10/08	01/31/08
Europium 154	0.0	U	0.33		0.62	01/10/08	01/31/08
Potassium 40	6.7		1.3		0.9	01/10/08	01/31/08
Radium (226)	0.84	J	0.15	1.00	0.06	01/10/08	01/31/08
Thorium 232	0.29		0.19		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 84
Thorium 228	0.43	J	0.15	1.00	0.10	01/10/08	01/22/08
Thorium 230	0.51	J	0.16	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 95
Uranium 233/234	0.42	J	0.13	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/10/08	01/23/08
Uranium 238	0.39	J	0.13	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-480

Radiochemistry

Lab Sample ID: F8A080208-014
Work Order: KE7HM
Matrix: SOLID

Date Collected: 12/13/07 0807
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.22	U	0.16		0.24	01/10/08	01/31/08
Americium 241	-0.003	U	0.095		0.16	01/10/08	01/31/08
Cesium 137	0.022	U	0.040	0.200	0.068	01/10/08	01/31/08
Cobalt 60	-0.002	U	0.038		0.072	01/10/08	01/31/08
Europium 152	-0.0276	U	0.0999		0.17	01/10/08	01/31/08
Europium 154	0.06	U	0.22		0.40	01/10/08	01/31/08
Potassium 40	5.9		1.0		0.6	01/10/08	01/31/08
Radium (226)	0.61	J	0.14	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.22	U	0.16		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 90
Thorium 228	0.42	J	0.14	1.00	0.06	01/10/08	01/22/08
Thorium 230	0.44	J	0.14	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 89
Uranium 233/234	0.50	J	0.15	1.00	0.07	01/10/08	01/23/08
Uranium 235/236	-0.0047	U	0.0067	1.00	0.062	01/10/08	01/23/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-481

Radiochemistry

Lab Sample ID: F8A080208-015
Work Order: KE7HP
Matrix: SOLID

Date Collected: 12/13/07 0810
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.08	U	0.18		0.30	01/10/08	01/31/08
Americium 241	-0.006	U	0.086		0.15	01/10/08	01/31/08
Cesium 137	0.003	U	0.046	0.200	0.084	01/10/08	01/31/08
Cobalt 60	0.008	U	0.041		0.076	01/10/08	01/31/08
Europium 152	0.0	U	0.14		0.24	01/10/08	01/31/08
Europium 154	-0.003	U	0.22		0.43	01/10/08	01/31/08
Potassium 40	**4.97**		**0.96**		**0.31**	**01/10/08**	**01/31/08**
Radium (226)	**1.14**		**0.18**	**1.00**	**0.15**	**01/10/08**	**01/31/08**
Thorium 232	0.08	U	0.18		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 40**
Thorium 228	**0.26**	**J**	**0.17**	**1.00**	**0.17**	**01/10/08**	**01/22/08**
Thorium 230	**0.31**	**J**	**0.18**	**1.00**	**0.13**	**01/10/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 89**
Uranium 233/234	**0.202**	**J**	**0.095**	**1.00**	**0.056**	**01/10/08**	**01/23/08**
Uranium 235/236	0.006	U	0.027	1.00	0.070	01/10/08	01/23/08
Uranium 238	**0.27**	**J**	**0.11**	**1.00**	**0.04**	**01/10/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-482

Radiochemistry

Lab Sample ID: F8A080208-016
Work Order: KE7HQ
Matrix: SOLID

Date Collected: 12/13/07 0813
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.20	U	0.23		0.38	01/10/08	01/31/08
Americium 241	0.026	U	0.080		0.14	01/10/08	01/31/08
Cesium 137	0.01	U	0.056	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.002	U	0.070		0.13	01/10/08	01/31/08
Europium 152	-0.004	U	0.11		0.20	01/10/08	01/31/08
Europium 154	-0.09	U	0.42		0.77	01/10/08	01/31/08
Potassium 40	**6.3**		1.3		0.5	01/10/08	01/31/08
Radium (226)	**1.62**		0.24	1.00	0.05	01/10/08	01/31/08
Thorium 232	0.20	U	0.23		0.38	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 78**
Thorium 228	**0.26**	J	0.12	1.00	0.09	01/10/08	01/22/08
Thorium 230	**0.39**	J	0.14	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 86**
Uranium 233/234	**0.30**	J	0.12	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	01/10/08	01/23/08
Uranium 238	**0.209**	J	0.097	1.00	0.052	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-483

Radiochemistry

Lab Sample ID: F8A080208-017
Work Order: KE7HR
Matrix: SOLID

Date Collected: 12/13/07 0817
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.27		0.19		0.27	01/10/08	01/31/08
Americium 241	0.05	U	0.10		0.17	01/10/08	01/31/08
Cesium 137	0.002	U	0.054	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.016	U	0.042		0.077	01/10/08	01/31/08
Europium 152	0.05	U	0.11		0.20	01/10/08	01/31/08
Europium 154	0.05	U	0.39		0.72	01/10/08	01/31/08
Potassium 40	8.3		1.5		0.9	01/10/08	01/31/08
Radium (226)	1.83		0.25	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.27		0.19		0.27	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 82
Thorium 228	0.36	J	0.14	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.39	J	0.14	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 88
Uranium 233/234	0.26	J	0.11	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.019	U	0.039	1.00	0.072	01/10/08	01/23/08
Uranium 238	0.32	J	0.12	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-484

Radiochemistry

Lab Sample ID: F8A080208-018
Work Order: KE7HV
Matrix: SOLID

Date Collected: 12/13/07 0819
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010286		Yld %
Actinium 228	0.23		0.14		0.21	01/10/08	01/31/08
Americium 241	0.09	U	0.29		0.50	01/10/08	01/31/08
Cesium 137	0.011	U	0.028	0.200	0.049	01/10/08	01/31/08
Cobalt 60	0.0001	U	0.026		0.050	01/10/08	01/31/08
Europium 152	0.0007	U	0.077		0.14	01/10/08	01/31/08
Europium 154	-0.08	U	0.25		0.44	01/10/08	01/31/08
Potassium 40	8.7		1.1		0.5	01/10/08	01/31/08
Radium (226)	1.33		0.18	1.00	0.08	01/10/08	01/31/08
Thorium 232	0.23		0.14		0.21	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010316		Yld % 89
Thorium 228	0.38	J	0.13	1.00	0.06	01/10/08	01/23/08
Thorium 230	0.36	J	0.13	1.00	0.06	01/10/08	01/23/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010317		Yld % 92
Uranium 233/234	0.224	J	0.097	1.00	0.048	01/10/08	01/23/08
Uranium 235/236	0.012	U	0.025	1.00	0.033	01/10/08	01/23/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-485

Radiochemistry

Lab Sample ID: F8A080208-019
Work Order: KE7HW
Matrix: SOLID

Date Collected: 12/13/07 0821
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010286**		**Yld %**
Actinium 228	0.27		0.16		0.22	01/10/08	01/31/08
Americium 241	-0.035	U	0.080		0.13	01/10/08	01/31/08
Cesium 137	0.019	U	0.039	0.200	0.067	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0095		0.035	01/10/08	01/31/08
Europium 152	0.016	U	0.070		0.13	01/10/08	01/31/08
Europium 154	-0.03	U	0.29		0.54	01/10/08	01/31/08
Potassium 40	5.0		1.1		0.8	01/10/08	01/31/08
Radium (226)	0.61	J	0.12	1.00	0.04	01/10/08	01/31/08
Thorium 232	0.27		0.16		0.22	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010316**		**Yld % 65**
Thorium 228	0.22	J	0.12	1.00	0.11	01/10/08	01/23/08
Thorium 230	0.24	J	0.12	1.00	0.08	01/10/08	01/23/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010317**		**Yld % 52**
Uranium 233/234	0.44	J	0.18	1.00	0.1	01/10/08	01/25/08
Uranium 235/236	0.023	U	0.047	1.00	0.063	01/10/08	01/25/08
Uranium 238	0.46	J	0.19	1.00	0.08	01/10/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-486

Radiochemistry

Lab Sample ID: F8A080208-020
Work Order: KE7HX
Matrix: SOLID

Date Collected: 12/13/07 0823
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010286**	**Yld %**
Actinium 228	0.28		0.18		0.26	01/10/08	01/31/08
Americium 241	0.007	U	0.069		0.12	01/10/08	01/31/08
Cesium 137	0.007	U	0.031	0.200	0.058	01/10/08	01/31/08
Cobalt 60	0.0	U	0.010		0.038	01/10/08	01/31/08
Europium 152	-0.021	U	0.097		0.17	01/10/08	01/31/08
Europium 154	0.0	U	0.059		0.22	01/10/08	01/31/08
Potassium 40	7.6		1.3		0.4	01/10/08	01/31/08
Radium (226)	0.40	J	0.11	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.28		0.18		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010316**	**Yld % 88**
Thorium 228	0.34	J	0.13	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.34	J	0.12	1.00	0.04	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010317**	**Yld % 95**
Uranium 233/234	0.38	J	0.13	1.00	0.04	01/10/08	01/23/08
Uranium 235/236	0.037	J	0.042	1.00	0.033	01/10/08	01/23/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-487

Radiochemistry

Lab Sample ID: F8A080208-021
Work Order: KE7H3
Matrix: SOLID

Date Collected: 12/13/07 0847
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.23	U	0.16		0.24	01/10/08	01/31/08
Americium 241	0.021	U	0.094		0.16	01/10/08	01/31/08
Cesium 137	0.003	U	0.037	0.200	0.068	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0081		0.030	01/10/08	01/31/08
Europium 152	0.0	U	0.11		0.20	01/10/08	01/31/08
Europium 154	-0.04	U	0.35		0.63	01/10/08	01/31/08
Potassium 40	9.5		1.4		0.3	01/10/08	01/31/08
Radium (226)	0.23	J	0.10	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.23	U	0.16		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 90**
Thorium 228	0.44	J	0.14	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.39	J	0.13	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 90**
Uranium 233/234	0.43	J	0.14	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.045	U	0.050	1.00	0.061	01/10/08	01/23/08
Uranium 238	0.38	J	0.13	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-487 DUP

Radiochemistry

Lab Sample ID: F8A080208-021X
Work Order: KE7H3
Matrix: SOLID

Date Collected: 12/13/07 0847
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.31		0.17		0.24	01/10/08	01/31/08
Americium 241	-0.04	U	0.10		0.18	01/10/08	01/31/08
Cesium 137	0.0002	U	0.040	0.200	0.074	01/10/08	01/31/08
Cobalt 60	-0.020	U	0.062		0.11	01/10/08	01/31/08
Europium 152	-0.001	U	0.070		0.13	01/10/08	01/31/08
Europium 154	0.08	U	0.30		0.54	01/10/08	01/31/08
Potassium 40	7.0		1.2		0.6	01/10/08	01/31/08
Radium (226)	0.30	J	0.11	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.31		0.17		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 78**
Thorium 228	0.39	J	0.14	1.00	0.07	01/10/08	01/22/08
Thorium 230	0.60	J	0.18	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 88**
Uranium 233/234	0.38	J	0.13	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.041	J	0.048	1.00	0.037	01/10/08	01/23/08
Uranium 238	0.37	J	0.13	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-488

Radiochemistry

Lab Sample ID: F8A080208-022
Work Order: KE7H5
Matrix: SOLID

Date Collected: 12/13/07 0850
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010287		Yld %
Actinium 228	0.31		0.20		0.27	01/10/08	01/31/08
Americium 241	0.033	U	0.095		0.16	01/10/08	01/31/08
Cesium 137	-0.0006	U	0.051	0.200	0.096	01/10/08	01/31/08
Cobalt 60	-0.004	U	0.060		0.12	01/10/08	01/31/08
Europium 152	-0.01	U	0.12		0.21	01/10/08	01/31/08
Europium 154	0.0	U	0.37		0.73	01/10/08	01/31/08
Potassium 40	9.9		1.8		0.5	01/10/08	01/31/08
Radium (226)	0.28	J	0.11	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.31		0.20		0.27	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010355		Yld % 81
Thorium 228	0.44	J	0.15	1.00	0.06	01/10/08	01/23/08
Thorium 230	0.56	J	0.17	1.00	0.03	01/10/08	01/23/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010358		Yld % 92
Uranium 233/234	0.27	J	0.11	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.078	J	0.064	1.00	0.035	01/10/08	01/23/08
Uranium 238	0.27	J	0.11	1.00	0.04	01/10/08	01/23/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009071		Yld % 49
Strontium 90	1.56	J	0.56	3.00	0.80	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-489

Radiochemistry

Lab Sample ID: F8A080208-023
Work Order: KE7H6
Matrix: WATER

Date Collected: 12/13/07 0855
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	8	U	21		37	01/10/08	01/14/08
Americium 241	0.9	U	8.3		15	01/10/08	01/14/08
Cesium 137	-0.06	U	6.8	20.0	15	01/10/08	01/14/08
Cobalt 60	1.9	U	7.1		13	01/10/08	01/14/08
Europium 152	5	U	15		25	01/10/08	01/14/08
Europium 154	0.2	U	46		87	01/10/08	01/14/08
Potassium 40	17	U	75		140	01/10/08	01/14/08
Thorium 232	8	U	21		37	01/10/08	01/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 71**
Thorium 228	0.030	U	0.097	1.00	0.20	01/18/08	01/23/08
Thorium 230	**0.15**	**J**	**0.13**	1.00	**0.13**	**01/18/08**	**01/23/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 74**
Uranium 233/234	0.08	U	0.11	1.00	0.16	01/18/08	01/22/08
Uranium 235/236	-0.006	U	0.012	1.00	0.14	01/18/08	01/22/08
Uranium 238	0.033	U	0.077	1.00	0.15	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-489 DUP

Radiochemistry

Lab Sample ID: F8A080208-023X
Work Order: KE7H6
Matrix: WATER

Date Collected: 12/13/07 0855
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L		Batch # 8010308		Yld %
Actinium 228	0.0	U	20		40	01/10/08	01/14/08
Americium 241	0.0	U	12		22	01/10/08	01/14/08
Cesium 137	2.9	U	8.4	20.0	15	01/10/08	01/14/08
Cobalt 60	0.1	U	7.8		16	01/10/08	01/14/08
Europium 152	-0.7	U	17		32	01/10/08	01/14/08
Europium 154	0.0	U	55		110	01/10/08	01/14/08
Potassium 40	0.0	U	24		88	01/10/08	01/14/08
Thorium 232	0.0	U	20		40	01/10/08	01/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-490

Radiochemistry

Lab Sample ID: F8A080208-024
Work Order: KE7H8
Matrix: SOLID

Date Collected: 12/13/07 0857
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010287**	**Yld %**
Actinium 228	0.20	U	0.20		0.31	01/10/08	01/31/08
Americium 241	0.069	U	0.085		0.14	01/10/08	01/31/08
Cesium 137	0.012	U	0.055	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.022	U	0.034		0.058	01/10/08	01/31/08
Europium 152	0.008	U	0.098		0.18	01/10/08	01/31/08
Europium 154	-0.09	U	0.41		0.74	01/10/08	01/31/08
Potassium 40	9.2		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.30	J	0.12	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.20	U	0.20		0.31	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010355**	**Yld % 92**
Thorium 228	0.34	J	0.12	1.00	0.06	01/10/08	01/22/08
Thorium 230	0.39	J	0.13	1.00	0.03	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010358**	**Yld % 88**
Uranium 233/234	0.41	J	0.14	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/10/08	01/23/08
Uranium 238	0.42	J	0.14	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-491

Radiochemistry

Lab Sample ID: F8A080208-025
Work Order: KE7H9
Matrix: SOLID

Date Collected: 12/13/07 0900
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.36		0.14		0.18	01/10/08	01/31/08
Americium 241	0.01	U	0.22		0.39	01/10/08	01/31/08
Cesium 137	0.058	J	0.034	0.200	0.049	01/10/08	01/31/08
Cobalt 60	-0.00005	U	0.029		0.056	01/10/08	01/31/08
Europium 152	0.045	U	0.065		0.11	01/10/08	01/31/08
Europium 154	-0.04	U	0.19		0.35	01/10/08	01/31/08
Potassium 40	8.0		1.1		0.5	01/10/08	01/31/08
Radium (226)	0.373	J	0.092	1.00	0.088	01/10/08	01/31/08
Thorium 232	0.36		0.14		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 76**
Thorium 228	0.48	J	0.16	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.52	J	0.16	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 88**
Uranium 233/234	0.32	J	0.12	1.00	0.08	01/10/08	01/23/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/10/08	01/23/08
Uranium 238	0.26	J	0.11	1.00	0.08	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-492

Radiochemistry

Lab Sample ID: F8A080208-026
Work Order: KE7JC
Matrix: SOLID

Date Collected: 12/13/07 0903
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.31		0.14		0.26	01/10/08	01/31/08
Americium 241	0.044	U	0.078		0.13	01/10/08	01/31/08
Cesium 137	0.023	U	0.042	0.200	0.073	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0096		0.035	01/10/08	01/31/08
Europium 152	-0.029	U	0.096		0.17	01/10/08	01/31/08
Europium 154	0.0007	U	0.32		0.59	01/10/08	01/31/08
Potassium 40	8.3		1.4		0.4	01/10/08	01/31/08
Radium (226)	0.42	J	0.10	1.00	0.06	01/10/08	01/31/08
Thorium 232	0.31		0.14		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 77**
Thorium 228	0.49	J	0.16	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.50	J	0.15	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 83**
Uranium 233/234	0.41	J	0.14	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	-0.0052	U	0.0074	1.00	0.068	01/10/08	01/23/08
Uranium 238	0.34	J	0.13	1.00	0.08	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-493

Radiochemistry

Lab Sample ID: F8A080208-027
Work Order: KE7JE
Matrix: SOLID

Date Collected: 12/13/07 0905
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8010287**		**Yld %**
Actinium 228	0.36		0.16		0.17	01/10/08	01/31/08
Americium 241	0.0	U	0.088		0.15	01/10/08	01/31/08
Cesium 137	0.022	U	0.043	0.200	0.074	01/10/08	01/31/08
Cobalt 60	0.0	U	0.057		0.11	01/10/08	01/31/08
Europium 152	0.003	U	0.094		0.17	01/10/08	01/31/08
Europium 154	0.0	U	0.42		0.78	01/10/08	01/31/08
Potassium 40	9.1		1.5		0.4	01/10/08	01/31/08
Radium (226)	0.43	J	0.12	1.00	0.10	01/10/08	01/31/08
Thorium 232	0.36		0.16		0.17	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8010355**		**Yld % 88**
Thorium 228	0.65	J	0.18	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.36	J	0.13	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8010358**		**Yld % 92**
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/10/08	01/23/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-496

Radiochemistry

Lab Sample ID: F8A080208-028
Work Order: KE7JG
Matrix: SOLID

Date Collected: 12/13/07 0908
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.35		0.15		0.18	01/10/08	01/31/08
Americium 241	0.067	U	0.081		0.13	01/10/08	01/31/08
Cesium 137	0.021	U	0.042	0.200	0.072	01/10/08	01/31/08
Cobalt 60	-0.007	U	0.038		0.071	01/10/08	01/31/08
Europium 152	0.03	U	0.10		0.18	01/10/08	01/31/08
Europium 154	0.08	U	0.28		0.50	01/10/08	01/31/08
Potassium 40	10.6		1.5		0.5	01/10/08	01/31/08
Radium (226)	0.38	J	0.12	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.35		0.15		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 85**
Thorium 228	0.49	J	0.16	1.00	0.08	01/10/08	01/22/08
Thorium 230	0.58	J	0.17	1.00	0.07	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 91**
Uranium 233/234	0.32	J	0.11	1.00	0.04	01/10/08	01/23/08
Uranium 235/236	0.01	U	0.024	1.00	0.050	01/10/08	01/23/08
Uranium 238	0.40	J	0.13	1.00	0.03	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-497

Radiochemistry

Lab Sample ID: F8A080208-029
Work Order: KE7JJ
Matrix: SOLID

Date Collected: 12/13/07 0910
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.38		0.20		0.35	01/10/08	01/31/08
Americium 241	-0.002	U	0.099		0.17	01/10/08	01/31/08
Cesium 137	0.018	U	0.056	0.200	0.099	01/10/08	01/31/08
Cobalt 60	0.014	U	0.056		0.11	01/10/08	01/31/08
Europium 152	-0.006	U	0.093		0.17	01/10/08	01/31/08
Europium 154	0.0	U	0.49		0.91	01/10/08	01/31/08
Potassium 40	9.3		1.8		1.0	01/10/08	01/31/08
Radium (226)	0.59	J	0.14	1.00	0.06	01/10/08	01/31/08
Thorium 232	0.38		0.20		0.35	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 85**
Thorium 228	0.48	J	0.15	1.00	0.1	01/10/08	01/22/08
Thorium 230	0.54	J	0.16	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 97**
Uranium 233/234	0.45	J	0.14	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/10/08	01/23/08
Uranium 238	0.33	J	0.12	1.00	0.03	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-498

Radiochemistry

Lab Sample ID: F8A080208-030
Work Order: KE7J1
Matrix: SOLID

Date Collected: 12/13/07 0922
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.22	U	0.21		0.33	01/10/08	01/31/08
Americium 241	-0.004	U	0.078		0.14	01/10/08	01/31/08
Cesium 137	-0.01	U	0.12	0.20	0.11	01/10/08	01/31/08
Cobalt 60	0.0	U	0.074		0.14	01/10/08	01/31/08
Europium 152	-0.018	U	0.093		0.17	01/10/08	01/31/08
Europium 154	0.0	U	0.32		0.64	01/10/08	01/31/08
Potassium 40	**8.5**		**1.6**		**0.5**	**01/10/08**	**01/31/08**
Radium (226)	**0.67**	**J**	**0.15**	**1.00**	**0.1**	**01/10/08**	**01/31/08**
Thorium 232	0.22	U	0.21		0.33	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 84**
Thorium 228	**0.21**	**J**	**0.10**	**1.00**	**0.08**	**01/10/08**	**01/23/08**
Thorium 230	**0.29**	**J**	**0.12**	**1.00**	**0.05**	**01/10/08**	**01/23/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 84**
Uranium 233/234	**0.24**	**J**	**0.11**	**1.00**	**0.07**	**01/10/08**	**01/23/08**
Uranium 235/236	0.054	U	0.057	1.00	0.060	01/10/08	01/23/08
Uranium 238	**0.173**	**J**	**0.092**	**1.00**	**0.066**	**01/10/08**	**01/23/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 78**
Strontium 90	0.1	U	0.30	3.00	0.51	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-499

Radiochemistry

Lab Sample ID: F8A080208-031
Work Order: KE7J5
Matrix: SOLID

Date Collected: 12/13/07 0925
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.39		0.14		0.16	01/10/08	01/31/08
Americium 241	-0.10	U	0.29		0.49	01/10/08	01/31/08
Cesium 137	-0.009	U	0.034	0.200	0.060	01/10/08	01/31/08
Cobalt 60	-0.012	U	0.034		0.062	01/10/08	01/31/08
Europium 152	0.029	U	0.070		0.12	01/10/08	01/31/08
Europium 154	-0.06	U	0.23		0.41	01/10/08	01/31/08
Potassium 40	10.2		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.47	J	0.11	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.39		0.14		0.16	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 72**
Thorium 228	0.61	J	0.19	1.00	0.1	01/10/08	01/22/08
Thorium 230	0.48	J	0.17	1.00	0.07	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 91**
Uranium 233/234	0.26	J	0.11	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.049	U	0.055	1.00	0.066	01/10/08	01/23/08
Uranium 238	0.38	J	0.13	1.00	0.03	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-500

Radiochemistry

Lab Sample ID: F8A080208-032
Work Order: KE7KC
Matrix: SOLID

Date Collected: 12/13/07 0927
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010287**	**Yld %**
Actinium 228	0.43		0.20		0.24	01/10/08	01/31/08
Americium 241	0.047	U	0.083		0.14	01/10/08	01/31/08
Cesium 137	-0.001	U	0.039	0.200	0.072	01/10/08	01/31/08
Cobalt 60	0.009	U	0.047		0.088	01/10/08	01/31/08
Europium 152	0.060	U	0.094		0.16	01/10/08	01/31/08
Europium 154	0.009	U	0.32		0.60	01/10/08	01/31/08
Potassium 40	8.3		1.4		0.5	01/10/08	01/31/08
Radium (226)	0.36	J	0.12	1.00	0.14	01/10/08	01/31/08
Thorium 232	0.43		0.20		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010355**	**Yld % 79**
Thorium 228	0.85	J	0.21	1.00	0.09	01/10/08	01/22/08
Thorium 230	0.59	J	0.17	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010358**	**Yld % 92**
Uranium 233/234	0.46	J	0.14	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	01/10/08	01/23/08
Uranium 238	0.50	J	0.15	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-501

Radiochemistry

Lab Sample ID: F8A080208-033
Work Order: KE7KE
Matrix: SOLID

Date Collected: 12/13/07 0930
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010287		Yld %
Actinium 228	0.34		0.20		0.26	01/10/08	01/31/08
Americium 241	-0.01	U	0.11		0.18	01/10/08	01/31/08
Cesium 137	0.0	U	0.042	0.200	0.080	01/10/08	01/31/08
Cobalt 60	-0.004	U	0.047		0.093	01/10/08	01/31/08
Europium 152	-0.002	U	0.083		0.16	01/10/08	01/31/08
Europium 154	-0.08	U	0.41		0.75	01/10/08	01/31/08
Potassium 40	8.6		1.6		0.7	01/10/08	01/31/08
Radium (226)	0.55	J	0.14	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.34		0.20		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010355		Yld % 81
Thorium 228	0.40	J	0.14	1.00	0.09	01/10/08	01/22/08
Thorium 230	0.53	J	0.16	1.00	0.06	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010358		Yld % 92
Uranium 233/234	0.35	J	0.12	1.00	0.07	01/10/08	01/23/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/10/08	01/23/08
Uranium 238	0.42	J	0.14	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-502

Radiochemistry

Lab Sample ID: F8A080208-034
Work Order: KE7KG
Matrix: SOLID

Date Collected: 12/13/07 0950
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.15	U	0.15		0.24	01/10/08	01/31/08
Americium 241	-0.029	U	0.086		0.15	01/10/08	01/31/08
Cesium 137	0.006	U	0.035	0.200	0.063	01/10/08	01/31/08
Cobalt 60	-0.0005	U	0.040		0.075	01/10/08	01/31/08
Europium 152	0.004	U	0.077		0.14	01/10/08	01/31/08
Europium 154	0.06	U	0.27		0.48	01/10/08	01/31/08
Potassium 40	6.8		1.1		0.3	01/10/08	01/31/08
Radium (226)	0.36	J	0.11	1.00	0.14	01/10/08	01/31/08
Thorium 232	0.15	U	0.15		0.24	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 83**
Thorium 228	0.40	J	0.14	1.00	0.09	01/10/08	01/22/08
Thorium 230	0.187	J	0.094	1.00	0.063	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 87**
Uranium 233/234	0.41	J	0.14	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	01/10/08	01/23/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-503

Radiochemistry

Lab Sample ID: F8A080208-035
Work Order: KE7KJ
Matrix: SOLID

Date Collected: 12/13/07 0953
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.41		0.16		0.18	01/10/08	01/31/08
Americium 241	0.004	U	0.093		0.16	01/10/08	01/31/08
Cesium 137	0.010	U	0.039	0.200	0.069	01/10/08	01/31/08
Cobalt 60	-0.003	U	0.043		0.080	01/10/08	01/31/08
Europium 152	-0.03	U	0.10		0.18	01/10/08	01/31/08
Europium 154	0.11	U	0.28		0.49	01/10/08	01/31/08
Potassium 40	8.6		1.2		0.3	01/10/08	01/31/08
Radium (226)	0.48	J	0.11	1.00	0.10	01/10/08	01/31/08
Thorium 232	0.41		0.16		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 79**
Thorium 228	0.39	J	0.15	1.00	0.11	01/10/08	01/22/08
Thorium 230	0.60	J	0.17	1.00	0.03	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 97**
Uranium 233/234	0.35	J	0.12	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.012	U	0.024	1.00	0.032	01/10/08	01/23/08
Uranium 238	0.218	J	0.094	1.00	0.041	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-504

Radiochemistry

Lab Sample ID: F8A080208-036
Work Order: KE7KM
Matrix: SOLID

Date Collected: 12/13/07 0955
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010287		Yld %
Actinium 228	0.22	U	0.19		0.30	01/10/08	01/31/08
Americium 241	0.053	U	0.085		0.14	01/10/08	01/31/08
Cesium 137	0.025	U	0.050	0.200	0.087	01/10/08	01/31/08
Cobalt 60	0.004	U	0.046		0.091	01/10/08	01/31/08
Europium 152	0.02	U	0.13		0.22	01/10/08	01/31/08
Europium 154	0.002	U	0.31		0.62	01/10/08	01/31/08
Potassium 40	7.9		1.5		0.5	01/10/08	01/31/08
Radium (226)	0.64	J	0.16	1.00	0.09	01/10/08	01/31/08
Thorium 232	0.22	U	0.19		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010355		Yld % 82
Thorium 228	0.42	J	0.15	1.00	0.09	01/10/08	01/22/08
Thorium 230	0.44	J	0.15	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010358		Yld % 97
Uranium 233/234	0.28	J	0.11	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	0.019	U	0.033	1.00	0.056	01/10/08	01/23/08
Uranium 238	0.28	J	0.11	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-505

Radiochemistry

Lab Sample ID: F8A080208-037
Work Order: KE7KP
Matrix: SOLID

Date Collected: 12/13/07 0957
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.43		0.17		0.28	01/10/08	01/31/08
Americium 241	-0.03	U	0.11		0.19	01/10/08	01/31/08
Cesium 137	0.0008	U	0.054	0.200	0.11	01/10/08	01/31/08
Cobalt 60	-0.005	U	0.043		0.086	01/10/08	01/31/08
Europium 152	0.012	U	0.098		0.18	01/10/08	01/31/08
Europium 154	0.01	U	0.32		0.62	01/10/08	01/31/08
Potassium 40	8.3		1.6		0.9	01/10/08	01/31/08
Radium (226)	0.48	J	0.12	1.00	0.09	01/10/08	01/31/08
Thorium 232	0.43		0.17		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 86**
Thorium 228	0.58	J	0.17	1.00	0.07	01/10/08	01/22/08
Thorium 230	0.57	J	0.17	1.00	0.03	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 88**
Uranium 233/234	0.32	J	0.12	1.00	0.06	01/10/08	01/23/08
Uranium 235/236	-0.0073	U	0.0085	1.00	0.070	01/10/08	01/23/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-506

Radiochemistry

Lab Sample ID: F8A080208-038
Work Order: KE7KQ
Matrix: SOLID

Date Collected: 12/13/07 1002
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010287		Yld %
Actinium 228	0.27		0.13		0.16	01/10/08	01/31/08
Americium 241	0.06	U	0.20		0.35	01/10/08	01/31/08
Cesium 137	0.001	U	0.027	0.200	0.050	01/10/08	01/31/08
Cobalt 60	0.01	U	0.027		0.049	01/10/08	01/31/08
Europium 152	0.0	U	0.076		0.14	01/10/08	01/31/08
Europium 154	0.0	U	0.22		0.41	01/10/08	01/31/08
Potassium 40	8.1		1.1		0.4	01/10/08	01/31/08
Radium (226)	0.405	J	0.092	1.00	0.065	01/10/08	01/31/08
Thorium 232	0.27		0.13		0.16	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010355		Yld % 86
Thorium 228	0.39	J	0.13	1.00	0.07	01/10/08	01/22/08
Thorium 230	0.33	J	0.12	1.00	0.03	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010358		Yld % 90
Uranium 233/234	0.30	J	0.11	1.00	0.04	01/10/08	01/23/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/10/08	01/23/08
Uranium 238	0.40	J	0.13	1.00	0.05	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-507

Radiochemistry

Lab Sample ID: F8A080208-039
Work Order: KE7KR
Matrix: SOLID

Date Collected: 12/13/07 1005
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.37		0.16		0.18	01/10/08	01/31/08
Americium 241	0.0001	U	0.078		0.14	01/10/08	01/31/08
Cesium 137	0.033	U	0.044	0.200	0.072	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0096		0.035	01/10/08	01/31/08
Europium 152	0.004	U	0.080		0.15	01/10/08	01/31/08
Europium 154	0.03	U	0.31		0.57	01/10/08	01/31/08
Potassium 40	8.4		1.4		0.4	01/10/08	01/31/08
Radium (226)	0.30	J	0.11	1.00	0.13	01/10/08	01/31/08
Thorium 232	0.37		0.16		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010355**		**Yld % 82**
Thorium 228	0.35	J	0.13	1.00	0.09	01/10/08	01/22/08
Thorium 230	0.57	J	0.17	1.00	0.05	01/10/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010358**		**Yld % 98**
Uranium 233/234	0.39	J	0.13	1.00	0.05	01/10/08	01/23/08
Uranium 235/236	0.005	U	0.025	1.00	0.065	01/10/08	01/23/08
Uranium 238	0.239	J	0.099	1.00	0.048	01/10/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-508

Radiochemistry

Lab Sample ID: F8A080208-040
Work Order: KE7KT
Matrix: SOLID

Date Collected: 12/13/07 0802
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8010287		Yld %
Actinium 228	0.27		0.17		0.25	01/10/08	01/31/08
Americium 241	0.049	U	0.082		0.14	01/10/08	01/31/08
Cesium 137	0.017	U	0.039	0.200	0.068	01/10/08	01/31/08
Cobalt 60	0.0002	U	0.031		0.063	01/10/08	01/31/08
Europium 152	0.02	U	0.12		0.21	01/10/08	01/31/08
Europium 154	0.07	U	0.30		0.55	01/10/08	01/31/08
Potassium 40	7.8		1.3		0.7	01/10/08	01/31/08
Radium (226)	0.39	J	0.13	1.00	0.17	01/10/08	01/31/08
Thorium 232	0.27		0.17		0.25	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8010356		Yld % 78
Thorium 228	0.33	J	0.14	1.00	0.11	01/10/08	01/21/08
Thorium 230	0.38	J	0.14	1.00	0.06	01/10/08	01/21/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8009071		Yld % 71
Strontium 90	0.45	U	0.34	3.00	0.54	01/09/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8022368		Yld % 92
Uranium 233/234	0.35	J	0.17	2.00	0.08	01/22/08	01/26/08
Uranium 235/236	-0.0046	U	0.0092	2.00	0.10	01/22/08	01/26/08
Uranium 238	0.35	J	0.17	2.00	0.1	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-508 DUP

Radiochemistry

Lab Sample ID: F8A080208-040X
Work Order: KE7KT
Matrix: SOLID

Date Collected: 12/13/07 0802
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8010356	Yld % 76
Thorium 228	**0.43**	**J**	**0.16**	1.00	**0.08**	**01/10/08**	**01/21/08**
Thorium 230	**0.37**	**J**	**0.14**	1.00	**0.07**	**01/10/08**	**01/21/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8022368	Yld % 106
Uranium 233/234	**0.34**	**J**	**0.16**	2.00	**0.09**	**01/22/08**	**01/26/08**
Uranium 235/236	0.032	U	0.066	2.00	0.12	01/22/08	01/26/08
Uranium 238	**0.34**	**J**	**0.16**	2.00	**0.09**	**01/22/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-509

Radiochemistry

Lab Sample ID: F8A080208-041
Work Order: KE7KV
Matrix: SOLID

Date Collected: 12/13/07 0806
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010287**		**Yld %**
Actinium 228	0.38		0.18		0.23	01/10/08	01/31/08
Americium 241	-0.0005	U	0.078		0.14	01/10/08	01/31/08
Cesium 137	0.0	U	0.037	0.200	0.069	01/10/08	01/31/08
Cobalt 60	-0.0001	U	0.042		0.081	01/10/08	01/31/08
Europium 152	-0.02	U	0.10		0.18	01/10/08	01/31/08
Europium 154	-0.006	U	0.24		0.46	01/10/08	01/31/08
Potassium 40	9.7		1.4		0.3	01/10/08	01/31/08
Radium (226)	0.30	J	0.11	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.38		0.18		0.23	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010356**		**Yld % 82**
Thorium 228	0.34	J	0.13	1.00	0.08	01/10/08	01/21/08
Thorium 230	0.35	J	0.13	1.00	0.07	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022368**		**Yld % 93**
Uranium 233/234	0.17	J	0.12	2.00	0.1	01/22/08	01/26/08
Uranium 235/236	0.048	U	0.069	2.00	0.066	01/22/08	01/26/08
Uranium 238	0.29	J	0.15	2.00	0.08	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-511

Radiochemistry

Lab Sample ID: F8A080208-043
Work Order: KE7KX
Matrix: SOLID

Date Collected: 12/13/07 0827
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010288**	**Yld %**
Actinium 228	0.37		0.23		0.32	01/10/08	01/31/08
Americium 241	-0.02	U	0.11		0.19	01/10/08	01/31/08
Cesium 137	0.049	U	0.051	0.200	0.081	01/10/08	01/31/08
Cobalt 60	0.0	U	0.082		0.15	01/10/08	01/31/08
Europium 152	-0.007	U	0.096		0.18	01/10/08	01/31/08
Europium 154	0.0	U	0.51		0.96	01/10/08	01/31/08
Potassium 40	10.3		1.8		0.5	01/10/08	01/31/08
Radium (226)	0.86	J	0.17	1.00	0.06	01/10/08	01/31/08
Thorium 232	0.37		0.23		0.32	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010356**	**Yld % 73**
Thorium 228	0.26	J	0.12	1.00	0.09	01/10/08	01/21/08
Thorium 230	0.46	J	0.16	1.00	0.06	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022368**	**Yld % 88**
Uranium 233/234	0.45	J	0.20	2.00	0.09	01/22/08	01/26/08
Uranium 235/236	0.0	U	0.022	2.00	0.070	01/22/08	01/26/08
Uranium 238	0.33	J	0.17	2.00	0.09	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-511 DUP

Radiochemistry

Lab Sample ID: F8A080208-043X
Work Order: KE7KX
Matrix: SOLID

Date Collected: 12/13/07 0827
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010288		Yld %
Actinium 228	0.20	U	0.17		0.25	01/10/08	01/31/08
Americium 241	0.006	U	0.076		0.13	01/10/08	01/31/08
Cesium 137	0.067	U	0.050	0.200	0.076	01/10/08	01/31/08
Cobalt 60	-0.002	U	0.047		0.088	01/10/08	01/31/08
Europium 152	-0.02	U	0.11		0.20	01/10/08	01/31/08
Europium 154	0.01	U	0.36		0.67	01/10/08	01/31/08
Potassium 40	**9.4**		**1.4**		**0.3**	**01/10/08**	**01/31/08**
Radium (226)	**0.53**	*J*	**0.15**	1.00	**0.20**	**01/10/08**	**01/31/08**
Thorium 232	0.20	U	0.17		0.25	01/10/08	01/31/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-512

Radiochemistry

Lab Sample ID: F8A080208-044
Work Order: KE7K0
Matrix: SOLID

Date Collected: 12/13/07 0830
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010288**	**Yld %**
Actinium 228	0.16	U	0.21		0.34	01/10/08	01/31/08
Americium 241	-0.022	U	0.091		0.16	01/10/08	01/31/08
Cesium 137	0.003	U	0.056	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.018	U	0.061		0.11	01/10/08	01/31/08
Europium 152	-0.03	U	0.12		0.21	01/10/08	01/31/08
Europium 154	-0.05	U	0.40		0.74	01/10/08	01/31/08
Potassium 40	**9.1**		**1.7**		**0.9**	**01/10/08**	**01/31/08**
Radium (226)	**0.57**	**J**	**0.17**	**1.00**	**0.14**	**01/10/08**	**01/31/08**
Thorium 232	0.16	U	0.21		0.34	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010356**	**Yld % 76**
Thorium 228	**0.33**	**J**	**0.14**	**1.00**	**0.09**	**01/10/08**	**01/21/08**
Thorium 230	**0.45**	**J**	**0.15**	**1.00**	**0.07**	**01/10/08**	**01/21/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022368**	**Yld % 88**
Uranium 233/234	**0.19**	**J**	**0.13**	**2.00**	**0.13**	**01/22/08**	**01/26/08**
Uranium 235/236	-0.01	U	0.014	2.00	0.13	01/22/08	01/26/08
Uranium 238	**0.23**	**J**	**0.14**	**2.00**	**0.11**	**01/22/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-513

Radiochemistry

Lab Sample ID: F8A080208-045
Work Order: KE7K1
Matrix: SOLID

Date Collected: 12/13/07 0839
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.33		0.12		0.19	01/10/08	01/31/08
Americium 241	-0.002	U	0.30		0.53	01/10/08	01/31/08
Cesium 137	0.184	J	0.056	0.200	0.044	01/10/08	01/31/08
Cobalt 60	-0.005	U	0.037		0.067	01/10/08	01/31/08
Europium 152	0.001	U	0.078		0.14	01/10/08	01/31/08
Europium 154	0.08	U	0.17		0.30	01/10/08	01/31/08
Potassium 40	10.2		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.60	J	0.12	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.33		0.12		0.19	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010356**		**Yld % 81**
Thorium 228	0.61	J	0.18	1.00	0.09	01/10/08	01/21/08
Thorium 230	0.42	J	0.14	1.00	0.07	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022368**		**Yld % 94**
Uranium 233/234	0.28	J	0.15	2.00	0.10	01/22/08	01/26/08
Uranium 235/236	0.0	U	0.021	2.00	0.065	01/22/08	01/26/08
Uranium 238	0.19	J	0.12	2.00	0.1	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-514

Radiochemistry

Lab Sample ID: F8A080208-046
Work Order: KE7K3
Matrix: SOLID

Date Collected: 12/13/07 0841
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.13	U	0.16		0.26	01/10/08	01/31/08
Americium 241	0.019	U	0.062		0.11	01/10/08	01/31/08
Cesium 137	-0.003	U	0.039	0.200	0.073	01/10/08	01/31/08
Cobalt 60	0.0	U	0.10		0.18	01/10/08	01/31/08
Europium 152	-0.005	U	0.085		0.16	01/10/08	01/31/08
Europium 154	-0.08	U	0.37		0.66	01/10/08	01/31/08
Potassium 40	8.4		1.4		0.5	01/10/08	01/31/08
Radium (226)	0.29	J	0.11	1.00	0.14	01/10/08	01/31/08
Thorium 232	0.13	U	0.16		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010356**		**Yld % 77**
Thorium 228	0.35	J	0.14	1.00	0.11	01/10/08	01/21/08
Thorium 230	0.45	J	0.15	1.00	0.03	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022368**		**Yld % 91**
Uranium 233/234	0.48	J	0.21	2.00	0.11	01/22/08	01/26/08
Uranium 235/236	0.079	J	0.092	2.00	0.072	01/22/08	01/26/08
Uranium 238	0.26	J	0.15	2.00	0.09	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-515

Radiochemistry

Lab Sample ID: F8A080208-047
Work Order: KE7K4
Matrix: SOLID

Date Collected: 12/13/07 0853
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.40		0.21		0.28	01/10/08	01/31/08
Americium 241	-0.034	U	0.097		0.17	01/10/08	01/31/08
Cesium 137	0.0	U	0.043	0.200	0.082	01/10/08	01/31/08
Cobalt 60	-0.008	U	0.054		0.10	01/10/08	01/31/08
Europium 152	0.037	U	0.088		0.15	01/10/08	01/31/08
Europium 154	0.09	U	0.25		0.46	01/10/08	01/31/08
Potassium 40	9.7		1.7		0.5	01/10/08	01/31/08
Radium (226)	0.49	J	0.13	1.00	0.1	01/10/08	01/31/08
Thorium 232	0.40		0.21		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8010356**		**Yld % 47**
Thorium 228	0.45	J	0.20	1.00	0.15	01/10/08	01/21/08
Thorium 230	0.37	J	0.17	1.00	0.08	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8022368**		**Yld % 89**
Uranium 233/234	0.47	J	0.20	2.00	0.09	01/22/08	01/26/08
Uranium 235/236	0.021	U	0.053	2.00	0.11	01/22/08	01/26/08
Uranium 238	0.31	J	0.17	2.00	0.10	01/22/08	01/26/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-516

Radiochemistry

Lab Sample ID: F8A080208-048
Work Order: KE7K6
Matrix: SOLID

Date Collected: 12/13/07 0857
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010288		Yld %
Actinium 228	0.18	U	0.14		0.20	01/10/08	01/31/08
Americium 241	0.026	U	0.093		0.16	01/10/08	01/31/08
Cesium 137	0.004	U	0.036	0.200	0.066	01/10/08	01/31/08
Cobalt 60	0.017	U	0.043		0.077	01/10/08	01/31/08
Europium 152	-0.02	U	0.10		0.18	01/10/08	01/31/08
Europium 154	-0.02	U	0.26		0.49	01/10/08	01/31/08
Potassium 40	**9.8**		1.4		0.3	01/10/08	01/31/08
Radium (226)	**0.45**	J	0.13	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.18	U	0.14		0.20	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8010356		Yld % 91
Thorium 228	**0.31**	J	0.12	1.00	0.07	01/10/08	01/21/08
Thorium 230	**0.60**	J	0.17	1.00	0.03	01/10/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8022368		Yld % 95
Uranium 233/234	**0.42**	J	0.19	2.00	0.14	01/22/08	01/26/08
Uranium 235/236	0.087	U	0.092	2.00	0.097	01/22/08	01/26/08
Uranium 238	**0.36**	J	0.18	2.00	0.15	01/22/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-517

Radiochemistry

Lab Sample ID: F8A080208-049
Work Order: KE7K8
Matrix: SOLID

Date Collected: 12/13/07 0904
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010288**	**Yld %**
Actinium 228	0.24	U	0.17		0.26	01/10/08	01/31/08
Americium 241	0.0004	U	0.083		0.15	01/10/08	01/31/08
Cesium 137	-0.005	U	0.044	0.200	0.080	01/10/08	01/31/08
Cobalt 60	0.0	U	0.051		0.095	01/10/08	01/31/08
Europium 152	0.027	U	0.096		0.17	01/10/08	01/31/08
Europium 154	0.03	U	0.24		0.45	01/10/08	01/31/08
Potassium 40	**9.1**		**1.3**		**0.3**	**01/10/08**	**01/31/08**
Radium (226)	**0.37**	**J**	0.12	1.00	0.17	**01/10/08**	**01/31/08**
Thorium 232	0.24	U	0.17		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8010356**	**Yld % 85**
Thorium 228	**0.43**	**J**	0.14	1.00	0.09	**01/10/08**	**01/21/08**
Thorium 230	**0.46**	**J**	0.15	1.00	0.05	**01/10/08**	**01/21/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8022368**	**Yld % 88**
Uranium 233/234	**0.44**	**J**	0.20	2.00	0.11	**01/22/08**	**01/26/08**
Uranium 235/236	0.043	U	0.076	2.00	0.13	01/22/08	01/26/08
Uranium 238	**0.56**	**J**	0.23	2.00	0.15	**01/22/08**	**01/26/08**

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-518	F8A080208001	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-518	F8A080208001	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-518	F8A080208001	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-518	F8A080208001	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-518DUP	F8A080208001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-518DUP	F8A080208001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-518DUP	F8A080208001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-518DUP	F8A080208001DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-519	F8A080208002	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-519	F8A080208002	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-519	F8A080208002	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-520	F8A080208003	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-520	F8A080208003	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-520	F8A080208003	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-521	F8A080208004	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-521	F8A080208004	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-521	F8A080208004	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-522	F8A080208005	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-522	F8A080208005	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-522	F8A080208005	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-523	F8A080208006	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-523	F8A080208006	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-523	F8A080208006	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-524	F8A080208007	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-524	F8A080208007	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-524	F8A080208007	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-525	F8A080208008	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-525	F8A080208008	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-525	F8A080208008	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-526	F8A080208009	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-526	F8A080208009	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-526	F8A080208009	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-527	F8A080208010	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-527	F8A080208010	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-527	F8A080208010	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-477	F8A080208011	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-477	F8A080208011	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-477	F8A080208011	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-478	F8A080208012	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-478	F8A080208012	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-478	F8A080208012	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-478	F8A080208012	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-479	F8A080208013	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-479	F8A080208013	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-479	F8A080208013	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-480	F8A080208014	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-480	F8A080208014	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-480	F8A080208014	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-481	F8A080208015	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-481	F8A080208015	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-481	F8A080208015	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-482	F8A080208016	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-482	F8A080208016	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-482	F8A080208016	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-483	F8A080208017	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-483	F8A080208017	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-483	F8A080208017	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-484	F8A080208018	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-484	F8A080208018	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-484	F8A080208018	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-485	F8A080208019	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-485	F8A080208019	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-485	F8A080208019	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-486	F8A080208020	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-486	F8A080208020	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-486	F8A080208020	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-487	F8A080208021	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-487	F8A080208021	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-487	F8A080208021	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-487DUP	F8A080208021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-487DUP	F8A080208021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-487DUP	F8A080208021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-488	F8A080208022	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-488	F8A080208022	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-488	F8A080208022	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-488	F8A080208022	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-489	F8A080208023	EB	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-489	F8A080208023	EB	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-489	F8A080208023	EB	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-489DUP	F8A080208023DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-490	F8A080208024	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-490	F8A080208024	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-490	F8A080208024	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-491	F8A080208025	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-491	F8A080208025	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-491	F8A080208025	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-492	F8A080208026	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-492	F8A080208026	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-492	F8A080208026	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-493	F8A080208027	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-493	F8A080208027	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-493	F8A080208027	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-496	F8A080208028	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-496	F8A080208028	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-496	F8A080208028	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-497	F8A080208029	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-497	F8A080208029	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-497	F8A080208029	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-498	F8A080208030	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-498	F8A080208030	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-498	F8A080208030	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-498	F8A080208030	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-499	F8A080208031	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-499	F8A080208031	N	Gen Prep	DOE A-01-R U MOD	3

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FD = Field Duplicate
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MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-499	F8A080208031	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-500	F8A080208032	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-500	F8A080208032	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-500	F8A080208032	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-501	F8A080208033	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-501	F8A080208033	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-501	F8A080208033	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-502	F8A080208034	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-502	F8A080208034	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-502	F8A080208034	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-503	F8A080208035	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-503	F8A080208035	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-503	F8A080208035	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-504	F8A080208036	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-504	F8A080208036	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-504	F8A080208036	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-505	F8A080208037	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-505	F8A080208037	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-505	F8A080208037	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-506	F8A080208038	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-506	F8A080208038	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-506	F8A080208038	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-507	F8A080208039	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-507	F8A080208039	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-507	F8A080208039	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-508	F8A080208040	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-508	F8A080208040	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-508	F8A080208040	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-508	F8A080208040	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-508DUP	F8A080208040DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-508DUP	F8A080208040DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-509	F8A080208041	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-509	F8A080208041	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-509	F8A080208041	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-510	F8A080208042	EB	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-510	F8A080208042	EB	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-510	F8A080208042	EB	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-511	F8A080208043	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-511	F8A080208043	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-511	F8A080208043	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-511DUP	F8A080208043DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-512	F8A080208044	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-512	F8A080208044	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-512	F8A080208044	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-513	F8A080208045	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-513	F8A080208045	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-513	F8A080208045	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-514	F8A080208046	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-514	F8A080208046	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-514	F8A080208046	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-515	F8A080208047	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-515	F8A080208047	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-515	F8A080208047	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-516	F8A080208048	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-516	F8A080208048	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-516	F8A080208048	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-517	F8A080208049	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-517	F8A080208049	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-517	F8A080208049	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080208										
DOE A-01-R TH MOD	15-477	SO	N							
				THORIUM-228	1.00	0.33J	0.15	U	pCi/g	
				THORIUM-230	1.00	0.32J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-478	SO	N							
				THORIUM-228	1.00	0.21J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-479	SO	N							
				THORIUM-228	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-480	SO	N							
				THORIUM-228	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-481	SO	N							
				THORIUM-228	1.00	0.26J	0.17	U	pCi/g	
				THORIUM-230	1.00	0.31J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-482	SO	N							
				THORIUM-228	1.00	0.26J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-483	SO	N							
				THORIUM-228	1.00	0.36J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-484	SO	N							
				THORIUM-228	1.00	0.38J	0.13	U	pCi/g	
				THORIUM-230	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-485	SO	N							
				THORIUM-228	1.00	0.22J	0.12	U	pCi/g	
				THORIUM-230	1.00	0.24J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-486	SO	N							
				THORIUM-228	1.00	0.34J	0.13	U	pCi/g	
				THORIUM-230	1.00	0.34J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-487	SO	N							
				THORIUM-230	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-489	AQ	EB							
				THORIUM-230	1.00	0.15J	0.13	U	pCi/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080208										
DOE A-01-R TH MOD	15-490	SO	N							
				THORIUM-230	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-493	SO	N							
				THORIUM-230	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-498	SO	N							
				THORIUM-230	1.00	0.29J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-502	SO	N							
				THORIUM-230	1.00	0.187J	0.094	U	pCi/g	
DOE A-01-R TH MOD	15-504	SO	N							
				THORIUM-230	1.00	0.44J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-506	SO	N							
				THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-511	SO	N							
				THORIUM-228	1.00	0.26J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-518	SO	N							
				THORIUM-228	1.00	0.34J	0.22	UJ	pCi/g	
				THORIUM-230	1.00	0.43J	0.25	J	pCi/g	
DOE A-01-R TH MOD	15-522	SO	N							
				THORIUM-228	1.00	0.36J	0.16	U	pCi/g	
				THORIUM-230	1.00	0.27J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-523	SO	N							
				THORIUM-228	1.00	0.26J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-525	SO	N							
				THORIUM-228	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-527	SO	N							
				THORIUM-228	1.00	0.39J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A080208

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected / Non Detected Qualifier	Analyte Name	Reason
F8A080208	15-477	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-477	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-478	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-479	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-480	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-481	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-481	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-482	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-483	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-484	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-484	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-485	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-485	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-486	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-486	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-487	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-489	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-490	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-493	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-498	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-502	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-504	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-506	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-511	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-518	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-518	DOE A-01-R TH MOD	14274829	J	THORIUM-228	Tracer recovery
F8A080208	15-518	DOE A-01-R TH MOD	14269637	J	THORIUM-230	Tracer recovery
F8A080208	15-522	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-522	DOE A-01-R TH MOD	14269637	U	THORIUM-230	Present in method blank
F8A080208	15-523	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-525	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank
F8A080208	15-527	DOE A-01-R TH MOD	14274829	U	THORIUM-228	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A080208	DOE A-01-R TH MOD	EB	AQ	12/13/2007 0:00	THORIUM-230	14269-63-7	0.15	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A080208

Method Blank Outlier Report

Lab Reporting Batch : F8A080208
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A100000316MB

Lab ID: TestAme
Analysis Date : 01/22/2008
Preparation Date :
Preparation Batch : 8010316

THORIUM-228

	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.088	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-477	F8A080208011	1	0.33	J	pCi/g
15-478	F8A080208012	1	0.21	J	pCi/g
15-479	F8A080208013	1	0.43	J	pCi/g
15-480	F8A080208014	1	0.42	J	pCi/g
15-481	F8A080208015	1	0.26	J	pCi/g
15-482	F8A080208016	1	0.26	J	pCi/g
15-483	F8A080208017	1	0.36	J	pCi/g
15-484	F8A080208018	1	0.38	J	pCi/g
15-485	F8A080208019	1	0.22	J	pCi/g
15-486	F8A080208020	1	0.34	J	pCi/g
15-518	F8A080208001	1	0.34	J	pCi/g
15-522	F8A080208005	1	0.36	J	pCi/g
15-523	F8A080208006	1	0.26	J	pCi/g
15-525	F8A080208008	1	0.43	J	pCi/g
15-527	F8A080208010	1	0.39	J	pCi/g

THORIUM-230

	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.075	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-477	F8A080208011	1	0.32	J	pCi/g
15-481	F8A080208015	1	0.31	J	pCi/g
15-484	F8A080208018	1	0.36	J	pCi/g
15-485	F8A080208019	1	0.24	J	pCi/g
15-486	F8A080208020	1	0.34	J	pCi/g
15-522	F8A080208005	1	0.27	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080208
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A100000355MB

Lab ID: TestAme
Analysis Date : 01/22/2008
Preparation Date :
Preparation Batch : 8010355

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.094**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-487	F8A080208021	1	0.39	J	pCi/g
15-490	F8A080208024	1	0.39	J	pCi/g
15-493	F8A080208027	1	0.36	J	pCi/g
15-498	F8A080208030	1	0.29	J	pCi/g
15-502	F8A080208034	1	0.187	J	pCi/g
15-504	F8A080208036	1	0.44	J	pCi/g
15-506	F8A080208038	1	0.33	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080208
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/21/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A100000356MB
Preparation Batch : 8010356

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.053	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-511	F8A080208043	1	0.26	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080208
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A180000117MB

Lab ID: TestAme
Analysis Date : 01/23/2008
Preparation Date :
Preparation Batch : 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.16	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-489	F8A080208023	1	0.15	J	pCi/L

LDC #: 18448O35
SDG #: F8A080208
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

GW

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N/A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	N FDup
IX	Field blanks	ND	ER = 23, 42

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All soil

1	1	15-518	S	11	1	15-477	S	21	2	15-487	S
2	1	15-519		12	1	15-478		22	2	15-488	↓
3	1	15-520		13	1	15-479		23	4	15-489	W
4	1	15-521		14	1	15-480		24	2	15-490	S
5	1	15-522		15	1	15-481		25	2	15-491	
6	1	15-523		16	1	15-482		26	2	15-492	
7	1	15-524		17	1	15-483		27	2	15-493	
8	1	15-525		18	1	15-484		28	2	15-496	
9	1	15-526		19	1	15-485		29	2	15-497	
10	1	15-527	↓	20	1	15-486	↓	30	2	15-498	↓

31	2	15-499	S
32	2	15-500	
33	2	15-501	
34	2	15-502	
35	2	15-503	
36	2	15-504	
37	2	15-505	
38	2	15-506	
39	2	15-507	
40	2	15-508	↓

Notes: _____

LDC #: 18448O35
SDG #: F8A080208
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 2 of 2
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates		
IX	Field blanks		

page 2 of 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 2	15-509 S	51 2	15-487DUP S	61		71	
42 4	15-510 W	52 4	15-489DUP W	62		72	
43 3	15-511 S	53 3	15-511DUP S	63		73	
44 3	15-512	54 1	PBS1	64		74	
45 3	15-513	55 2	PBS2	65		75	
46 3	15-514	56 3	PBS3	66		76	
47 3	15-515	57 4	PBW	67		77	
48 3	15-516	58		68		78	
49 3	15-517	59		69		79	
50 1	15-518DUP ↓	60		70		80	

Notes:

LDC #: 18448O73
SDG #: F8A080208
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08

Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	SW	ce
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	~~SW~~ ER = 23, 42*	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

* = ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ~~all soil~~

1	3	15-518	S	11	3	15-477	S	21	2	15-487	S
2	3	15-519	↓	12	3	15-478	↓	22	2	15-488	↓
3	3	15-520		13	3	15-479		23	4	15-489	W
4	3	15-521		14	3	15-480		24	2	15-490	S
5	3	15-522		15	3	15-481		25	2	15-491	↓
6	3	15-523		16	3	15-482		26	2	15-492	
7	3	15-524		17	3	15-483		27	2	15-493	
8	3	15-525		18	3	15-484		28	2	15-496	
9	3	15-526		19	3	15-485		29	2	15-497	
10	3	15-527	↓	20	3	15-486	↓	30	2	15-498	↓

31	2	15-499	S								
32	2	15-500	↓								
33	2	15-501									
34	2	15-502									
35	2	15-503									
36	2	15-504									
37	2	15-505									
38	2	15-506									
39	2	15-507									
40	1	15-508	↓								

Notes:

LDC #: 18448O73
SDG #: F8A080208
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 2
Reviewer: MC
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

See page 2 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 1	15-509 S	51 2	15-487DUP S	61		71	
42 4	15-510 W	52 1	15-508DUP ↓	62		72	
43 1	15-511 S	53 1	PBS1	63		73	
44 1	15-512	54 2	PBS2	64		74	
45 1	15-513	55 3	PBS3	65		75	
46 1	15-514	56 4	PBW	66		76	
47 1	15-515	57		67		77	
48 1	15-516	58		68		78	
49 1	15-517	59		69		79	
50 3	15-518DUP	60		70		80	

Notes:

LDC #: 18448073
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Chemical Recovery

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: Radiochemistry (Method: DOE A-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a tracer added to each sample?

Y (N) N/A Were tracer recoveries within the control limits?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	ID	Matrix	Analyte	%R (limits)	Associated Samples	Qualifications
1		1	Soil	Th-229	28 (~~70-130~~ 30-110)	1	J/UJ/Δ (An Tec)
2		~~2~~			~~58~~	~~2~~	
3		~~3~~			~~48~~	~~3~~	
4		~~5~~			~~66~~	~~5~~	
5		~~6~~			~~69~~	~~6~~	
6		~~9~~			~~33~~	~~9~~	
7		~~11~~			~~67~~	~~11~~	
8		~~15~~			~~40~~	~~15~~	
9		~~19~~			~~65~~	~~19~~	
10		~~47~~			47	~~47~~	

Comments:

LDC #: 18448O59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080208 ADR Page: 1 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 23, 42

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ~~all soil~~

1	2	15-518	S	11	2	15-477	S	21	1	15-487	S
2	2	15-519	↓	12	2	15-478	↓	22	1	15-488	↓
3	2	15-520		13	2	15-479		23	4	15-489	W
4	2	15-521		14	2	15-480		24	1	15-490	S
5	2	15-522		15	2	15-481		25	1	15-491	↓
6	2	15-523		16	2	15-482		26	1	15-492	
7	2	15-524		17	2	15-483		27	1	15-493	
8	2	15-525		18	2	15-484		28	1	15-496	
9	2	15-526		19	2	15-485		29	1	15-497	
10	2	15-527	↓	20	2	15-486	↓	30	1	15-498	↓

31	1	15-499	S								
32	1	15-500	↓								
33	1	15-501									
34	1	15-502									
35	1	15-503									
36	1	15-504									
37	1	15-505									
38	1	15-506									
39	1	15-507									
40	3	15-508	↓								

Notes:

LDC #: 18448O59
SDG #: F8A080208
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08

Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

See page 1 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 3	15-509 S	51 1	15-487DUP S	61		71		
42 4	15-510 W	52 3	15-508DUP ↓	62		72		
43 3	15-511 S	53 1	PBS1	63		73		
44 3	15-512	54 2	PBS2	64		74		
45 3	15-513	55 3	PBS3	65		75		
46 3	15-514	56 4	PBW	66		76		
47 3	15-515	57		67		77		
48 3	15-516	58		68		78		
49 3	15-517	59		69		79		
50 2	15-518DUP ↓	60		70		80		

Notes:

LDC #: 18448O61
SDG #: F8A080208
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-518	11		21		31	
2	15-478	12		22		32	
3	15-488	13		23		33	
4	15-498	14		24		34	
5	15-508	15		25		35	
6	15-518DUP	16		26		36	
7	PBS	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31632

CHAIN-OF-CUSTODY RECORD

D1-29

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 101734 (06.0629 552)
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 Gamma Spectrometry; Thorium; Uranium; 90 Sr DOE RP-01/Sr-04

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): FBA080230

Project Information Section Do not submit to Laboratory

10 1

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-338	12/7/07	9:18	2	X		S	30DY		1IR-4-09a	0"	6"	Res
15-339	12/7/07	9:20	1	X		S	30DY		1IR-4-09b	6"	12"	Res
15-340	12/7/07	9:25	1	X		S	30DY		1IR-4-10a	0"	6"	Res
15-341	12/7/07	9:28	1	X		S	30DY		1IR-4-10b	6"	12"	Res
15-342	12/7/07	10:58	1	X		S	30DY		B-1IR-5ABa	0"	6	Res
15-343	12/7/07	11:00	1	X		S	30DY		B-1IR-5ABb	6"	12"	Res
15-344	12/7/07	11:10	2	X		W	30DY	FBB120265*	Field Blank			FB
15-345	12/7/07	13:05	1	X		S	30DY		B-1IR-6Aa	0"	6"	Res
15-346	12/7/07	13:07	1	X		S	30DY		B-1IR-6Ab	6"	12"	Res
15-347	12/7/07	13:10	1	X		S	30DY		1IR-6A-02a	0"	6"	Res

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)	
COMPANY TtC/Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3 DY~~ + 21 DY INGROWTHS

COMPOSITE DESCRIPTION: no 3 day - 1-8-08 Sr Ra-226 via 903.0m 2-8-08 Sr

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160598

Tetra Tech EC, Inc.

Client Sample ID: 15-338

Radiochemistry

Lab Sample ID: F8A080230-001
Work Order: KE7MN
Matrix: SOLID

Date Collected: 12/07/07 0918
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.38		0.19		0.37	01/10/08	01/31/08
Americium 241	0.069	U	0.087		0.14	01/10/08	01/31/08
Cesium 137	0.009	U	0.049	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.0	U	0.13		0.23	01/10/08	01/31/08
Europium 152	0.02	U	0.12		0.21	01/10/08	01/31/08
Europium 154	0.12	U	0.39		0.71	01/10/08	01/31/08
Potassium 40	9.2		1.7		0.5	01/10/08	01/31/08
Radium (226)	0.23	J	0.12	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.38		0.19		0.37	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 81**
Thorium 228	0.40	J	0.14	1.00	0.09	01/11/08	01/21/08
Thorium 230	0.38	J	0.14	1.00	0.06	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 93**
Uranium 233/234	0.35	J	0.12	1.00	0.04	01/11/08	01/21/08
Uranium 235/236	0.074	J	0.060	1.00	0.033	01/11/08	01/21/08
Uranium 238	0.30	J	0.11	1.00	0.04	01/11/08	01/21/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 74**
Strontium 90	0.03	U	0.31	3.00	0.54	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-339

Radiochemistry

Lab Sample ID: F8A080230-002
Work Order: KE7NF
Matrix: SOLID

Date Collected: 12/07/07 0920
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.53		0.14		0.15	01/10/08	01/31/08
Americium 241	0.08	U	0.23		0.39	01/10/08	01/31/08
Cesium 137	-0.007	U	0.033	0.200	0.058	01/10/08	01/31/08
Cobalt 60	0.012	U	0.033		0.060	01/10/08	01/31/08
Europium 152	0.015	U	0.068		0.12	01/10/08	01/31/08
Europium 154	-0.03	U	0.20		0.37	01/10/08	01/31/08
Potassium 40	10.5		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.50	J	0.11	1.00	0.1	01/10/08	01/31/08
Thorium 232	0.53		0.14		0.15	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 84**
Thorium 228	0.75	J	0.19	1.00	0.08	01/11/08	01/21/08
Thorium 230	0.66	J	0.18	1.00	0.06	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 85**
Uranium 233/234	0.48	J	0.15	1.00	0.07	01/11/08	01/22/08
Uranium 235/236	0.039	U	0.049	1.00	0.060	01/11/08	01/22/08
Uranium 238	0.47	J	0.15	1.00	0.07	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-340

Radiochemistry

Lab Sample ID: F8A080230-003
Work Order: KE7NK
Matrix: SOLID

Date Collected: 12/07/07 0925
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8010288	Yld %
Actinium 228	0.35		0.19		0.26	01/10/08	01/31/08
Americium 241	0.034	U	0.079		0.13	01/10/08	01/31/08
Cesium 137	0.051	U	0.050	0.200	0.079	01/10/08	01/31/08
Cobalt 60	0.013	U	0.042		0.077	01/10/08	01/31/08
Europium 152	0.003	U	0.088		0.16	01/10/08	01/31/08
Europium 154	-0.06	U	0.31		0.57	01/10/08	01/31/08
Potassium 40	10.0		1.6		0.4	01/10/08	01/31/08
Radium (226)	0.44	J	0.12	1.00	0.07	01/10/08	01/31/08
Thorium 232	0.35		0.19		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8011287	Yld % 81
Thorium 228	0.38	J	0.14	1.00	0.07	01/11/08	01/21/08
Thorium 230	0.37	J	0.14	1.00	0.06	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8011292	Yld % 93
Uranium 233/234	0.30	J	0.11	1.00	0.06	01/11/08	01/22/08
Uranium 235/236	0.061	J	0.055	1.00	0.033	01/11/08	01/22/08
Uranium 238	0.29	J	0.11	1.00	0.04	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-341

Radiochemistry

Lab Sample ID: F8A080230-004
Work Order: KE7NQ
Matrix: SOLID

Date Collected: 12/07/07 0928
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.44		0.23		0.30	01/10/08	01/31/08
Americium 241	0.004	U	0.078		0.14	01/10/08	01/31/08
Cesium 137	0.004	U	0.055	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.004	U	0.043		0.086	01/10/08	01/31/08
Europium 152	-0.02	U	0.10		0.19	01/10/08	01/31/08
Europium 154	-0.0001	U	0.29		0.57	01/10/08	01/31/08
Potassium 40	9.2		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.37	J	0.13	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.44		0.23		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 84**
Thorium 228	0.51	J	0.15	1.00	0.07	01/11/08	01/21/08
Thorium 230	0.46	J	0.15	1.00	0.07	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 96**
Uranium 233/234	0.30	J	0.11	1.00	0.05	01/11/08	01/22/08
Uranium 235/236	0.021	U	0.036	1.00	0.062	01/11/08	01/22/08
Uranium 238	0.30	J	0.11	1.00	0.03	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-342

Radiochemistry

Lab Sample ID: F8A080230-005
Work Order: KE7NT
Matrix: SOLID

Date Collected: 12/07/07 1058
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.0	U	0.20		0.37	01/10/08	01/31/08
Americium 241	-0.03	U	0.17		0.29	01/10/08	01/31/08
Cesium 137	-0.01	U	0.066	0.200	0.12	01/10/08	01/31/08
Cobalt 60	-0.022	U	0.065		0.11	01/10/08	01/31/08
Europium 152	0.03	U	0.18		0.31	01/10/08	01/31/08
Europium 154	-0.08	U	0.51		0.89	01/10/08	01/31/08
Potassium 40	**11.6**		1.6		0.3	01/10/08	01/31/08
Radium (226)	**5.63**		0.52	1.00	0.20	01/10/08	01/31/08
Thorium 232	0.0	U	0.20		0.37	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 83**
Thorium 228	0.25	J	0.11	1.00	0.06	01/11/08	01/21/08
Thorium 230	0.147	J	0.082	1.00	0.030	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 95**
Uranium 233/234	0.27	J	0.11	1.00	0.06	01/11/08	01/22/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/11/08	01/22/08
Uranium 238	0.175	J	0.085	1.00	0.042	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-343

Radiochemistry

Lab Sample ID: F8A080230-006
Work Order: KE7NV
Matrix: SOLID

Date Collected: 12/07/07 1100
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010288**	**Yld %**
Actinium 228	0.37		0.19		0.26	01/10/08	01/31/08
Americium 241	0.003	U	0.11		0.19	01/10/08	01/31/08
Cesium 137	-0.007	U	0.044	0.200	0.079	01/10/08	01/31/08
Cobalt 60	0.0	U	0.052		0.098	01/10/08	01/31/08
Europium 152	-0.002	U	0.11		0.20	01/10/08	01/31/08
Europium 154	-0.002	U	0.33		0.62	01/10/08	01/31/08
Potassium 40	8.8		1.4		0.9	01/10/08	01/31/08
Radium (226)	0.93	J	0.17	1.00	0.17	01/10/08	01/31/08
Thorium 232	0.37		0.19		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8011287**	**Yld % 86**
Thorium 228	0.21	J	0.10	1.00	0.07	01/11/08	01/21/08
Thorium 230	0.35	J	0.13	1.00	0.05	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8011292**	**Yld % 92**
Uranium 233/234	0.175	J	0.087	1.00	0.054	01/11/08	01/22/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/11/08	01/22/08
Uranium 238	0.189	J	0.089	1.00	0.043	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-344

Radiochemistry

Lab Sample ID: F8A080230-007
Work Order: KE7N0
Matrix: WATER

Date Collected: 12/07/07 1110
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	11	U	21		36	01/10/08	01/14/08
Americium 241	-0.2	U	10		16	01/10/08	01/14/08
Cesium 137	-5	U	21	20	15	01/10/08	01/14/08
Cobalt 60	-2.0	U	8.3		15	01/10/08	01/14/08
Europium 152	14	U	13		20	01/10/08	01/14/08
Europium 154	-4	U	43		81	01/10/08	01/14/08
Potassium 40	75	U	91		150	01/10/08	01/14/08
Thorium 232	11	U	21		36	01/10/08	01/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 80**
Thorium 228	0.14	U	0.19	1.00	0.28	01/18/08	01/22/08
Thorium 230	**0.34**	**J**	**0.26**	1.00	**0.24**	**01/18/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 90**
Uranium 233/234	0.027	U	0.091	1.00	0.21	01/18/08	01/22/08
Uranium 235/236	-0.020	U	0.029	1.00	0.27	01/18/08	01/22/08
Uranium 238	0.044	U	0.088	1.00	0.12	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-345

Radiochemistry

Lab Sample ID: F8A080230-008
Work Order: KE7N1
Matrix: SOLID

Date Collected: 12/07/07 1305
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.61		0.20		0.20	01/10/08	01/31/08
Americium 241	0.02	U	0.10		0.18	01/10/08	01/31/08
Cesium 137	0.036	U	0.050	0.200	0.082	01/10/08	01/31/08
Cobalt 60	0.0	U	0.015		0.055	01/10/08	01/31/08
Europium 152	0.005	U	0.13		0.24	01/10/08	01/31/08
Europium 154	0.04	U	0.46		0.86	01/10/08	01/31/08
Potassium 40	8.6		1.7		0.6	01/10/08	01/31/08
Radium (226)	0.53	J	0.15	1.00	0.09	01/10/08	01/31/08
Thorium 232	0.61		0.20		0.20	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 67**
Thorium 228	0.70	J	0.20	1.00	0.09	01/11/08	01/21/08
Thorium 230	0.49	J	0.16	1.00	0.05	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 92**
Uranium 233/234	0.45	J	0.14	1.00	0.06	01/11/08	01/22/08
Uranium 235/236	0.025	U	0.036	1.00	0.034	01/11/08	01/22/08
Uranium 238	0.38	J	0.13	1.00	0.04	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-346

Radiochemistry

Lab Sample ID: F8A080230-009
Work Order: KE7N2
Matrix: SOLID

Date Collected: 12/07/07 1307
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.19	U	0.21		0.34	01/10/08	01/31/08
Americium 241	0.041	U	0.077		0.13	01/10/08	01/31/08
Cesium 137	-0.02	U	0.14	0.20	0.11	01/10/08	01/31/08
Cobalt 60	0.013	U	0.057		0.11	01/10/08	01/31/08
Europium 152	0.039	U	0.098		0.17	01/10/08	01/31/08
Europium 154	-0.06	U	0.37		0.69	01/10/08	01/31/08
Potassium 40	**8.8**		**1.6**		**0.5**	**01/10/08**	**01/31/08**
Radium (226)	**0.57**	**J**	**0.15**	**1.00**	**0.12**	**01/10/08**	**01/31/08**
Thorium 232	0.19	U	0.21		0.34	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 78**
Thorium 228	**0.31**	**J**	**0.13**	**1.00**	**0.09**	**01/11/08**	**01/21/08**
Thorium 230	**0.52**	**J**	**0.17**	**1.00**	**0.06**	**01/11/08**	**01/21/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 92**
Uranium 233/234	**0.38**	**J**	**0.13**	**1.00**	**0.06**	**01/11/08**	**01/22/08**
Uranium 235/236	0.008	U	0.025	1.00	0.059	01/11/08	01/22/08
Uranium 238	**0.39**	**J**	**0.13**	**1.00**	**0.04**	**01/11/08**	**01/22/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-347

Radiochemistry

Lab Sample ID: F8A080230-010
Work Order: KE7N3
Matrix: SOLID

Date Collected: 12/07/07 1310
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.29		0.11		0.17	01/10/08	01/31/08
Americium 241	0.02	U	0.32		0.56	01/10/08	01/31/08
Cesium 137	0.102	J	0.042	0.200	0.039	01/10/08	01/31/08
Cobalt 60	-0.005	U	0.031		0.058	01/10/08	01/31/08
Europium 152	0.0	U	0.096		0.17	01/10/08	01/31/08
Europium 154	-0.04	U	0.29		0.52	01/10/08	01/31/08
Potassium 40	10.4		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.310	J	0.091	1.00	0.096	01/10/08	01/31/08
Thorium 232	0.29		0.11		0.17	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011287**		**Yld % 82**
Thorium 228	0.28	J	0.12	1.00	0.08	01/11/08	01/21/08
Thorium 230	0.40	J	0.14	1.00	0.07	01/11/08	01/21/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8011292**		**Yld % 93**
Uranium 233/234	0.231	J	0.099	1.00	0.053	01/11/08	01/22/08
Uranium 235/236	-0.0069	U	0.0080	1.00	0.066	01/11/08	01/22/08
Uranium 238	0.224	J	0.096	1.00	0.042	01/11/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Dec-2007	15-338	F8A080230001	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-338	F8A080230001	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-338	F8A080230001	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-338	F8A080230001	N	Gen Prep	)OE SR-03-RC MOI	3
07-Dec-2007	15-338DUP	F8A080230001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-338DUP	F8A080230001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-339	F8A080230002	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-339	F8A080230002	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-339	F8A080230002	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-340	F8A080230003	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-340	F8A080230003	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-340	F8A080230003	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-341	F8A080230004	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-341	F8A080230004	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-341	F8A080230004	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-342	F8A080230005	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-342	F8A080230005	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-342	F8A080230005	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-343	F8A080230006	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-343	F8A080230006	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-343	F8A080230006	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-344	F8A080230007	FB	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-344	F8A080230007	FB	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-344	F8A080230007	FB	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-345	F8A080230008	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-345	F8A080230008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Dec-2007	15-345	F8A080230008	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-346	F8A080230009	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-346	F8A080230009	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-346	F8A080230009	N	Gen Prep	DOE GA-01-R MOD	3
07-Dec-2007	15-347	F8A080230010	N	Gen Prep	)OE A-01-R TH MOI	3
07-Dec-2007	15-347	F8A080230010	N	Gen Prep	DOE A-01-R U MOD	3
07-Dec-2007	15-347	F8A080230010	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080230										
DOE A-01-R TH MOD	15-338	SO	N							
				THORIUM-230	1.00	0.38J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-339	SO	N							
				THORIUM-230	1.00	0.66J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-340	SO	N							
				THORIUM-230	1.00	0.37J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-341	SO	N							
				THORIUM-230	1.00	0.46J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-342	SO	N							
				THORIUM-228	1.00	0.25J	0.11	U	pCi/g	
				THORIUM-230	1.00	0.147J	0.082	U	pCi/g	
DOE A-01-R TH MOD	15-343	SO	N							
				THORIUM-228	1.00	0.21J	0.10	U	pCi/g	
				THORIUM-230	1.00	0.35J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-344	AQ	FB							
				THORIUM-230	1.00	0.34J	0.26	U	pCi/L	
DOE A-01-R TH MOD	15-345	SO	N							
				THORIUM-230	1.00	0.49J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-346	SO	N							
				THORIUM-228	1.00	0.31J	0.13	U	pCi/g	
				THORIUM-230	1.00	0.52J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-347	SO	N							
				THORIUM-228	1.00	0.28J	0.12	U	pCi/g	
				THORIUM-230	1.00	0.40J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A080230

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A080230	15-338	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-339	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-340	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-341	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-342	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080230	15-342	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-343	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080230	15-343	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-344	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-345	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-346	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080230	15-346	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080230	15-347	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080230	15-347	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A080230	DOE A-01-R TH MOD	FB	AQ	12/07/2007 0:00	THORIUM-230	14269-63-7	0.34	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A080230

Method Blank Outlier Report

Lab Reporting Batch : F8A080230
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/21/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A110000287MB
Preparation Batch : 8011287

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.064	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-342	F8A080230005	1	0.25	J	pCi/g
15-343	F8A080230006	1	0.21	J	pCi/g
15-346	F8A080230009	1	0.31	J	pCi/g
15-347	F8A080230010	1	0.28	J	pCi/g

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.23	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-338	F8A080230001	1	0.38	J	pCi/g
15-339	F8A080230002	1	0.66	J	pCi/g
15-340	F8A080230003	1	0.37	J	pCi/g
15-341	F8A080230004	1	0.46	J	pCi/g
15-342	F8A080230005	1	0.147	J	pCi/g
15-343	F8A080230006	1	0.35	J	pCi/g
15-345	F8A080230008	1	0.49	J	pCi/g
15-346	F8A080230009	1	0.52	J	pCi/g
15-347	F8A080230010	1	0.40	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080230
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/23/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000117MB
Preparation Batch : 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.16	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-344	F8A080230007	1	0.34	J	pCi/L

LDC #: 18448P35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080230 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	No FDup
IX	Field blanks	ND	FB = 7

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-338 S	11 1	PBS	21		31	
2	15-339	12 2	PBW	22		32	
3	15-340	13		23		33	
4	15-341	14		24		34	
5	15-342	15		25		35	
6	15-343 ↓	16		26		36	
7 2	15-344 W	17		27		37	
8	15-345 S	18		28		38	
9	15-346	19		29		39	
10	15-347 ↓	20		30		40	

Notes: _____

LDC #: 18448P73
SDG #: F8A080230
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	~~SW~~	FB = 7

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-338	S	11	15-338DUP	S	21		31	
2	15-339		12 1	PBS		22		32	
3	15-340		13 2	PBW		23		33	
4	15-341		14			24		34	
5	15-342		15			25		35	
6	15-343		16			26		36	
7 2	15-344	W	17			27		37	
8	15-345	S	18			28		38	
9	15-346		19			29		39	
10	15-347		20			30		40	

Notes:

LDC #: 18448P59
SDG #: F8A080230
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	FB = 7

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-338 S	11	15-338DUP S	21		31	
2	15-339	12 1	PBS	22		32	
3	15-340	13 2	PBW	23		33	
4	15-341	14		24		34	
5	15-342	15		25		35	
6	15-343	16		26		36	
7 2	15-344 W	17		27		37	
8	15-345 S	18		28		38	
9	15-346	19		29		39	
10	15-347	20		30		40	

Notes:

LDC #: 18448P61
SDG #: F8A080230
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-7-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	F

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: soil

1	15-338	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31626

ENTERED 1-29

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 166.0629552 +019341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

EPA 901.1 Gamma; Thorium; Uranium; 228 DOE SR-01-01-08 52

LABORATORY NAME: STL Testamerica

LABORATORY ID (FOR LABORATORY): FBA080239

10 p

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-294	12/6/07	8:35	1	X		S	21 Dy		B-1IR-B-1AB	4.0'	4.5'	Reg
15-295	12/6/07	8:42	1	X		S	21 Dy		B-1IR-B-1AB	4.5'	5.0'	Reg
15-296	12/6/07	8:55	2	X		W	21 Dy	FBB120245	Field Blank	/	/	FB Reg
15-299	12/6/07	9:42	1	X		S	21 Dy		B-1IR-B-3CD	3.0'	3.5'	Reg
15-300	12/6/07	9:45	1	X		S	21 Dy		B-1IR-B3CDb	3.5'	4.0'	Reg
15-301	12/6/07	9:57	1	X		S	21 Dy		1IR-3-02a	0"	6"	Reg
15-302	12/6/07	10:00	1	X		S	21 Dy	OK Disregard	1IR-3-02b	6"	12"	Reg
15-303	12/6/07	10:07	1	X		S	21 Dy		1IR-3-03a	0"	6"	Reg
15-304	12/6/07	10:10	1	X		S	21 Dy		1IR-3-03b	6"	12"	Reg
15-305	12/6/07	10:15	1	X		S	21 Dy		1IR-3-04a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)
COMPANY TT / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~35d~~ + 21 dy turnaths

COMPOSITE DESCRIPTION: * 3MO-3 days 1-8-08 S2 / Ra-226 via 903.0 M 2-8-08 S2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = INSTALLATION RESTORATION

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160059135

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31629

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2, & 32	PURCHASE ORDER NO.: 1017341 10G: 0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1m gamma; Thorium; Uranium; 90 Sr DOE Sr-01/St-03

LABORATORY NAME: ~~STL~~ TestAmerica

LABORATORY ID (FOR LABORATORY): F8A080239

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-316	12/6/07	11:03	1	X		S	~~30DY~~		IR-3-09b	6"	12"	Reg
15-317	12/6/07	11:05	1	X		S	~~30DY~~		IR-3-10a	0"	6"	Reg
15-318	12/6/07	11:08	2	X		S	~~30DY~~		IR-3-10b	6"	12"	Reg
15-319	12/6/07	12:50	1	X		S	~~30DY~~		B-IR-4Aa	2.0'	2.5'	Reg
15-320	12/6/07	12:53	1	X		S	~~30DY~~		B-IR-4Ab	2.5'	3.0'	Reg
15-322	12/6/07	13:05	1	X		S	~~30DY~~		B-IR-4Ba	2.0'	2.5'	Reg
15-323	12/6/07	13.08	1	X		S	~~30DY~~	OK (VG) Disregard	B-IR-4Bb	2.5'	3'	Reg
15-324	12/6/07	13:15	1	X		S	~~30DY~~		IR-4-02a	0"	6"	Reg
15-325	12/6/07	13:19	1	X		S	~~30DY~~		IR-4-02b	6"	12"	Reg
15-326	12/6/07	13:25	1	X		S	~~30DY~~		IR-4-03a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)
COMPANY TtEC/Iclex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~30Y~~ + 21DY Insewaths

COMPOSITE DESCRIPTION: no 3dup - 1-8-08 sz

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

IC040130

Tetra Tech EC, Inc.

Client Sample ID: 15-294

Radiochemistry

Lab Sample ID: F8A080239-001
Work Order: KE7PR
Matrix: SOLID

Date Collected: 12/06/07 0835
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010288		Yld %
Actinium 228	0.33		0.17		0.30	01/10/08	01/31/08
Americium 241	0.003	U	0.12		0.21	01/10/08	01/31/08
Cesium 137	-0.006	U	0.050	0.200	0.089	01/10/08	01/31/08
Cobalt 60	0.0	U	0.070		0.13	01/10/08	01/31/08
Europium 152	0.003	U	0.088		0.16	01/10/08	01/31/08
Europium 154	0.08	U	0.38		0.68	01/10/08	01/31/08
Potassium 40	8.5		1.3		0.3	01/10/08	01/31/08
Radium (226)	2.90		0.31	1.00	0.10	01/10/08	01/31/08
Thorium 232	0.33		0.17		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012082		Yld % 89
Thorium 228	1.20		0.25	1.00	0.06	01/12/08	01/24/08
Thorium 230	0.38	J	0.13	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012083		Yld % 89
Uranium 233/234	0.53	J	0.15	1.00	0.05	01/12/08	01/25/08
Uranium 235/236	0.023	U	0.036	1.00	0.054	01/12/08	01/25/08
Uranium 238	0.45	J	0.14	1.00	0.04	01/12/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-294 DUP

Radiochemistry

Lab Sample ID: F8A080239-001X
Work Order: KE7PR
Matrix: SOLID

Date Collected: 12/06/07 0835
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8012082	Yld % 87
Thorium 228	0.39	J	0.13	1.00	0.07	01/12/08	01/25/08
Thorium 230	0.50	J	0.15	1.00	0.05	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8012083	Yld % 89
Uranium 233/234	0.42	J	0.13	1.00	0.04	01/12/08	01/25/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	01/12/08	01/25/08
Uranium 238	0.32	J	0.11	1.00	0.03	01/12/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-295

Radiochemistry

Lab Sample ID: F8A080239-002
Work Order: KE7P6
Matrix: SOLID

Date Collected: 12/06/07 0842
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.38		0.15		0.23	01/11/08	02/01/08
Americium 241	-0.01	U	0.10		0.18	01/11/08	02/01/08
Cesium 137	0.0	U	0.042	0.200	0.077	01/11/08	02/01/08
Cobalt 60	-0.002	U	0.053		0.098	01/11/08	02/01/08
Europium 152	0.005	U	0.10		0.18	01/11/08	02/01/08
Europium 154	0.14	U	0.32		0.57	01/11/08	02/01/08
Potassium 40	8.9		1.3		0.3	01/11/08	02/01/08
Radium (226)	0.54	J	0.15	1.00	0.18	01/11/08	02/01/08
Thorium 232	0.38		0.15		0.23	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 72**
Thorium 228	0.39	J	0.15	1.00	0.09	01/12/08	01/24/08
Thorium 230	0.58	J	0.18	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 97**
Uranium 233/234	0.29	J	0.11	1.00	0.04	01/12/08	01/23/08
Uranium 235/236	0.012	U	0.024	1.00	0.032	01/12/08	01/23/08
Uranium 238	0.26	J	0.10	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-295 DUP

Radiochemistry

Lab Sample ID: F8A080239-002X
Work Order: KE7P6
Matrix: SOLID

Date Collected: 12/06/07 0842
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8011307		Yld %
Actinium 228	0.31		0.17		0.21	01/11/08	02/01/08
Americium 241	0.035	U	0.091		0.16	01/11/08	02/01/08
Cesium 137	0.0	U	0.065	0.200	0.12	01/11/08	02/01/08
Cobalt 60	0.0	U	0.062		0.12	01/11/08	02/01/08
Europium 152	-0.02	U	0.11		0.20	01/11/08	02/01/08
Europium 154	-0.005	U	0.27		0.53	01/11/08	02/01/08
Potassium 40	8.0		1.5		0.4	01/11/08	02/01/08
Radium (226)	0.43	J	0.13	1.00	0.11	01/11/08	02/01/08
Thorium 232	0.31		0.17		0.21	01/11/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-299

Radiochemistry

Lab Sample ID: F8A080239-004
Work Order: KE7QH
Matrix: SOLID

Date Collected: 12/06/07 0942
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8011307		Yld %
Actinium 228	0.65		0.17		0.20	01/11/08	02/01/08
Americium 241	-0.07	U	0.12		0.20	01/11/08	02/01/08
Cesium 137	0.006	U	0.045	0.200	0.081	01/11/08	02/01/08
Cobalt 60	0.006	U	0.050		0.093	01/11/08	02/01/08
Europium 152	-0.03	U	0.11		0.19	01/11/08	02/01/08
Europium 154	-0.03	U	0.33		0.61	01/11/08	02/01/08
Potassium 40	8.5		1.4		0.9	01/11/08	02/01/08
Radium (226)	0.62	J	0.15	1.00	0.18	01/11/08	02/01/08
Thorium 232	0.65		0.17		0.20	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012082		Yld % 74
Thorium 228	1.26		0.27	1.00	0.09	01/12/08	01/24/08
Thorium 230	0.92	J	0.23	1.00	0.07	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012083		Yld % 73
Uranium 233/234	0.60	J	0.18	1.00	0.08	01/12/08	01/23/08
Uranium 235/236	0.025	U	0.044	1.00	0.075	01/12/08	01/23/08
Uranium 238	0.86	J	0.22	1.00	0.07	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-300

Radiochemistry

Lab Sample ID: F8A080239-005
Work Order: KE7QL
Matrix: SOLID

Date Collected: 12/06/07 0945
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011307**	**Yld %**
Actinium 228	0.35		0.20		0.24	01/11/08	02/01/08
Americium 241	-0.015	U	0.091		0.16	01/11/08	02/01/08
Cesium 137	0.01	U	0.049	0.200	0.090	01/11/08	02/01/08
Cobalt 60	0.0	U	0.015		0.053	01/11/08	02/01/08
Europium 152	0.0	U	0.11		0.20	01/11/08	02/01/08
Europium 154	0.0	U	0.64		1.2	01/11/08	02/01/08
Potassium 40	9.4		1.7		0.5	01/11/08	02/01/08
Radium (226)	0.64	J	0.17	1.00	0.10	01/11/08	02/01/08
Thorium 232	0.35		0.20		0.24	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012082**	**Yld % 48**
Thorium 228	0.52	J	0.20	1.00	0.13	01/12/08	01/25/08
Thorium 230	0.65	J	0.22	1.00	0.08	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8031233**	**Yld % 78**
Uranium 233/234	0.64	J	0.18	1.00	0.07	01/31/08	02/05/08
Uranium 235/236	0.026	U	0.041	1.00	0.062	01/31/08	02/05/08
Uranium 238	0.48	J	0.16	1.00	0.06	01/31/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-300 DUP

Radiochemistry

Lab Sample ID: F8A080239-005X
Work Order: KE7QL
Matrix: SOLID

Date Collected: 12/06/07 0945
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8031233		Yld % 76
Uranium 233/234	0.53	J	0.17	1.00	0.08	01/31/08	02/05/08
Uranium 235/236	0.038	U	0.054	1.00	0.083	01/31/08	02/05/08
Uranium 238	0.30	J	0.13	1.00	0.10	01/31/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-301

Radiochemistry

Lab Sample ID: F8A080239-006
Work Order: KE7QN
Matrix: SOLID

Date Collected: 12/06/07 0957
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011307**	**Yld %**
Actinium 228	0.32	U	0.24		0.35	01/11/08	02/01/08
Americium 241	0.02	U	0.10		0.18	01/11/08	02/01/08
Cesium 137	0.067	U	0.060	0.200	0.10	01/11/08	02/01/08
Cobalt 60	0.019	U	0.069		0.13	01/11/08	02/01/08
Europium 152	0.01	U	0.11		0.20	01/11/08	02/01/08
Europium 154	-0.10	U	0.38		0.70	01/11/08	02/01/08
Potassium 40	**9.8**		1.8		0.5	01/11/08	02/01/08
Radium (226)	0.56	J	0.15	1.00	0.12	01/11/08	02/01/08
Thorium 232	0.32	U	0.24		0.35	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012082**	**Yld % 83**
Thorium 228	0.89	J	0.22	1.00	0.10	01/12/08	01/24/08
Thorium 230	0.75	J	0.19	1.00	0.03	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012083**	**Yld % 79**
Uranium 233/234	0.58	J	0.17	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	0.029	U	0.041	1.00	0.040	01/12/08	01/23/08
Uranium 238	0.42	J	0.15	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-302

Radiochemistry

Lab Sample ID: F8A080239-007
Work Order: KE7QQ
Matrix: SOLID

Date Collected: 12/06/07 1000
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.34	U	0.24		0.35	01/10/08	01/31/08
Americium 241	0.027	U	0.080		0.14	01/10/08	01/31/08
Cesium 137	0.016	U	0.050	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.0	U	0.014		0.052	01/10/08	01/31/08
Europium 152	0.0	U	0.11		0.20	01/10/08	01/31/08
Europium 154	-0.12	U	0.46		0.83	01/10/08	01/31/08
Potassium 40	9.5		1.7		0.5	01/10/08	01/31/08
Radium (226)	0.56	J	0.14	1.00	0.10	01/10/08	01/31/08
Thorium 232	0.34	U	0.24		0.35	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 82**
Thorium 228	0.46	J	0.15	1.00	0.08	01/12/08	01/24/08
Thorium 230	0.53	J	0.16	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 80**
Uranium 233/234	0.33	J	0.13	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	-0.0050	U	0.0071	1.00	0.066	01/12/08	01/23/08
Uranium 238	0.40	J	0.14	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-303

Radiochemistry

Lab Sample ID: F8A080239-008
Work Order: KE7QT
Matrix: SOLID

Date Collected: 12/06/07 1007
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010288		Yld %
Actinium 228	0.42		0.13		0.15	01/10/08	01/31/08
Americium 241	0.19	U	0.27		0.45	01/10/08	01/31/08
Cesium 137	0.029	U	0.035	0.200	0.057	01/10/08	01/31/08
Cobalt 60	0.004	U	0.032		0.061	01/10/08	01/31/08
Europium 152	0.029	U	0.086		0.15	01/10/08	01/31/08
Europium 154	0.08	U	0.19		0.34	01/10/08	01/31/08
Potassium 40	9.9		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.38	J	0.10	1.00	0.1	01/10/08	01/31/08
Thorium 232	0.42		0.13		0.15	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012082		Yld % 86
Thorium 228	0.54	J	0.16	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.54	J	0.16	1.00	0.03	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012083		Yld % 67
Uranium 233/234	0.28	J	0.13	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	0.007	U	0.036	1.00	0.092	01/12/08	01/23/08
Uranium 238	0.20	J	0.11	1.00	0.06	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-304

Radiochemistry

Lab Sample ID: F8A080239-009
Work Order: KE7QV
Matrix: SOLID

Date Collected: 12/06/07 1010
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010288**		**Yld %**
Actinium 228	0.23		0.16		0.22	01/10/08	01/31/08
Americium 241	0.049	U	0.090		0.15	01/10/08	01/31/08
Cesium 137	-0.003	U	0.049	0.200	0.089	01/10/08	01/31/08
Cobalt 60	-0.0007	U	0.060		0.11	01/10/08	01/31/08
Europium 152	-0.02	U	0.10		0.18	01/10/08	01/31/08
Europium 154	-0.02	U	0.38		0.71	01/10/08	01/31/08
Potassium 40	10.2		1.6		0.4	01/10/08	01/31/08
Radium (226)	0.32	J	0.11	1.00	0.13	01/10/08	01/31/08
Thorium 232	0.23		0.16		0.22	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 87**
Thorium 228	0.47	J	0.15	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.62	J	0.17	1.00	0.03	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 91**
Uranium 233/234	0.35	J	0.12	1.00	0.04	01/12/08	01/23/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/12/08	01/23/08
Uranium 238	0.30	J	0.11	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-305

Radiochemistry

Lab Sample ID: F8A080239-010
Work Order: KE7QX
Matrix: SOLID

Date Collected: 12/06/07 1015
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.53		0.15		0.21	01/11/08	02/01/08
Americium 241	-0.15	U	0.32		0.55	01/11/08	02/01/08
Cesium 137	0.475		0.083	0.200	0.049	01/11/08	02/01/08
Cobalt 60	0.009	U	0.028		0.051	01/11/08	02/01/08
Europium 152	-0.019	U	0.080		0.14	01/11/08	02/01/08
Europium 154	-0.02	U	0.22		0.41	01/11/08	02/01/08
Potassium 40	9.9		1.3		0.5	01/11/08	02/01/08
Radium (226)	0.53	J	0.12	1.00	0.12	01/11/08	02/01/08
Thorium 232	0.53		0.15		0.21	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 87**
Thorium 228	0.88	J	0.22	1.00	0.08	01/12/08	01/25/08
Thorium 230	1.04		0.23	1.00	0.06	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 88**
Uranium 233/234	0.52	J	0.16	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.059	U	0.060	1.00	0.072	01/12/08	01/23/08
Uranium 238	0.60	J	0.17	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-316

Radiochemistry

Lab Sample ID: F8A080239-011
Work Order: KE7Q2
Matrix: SOLID

Date Collected: 12/06/07 1103
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.46		0.18		0.20	01/11/08	02/01/08
Americium 241	0.008	U	0.078		0.14	01/11/08	02/01/08
Cesium 137	0.055	U	0.047	0.200	0.072	01/11/08	02/01/08
Cobalt 60	0.0	U	0.058		0.11	01/11/08	02/01/08
Europium 152	-0.015	U	0.099		0.18	01/11/08	02/01/08
Europium 154	-0.11	U	0.38		0.68	01/11/08	02/01/08
Potassium 40	9.9		1.6		0.4	01/11/08	02/01/08
Radium (226)	0.28	J	0.11	1.00	0.13	01/11/08	02/01/08
Thorium 232	0.46		0.18		0.20	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 84**
Thorium 228	0.35	J	0.13	1.00	0.08	01/12/08	01/25/08
Thorium 230	0.44	J	0.15	1.00	0.07	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 82**
Uranium 233/234	0.30	J	0.12	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	01/12/08	01/23/08
Uranium 238	0.28	J	0.11	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-317

Radiochemistry

Lab Sample ID: F8A080239-012
Work Order: KE7Q4
Matrix: SOLID

Date Collected: 12/06/07 1105
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.36		0.15		0.32	01/11/08	02/01/08
Americium 241	-0.04	U	0.10		0.18	01/11/08	02/01/08
Cesium 137	0.146	J	0.049	0.200	0.029	01/11/08	02/01/08
Cobalt 60	0.0	U	0.062		0.12	01/11/08	02/01/08
Europium 152	0.0	U	0.11		0.20	01/11/08	02/01/08
Europium 154	0.07	U	0.31		0.58	01/11/08	02/01/08
Potassium 40	7.7		1.5		0.9	01/11/08	02/01/08
Radium (226)	0.48	J	0.12	1.00	0.09	01/11/08	02/01/08
Thorium 232	0.36		0.15		0.32	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 77**
Thorium 228	0.32	J	0.13	1.00	0.11	01/12/08	01/25/08
Thorium 230	0.52	J	0.16	1.00	0.06	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 85**
Uranium 233/234	0.30	J	0.12	1.00	0.06	01/12/08	01/23/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/12/08	01/23/08
Uranium 238	0.27	J	0.11	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-318

Radiochemistry

Lab Sample ID: F8A080239-013
Work Order: KE7Q8
Matrix: SOLID

Date Collected: 12/06/07 1108
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011307**	**Yld %**
Actinium 228	0.23	U	0.21		0.32	01/11/08	02/01/08
Americium 241	0.030	U	0.083		0.14	01/11/08	02/01/08
Cesium 137	-0.01	U	0.12	0.20	0.12	01/11/08	02/01/08
Cobalt 60	0.0	U	0.078		0.15	01/11/08	02/01/08
Europium 152	-0.02	U	0.13		0.23	01/11/08	02/01/08
Europium 154	-0.03	U	0.44		0.83	01/11/08	02/01/08
Potassium 40	**8.1**		1.7		**0.9**	**01/11/08**	**02/01/08**
Radium (226)	**0.38**	**J**	0.12	1.00	**0.10**	**01/11/08**	**02/01/08**
Thorium 232	0.23	U	0.21		0.32	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012082**	**Yld % 68**
Thorium 228	**0.53**	**J**	0.18	1.00	**0.08**	**01/12/08**	**01/25/08**
Thorium 230	**0.87**	**J**	0.23	1.00	**0.08**	**01/12/08**	**01/25/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012083**	**Yld % 91**
Uranium 233/234	**0.199**	**J**	0.092	1.00	**0.043**	**01/12/08**	**01/23/08**
Uranium 235/236	**0.075**	**J**	0.062	1.00	**0.034**	**01/12/08**	**01/23/08**
Uranium 238	**0.29**	**J**	0.11	1.00	**0.04**	**01/12/08**	**01/23/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009071**	**Yld % 83**
Strontium 90	0.04	U	0.29	3.00	0.50	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-319

Radiochemistry

Lab Sample ID: F8A080239-014
Work Order: KE7Q9
Matrix: SOLID

Date Collected: 12/06/07 1250
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.40		0.15		0.17	01/11/08	02/01/08
Americium 241	-0.002	U	0.25		0.44	01/11/08	02/01/08
Cesium 137	0.0	U	0.038	0.200	0.069	01/11/08	02/01/08
Cobalt 60	0.009	U	0.015		0.027	01/11/08	02/01/08
Europium 152	-0.026	U	0.084		0.15	01/11/08	02/01/08
Europium 154	0.0	U	0.35		0.63	01/11/08	02/01/08
Potassium 40	9.8		1.3		0.5	01/11/08	02/01/08
Radium (226)	0.56	J	0.12	1.00	0.09	01/11/08	02/01/08
Thorium 232	0.40		0.15		0.17	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 73**
Thorium 228	0.36	J	0.14	1.00	0.09	01/12/08	01/25/08
Thorium 230	0.59	J	0.18	1.00	0.07	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 72**
Uranium 233/234	0.38	J	0.14	1.00	0.08	01/12/08	01/23/08
Uranium 235/236	0.040	U	0.053	1.00	0.074	01/12/08	01/23/08
Uranium 238	0.31	J	0.13	1.00	0.07	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-320

Radiochemistry

Lab Sample ID: F8A080239-015
Work Order: KE7RC
Matrix: SOLID

Date Collected: 12/06/07 1253
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011307**	**Yld %**
Actinium 228	0.21	U	0.16		0.24	01/11/08	02/01/08
Americium 241	0.028	U	0.086		0.15	01/11/08	02/01/08
Cesium 137	-0.010	U	0.054	0.200	0.096	01/11/08	02/01/08
Cobalt 60	-0.0005	U	0.051		0.099	01/11/08	02/01/08
Europium 152	-0.002	U	0.098		0.18	01/11/08	02/01/08
Europium 154	0.06	U	0.31		0.57	01/11/08	02/01/08
Potassium 40	**9.6**		**1.6**		**0.4**	**01/11/08**	**02/01/08**
Radium (226)	**0.43**	**J**	0.11	1.00	0.06	**01/11/08**	**02/01/08**
Thorium 232	0.21	U	0.16		0.24	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012082**	**Yld % 79**
Thorium 228	**0.45**	**J**	0.15	1.00	0.09	**01/12/08**	**01/25/08**
Thorium 230	**0.61**	**J**	0.18	1.00	0.07	**01/12/08**	**01/25/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012083**	**Yld % 77**
Uranium 233/234	**0.38**	**J**	0.14	1.00	0.06	**01/12/08**	**01/23/08**
Uranium 235/236	0.015	U	0.031	1.00	0.042	01/12/08	01/23/08
Uranium 238	**0.28**	**J**	0.12	1.00	0.05	**01/12/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-322

Radiochemistry

Lab Sample ID: F8A080239-016
Work Order: KE7RE
Matrix: SOLID

Date Collected: 12/06/07 1305
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.36		0.25		0.35	01/11/08	02/01/08
Americium 241	0.069	U	0.099		0.16	01/11/08	02/01/08
Cesium 137	-0.0128	U	0.0998	0.200	0.10	01/11/08	02/01/08
Cobalt 60	0.031	U	0.054		0.093	01/11/08	02/01/08
Europium 152	-0.01	U	0.11		0.20	01/11/08	02/01/08
Europium 154	0.0	U	0.081		0.30	01/11/08	02/01/08
Potassium 40	9.7		1.8		0.5	01/11/08	02/01/08
Radium (226)	0.61	J	0.19	1.00	0.16	01/11/08	02/01/08
Thorium 232	0.36		0.25		0.35	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 74**
Thorium 228	0.53	J	0.18	1.00	0.12	01/12/08	01/25/08
Thorium 230	0.86	J	0.22	1.00	0.03	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 70**
Uranium 233/234	0.55	J	0.18	1.00	0.06	01/12/08	01/23/08
Uranium 235/236	0.013	U	0.033	1.00	0.070	01/12/08	01/23/08
Uranium 238	0.45	J	0.16	1.00	0.07	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-323

Radiochemistry

Lab Sample ID: F8A080239-017
Work Order: KE7RN
Matrix: SOLID

Date Collected: 12/06/07 1308
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011307**	**Yld %**
Actinium 228	0.62		0.15		0.07	01/11/08	02/01/08
Americium 241	0.13	U	0.25		0.43	01/11/08	02/01/08
Cesium 137	-0.0002	U	0.033	0.200	0.060	01/11/08	02/01/08
Cobalt 60	-0.006	U	0.035		0.064	01/11/08	02/01/08
Europium 152	0.045	U	0.079		0.13	01/11/08	02/01/08
Europium 154	0.0	U	0.30		0.54	01/11/08	02/01/08
Potassium 40	9.2		1.3		0.6	01/11/08	02/01/08
Radium (226)	0.49	J	0.11	1.00	0.08	01/11/08	02/01/08
Thorium 232	0.62		0.15		0.07	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012082**	**Yld % 84**
Thorium 228	0.40	J	0.14	1.00	0.08	01/12/08	01/25/08
Thorium 230	0.48	J	0.15	1.00	0.05	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012083**	**Yld % 80**
Uranium 233/234	0.38	J	0.14	1.00	0.08	01/12/08	01/23/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	01/12/08	01/23/08
Uranium 238	0.26	J	0.11	1.00	0.09	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-324

Radiochemistry

Lab Sample ID: F8A080239-018
Work Order: KE7R1
Matrix: SOLID

Date Collected: 12/06/07 1315
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.40		0.18		0.21	01/11/08	02/01/08
Americium 241	0.003	U	0.091		0.16	01/11/08	02/01/08
Cesium 137	0.050	U	0.047	0.200	0.073	01/11/08	02/01/08
Cobalt 60	0.013	U	0.046		0.084	01/11/08	02/01/08
Europium 152	0.008	U	0.091		0.17	01/11/08	02/01/08
Europium 154	0.13	U	0.33		0.59	01/11/08	02/01/08
Potassium 40	9.8		1.6		0.4	01/11/08	02/01/08
Radium (226)	0.51	J	0.13	1.00	0.07	01/11/08	02/01/08
Thorium 232	0.40		0.18		0.21	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 80**
Thorium 228	0.94	J	0.22	1.00	0.08	01/12/08	01/25/08
Thorium 230	0.28	J	0.12	1.00	0.06	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 77**
Uranium 233/234	0.44	J	0.15	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	0.040	U	0.053	1.00	0.074	01/12/08	01/23/08
Uranium 238	0.54	J	0.17	1.00	0.09	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-325

Radiochemistry

Lab Sample ID: F8A080239-019
Work Order: KE7R3
Matrix: SOLID

Date Collected: 12/06/07 1319
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.53		0.20		0.19	01/11/08	02/01/08
Americium 241	-0.01	U	0.12		0.20	01/11/08	02/01/08
Cesium 137	0.044	U	0.043	0.200	0.068	01/11/08	02/01/08
Cobalt 60	0.013	U	0.055		0.10	01/11/08	02/01/08
Europium 152	-0.0009	U	0.098		0.18	01/11/08	02/01/08
Europium 154	-0.002	U	0.38		0.71	01/11/08	02/01/08
Potassium 40	8.3		1.5		0.7	01/11/08	02/01/08
Radium (226)	0.51	J	0.14	1.00	0.12	01/11/08	02/01/08
Thorium 232	0.53		0.20		0.19	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 72**
Thorium 228	0.047	J	0.016	1.00	0.008	01/12/08	01/25/08
Thorium 230	0.058	J	0.018	1.00	0.003	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 83**
Uranium 233/234	0.040	J	0.014	1.00	0.005	01/12/08	01/23/08
Uranium 235/236	0.0091	J	0.0071	1.00	0.0057	01/12/08	01/23/08
Uranium 238	0.035	J	0.013	1.00	0.005	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-326

Radiochemistry

Lab Sample ID: F8A080239-020
Work Order: KE7R5
Matrix: SOLID

Date Collected: 12/06/07 1325
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011307**		**Yld %**
Actinium 228	0.41		0.23		0.31	01/11/08	02/01/08
Americium 241	0.060	U	0.093		0.15	01/11/08	02/01/08
Cesium 137	0.017	U	0.056	0.200	0.11	01/11/08	02/01/08
Cobalt 60	0.017	U	0.044		0.083	01/11/08	02/01/08
Europium 152	-0.002	U	0.096		0.18	01/11/08	02/01/08
Europium 154	-0.34	U	0.62		1.1	01/11/08	02/01/08
Potassium 40	9.5		1.8		0.5	01/11/08	02/01/08
Radium (226)	0.49	J	0.17	1.00	0.16	01/11/08	02/01/08
Thorium 232	0.41		0.23		0.31	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012082**		**Yld % 66**
Thorium 228	0.43	J	0.16	1.00	0.07	01/12/08	01/25/08
Thorium 230	0.78	J	0.22	1.00	0.06	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012083**		**Yld % 91**
Uranium 233/234	0.34	J	0.12	1.00	0.04	01/12/08	01/23/08
Uranium 235/236	0.044	U	0.046	1.00	0.049	01/12/08	01/23/08
Uranium 238	0.34	J	0.12	1.00	0.02	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-294	F8A080239001	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-294	F8A080239001	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-294	F8A080239001	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-294DUP	F8A080239001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-294DUP	F8A080239001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-295	F8A080239002	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-295	F8A080239002	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-295	F8A080239002	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-295DUP	F8A080239002DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-296	F8A080239003	FB	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-296	F8A080239003	FB	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-296	F8A080239003	FB	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-299	F8A080239004	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-299	F8A080239004	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-299	F8A080239004	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-300	F8A080239005	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-300	F8A080239005	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-300	F8A080239005	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-300DUP	F8A080239005DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-301	F8A080239006	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-301	F8A080239006	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-301	F8A080239006	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-302	F8A080239007	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-302	F8A080239007	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-302	F8A080239007	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-303	F8A080239008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-303	F8A080239008	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-303	F8A080239008	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-304	F8A080239009	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-304	F8A080239009	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-304	F8A080239009	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-305	F8A080239010	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-305	F8A080239010	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-305	F8A080239010	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-316	F8A080239011	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-316	F8A080239011	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-316	F8A080239011	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-317	F8A080239012	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-317	F8A080239012	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-317	F8A080239012	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-318	F8A080239013	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-318	F8A080239013	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-318	F8A080239013	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-318	F8A080239013	N	Gen Prep	)OE SR-03-RC MOI	3
06-Dec-2007	15-319	F8A080239014	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-319	F8A080239014	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-319	F8A080239014	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-320	F8A080239015	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-320	F8A080239015	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-320	F8A080239015	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-322	F8A080239016	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-322	F8A080239016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-322	F8A080239016	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-323	F8A080239017	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-323	F8A080239017	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-323	F8A080239017	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-324	F8A080239018	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-324	F8A080239018	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-324	F8A080239018	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-325	F8A080239019	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-325	F8A080239019	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-325	F8A080239019	N	Gen Prep	DOE GA-01-R MOD	3
06-Dec-2007	15-326	F8A080239020	N	Gen Prep	)OE A-01-R TH MOI	3
06-Dec-2007	15-326	F8A080239020	N	Gen Prep	DOE A-01-R U MOD	3
06-Dec-2007	15-326	F8A080239020	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
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MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080239										
DOE A-01-R TH MOD	15-294	SO	N							
				THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-296	AQ	FB							
				THORIUM-230	1.00	0.34J	0.27	U	pCi/L	
DOE A-01-R TH MOD	15-302	SO	N							
				THORIUM-230	1.00	0.53J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-316	SO	N							
				THORIUM-230	1.00	0.44J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-317	SO	N							
				THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-323	SO	N							
				THORIUM-230	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-324	SO	N							
				THORIUM-230	1.00	0.28J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-325	SO	N							
				THORIUM-230	1.00	0.058J	0.018	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A080239

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A080239	15-294	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-296	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-302	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-316	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-317	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-323	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-324	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080239	15-325	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Det Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A080239	DOE A-01-R TH MOD	FB	AQ	12/06/2007 0:00	THORIUM-230	14269-63-7	0.34	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A080239

Method Blank Outlier Report

Lab Reporting Batch : F8A080239
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A120000082MB

Lab ID: TestAme
Analysis Date : 01/25/2008
Preparation Date :
Preparation Batch : 8012082

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.107**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-294	F8A080239001	1	0.38	J	pCi/g
15-302	F8A080239007	1	0.53	J	pCi/g
15-316	F8A080239011	1	0.44	J	pCi/g
15-317	F8A080239012	1	0.52	J	pCi/g
15-323	F8A080239017	1	0.48	J	pCi/g
15-324	F8A080239018	1	0.28	J	pCi/g
15-325	F8A080239019	1	0.058	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080239
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A180000117MB

Lab ID: TestAme
Analysis Date : 01/23/2008
Preparation Date :
Preparation Batch : 8018117

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.16**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-296	F8A080239003	1	0.34	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8A080239
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A310000233MB

Lab ID: TestAme
Analysis Date : 02/05/2008
Preparation Date :
Preparation Batch : 8031233

	Result	Reporting Limit	Units	Lab Qual	Comments
URANIUM-233/234					
Method Blank Result:	0.055	1.00	pCi/g	J	

URANIUM-233/234 contamination found in the method blank did not qualify any samples.

LDC #: 18448Q35
SDG #: F8A080239
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	MS Dup
IX	Field blanks	ND	FB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-294	S	11	2	15-316	S	21	2	15-295DUP	S	31	
2	2	15-295	↓	12	2	15-317	↓	22	1	PBS1		32	
3	3	15-296	W	13	2	15-318		23	2	PBS2		33	
4	2	15-299	S	14	2	15-319		24	3	PBW		34	
5	2	15-300		15	2	15-320		25				35	
6	2	15-301		16	2	15-322		26				36	
7	1	15-302		17	2	15-323		27				37	
8	1	15-303		18	2	15-324		28				38	
9	1	15-304		19	2	15-325		29				39	
10	2	15-305	↓	20	2	15-326	↓	30				40	

Notes:

LDC #: 18448Q73
SDG #: F8A080239
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~NA~~	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	ce
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	~~SW~~	FB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-294	S	11	15-316	S	21	15-294DUP	S	31	
2	15-295	↓	12	15-317	↓	22 1	PBS		32	
3 2	15-296	W	13	15-318		23 2	PBW		33	
4	15-299	S	14	15-319		24			34	
5	15-300	↓	15	15-320		25			35	
6	15-301		16	15-322		26			36	
7	15-302		17	15-323		27			37	
8	15-303		18	15-324		28			38	
9	15-304		19	15-325		29			39	
10	15-305	↓	20	15-326	↓	30			40	

Notes:

LDC #: 18448Q59
SDG #: F8A080239
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	MNP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	CC
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	FB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-294	S	11	1	15-316	S	21	1	15-294DUP	S	31	
2	1	15-295	↓	12	1	15-317	↓	22	2	15-300DUP	↓	32	
3	3	15-296	W	13	1	15-318		23	1	PBS1		33	
4	1	15-299	S	14	1	15-319		24	2	PBS2		34	
5	2	15-300	↓	15	1	15-320	↓	25	3	PBW		35	
6	1	15-301		16	1	15-322		26				36	
7	1	15-302		17	1	15-323		27				37	
8	1	15-303		18	1	15-324		28				38	
9	1	15-304		19	1	15-325		29				39	
10	1	15-305	↓	20	1	15-326	↓	30				40	

Notes:

LDC #: 18448Q61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080239 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	NA	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	N A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: SO, 1

1	15-318	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31650

ENHERE

PROJECT NAME: IR sites 1, 2, 32	PURCHASE ORDER NO.: 106.0629552 OS 1017344
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: Y Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 Gamma; Thorium; URANIUM 9310 Doc 12-01-08

LABORATORY NAME: Testamerica STL SL

LABORATORY ID (FOR LABORATORY): F8A080256

COMMENTS

Project Information Section Do not submit to Laboratory

10 P

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	LOCATION	DEPTH START	DEPTH END	QC
15-398	12/12/07	8:57	1	X		S	30DY	B-1IR-8Ca	2'	2.5'	Reg
15-399	12/12/07	9:00	1	X		S	30DY	B-1IR-8Cb	2.5'	3'	Reg
15-400	12/12/07	9:11	2	X		S	30DY	B-1IR-8Da	2'	2.5'	Reg
15-401	12/12/07	9:13	1	X		S	30DY	B-1IR-8Db	2.5'	3'	Reg
15-402	12/12/07	9:18	1	X		S	30DY	1IR-8D-02a	0"	6"	Reg
15-403	12/12/07	9:20	1	X		S	30DY	1IR-8D-02b	6"	12"	Reg
15-404	12/12/07	9:33	1	X		S	30DY	B-1IR-8Ea	2'	2.5'	Reg
15-405	12/12/07	9:35	1	X		S	30DY	B-1IR-8Eb	2.5'	3'	Reg
15-406	12/12/07	9:45	2	X		W	30DY	Equipment Rinsate			ER
15-407	12/12/07	9:48	1	X		S	30DY	1IR-8E-02a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/4/08	RECEIVED BY (Signature)	
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~30y~~ +21 Dy Ingrowths

COMPOSITE DESCRIPTION: no 3-day - 1-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31647

CHAIN-OF-CUSTODY RECORD

D1-27

ENTHERE

PROJECT NAME: IR Sites 1 & 2	PURCHASE ORDER NO.: 106.0639552 / 101734
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 320-0887
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: [illegible]	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

ANALYSES REQUIRED

LABORATORY NAME: Testamerica

LABORATORY ID (FOR LABORATORY): F8A080256

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-449	12.12.07	1115	1	X		S	21 D4		IR-9A-04b	6"	1'	Reg.
IS-450	12.12.07	1237	1	X		S	21 D4		IR-9A-05a	0"	6"	Reg.
IS-451	12.12.07	1240	1	X		S	21 D4		IR-9A-05b	6"	1'	Reg.
IS-452	12.12.07	1245	1	X		S	21 D4		IR-9A-06a	0"	6"	Reg.
IS-453	12.12.07	1251	1	X		S	21 D4		IR-9A-06b	6"	1'	Reg.
IS-454	12.12.07	1258	1	X		S	21 D4		IR-9A-07a	0"	6"	Reg.
IS-455	12.12.07	1304	1	X		S	21 D4		IR-9A-07b	6"	1'	Reg.
IS-456	12.12.07	1307	1	X		S	21 D4		IR-9A-08a	0"	6"	Reg.
IS-457	12.12.07	1309	1	X		S	21 D4		IR-9A-08b	6"	1'	Reg.
IS-458	12.12.07	1314	2	X		S	21 D4		IR-9A-09a	0"	6"	Reg.

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)	
COMPANY TtEC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: no 3-day - 1-08 s2
3 Dy + 1 Dy Ingrowths

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160549 99

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31648

ENTERED

PROJECT NAME: FT Sites 1, 1 & 32	PURCHASE ORDER NO.: 106.0639552 017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210-0287
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 747 756-7500

ANALYSES REQUIRED

LABORATORY NAME: Test America IL

LABORATORY ID (FOR LABORATORY): FBA080256

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-459	12-12-07	1319	1	X		S	21 Dy		IR-9A-09B	6"	1'	Reg.
15-460	12-12-07	1322	1	X		S	21 Dy		IR-9A-10A	0"	6"	Reg.
15-461	12-12-07	1324	1	X		S	21 Dy		IR-9A-10B	6"	1'	Reg.

RELINQUISHED BY (Signature)	DATE 12/13/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: no3-dup-s2 ~~30 Dy~~ + 21 Dy Ingrowths
COMPANY TtEC/Foley	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR=Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160598QQ

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31654

ENTERED

PROJECT NAME: IR sites IR 1, 2 & 32	PURCHASE ORDER NO.: 106.0679552 PO 17341
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 M GAMMA	Thorium	URANIUM	90/Sr DOE-SR-01/Sr-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-462	12/12/07	12:55	1	X		S	3DY 21	X	X	X			B-1IR-11a	2'	2.5'	REG
15-463	12/12/07	12:57	1	X		S	3DY 21	X	X	X			B-1IR-11b	2.5'	3'	REG
15-464	12/12/07	—	VOID	—	—	—	—	—	—	—			VOID			
15-465	12/12/07	13:00	1	X		S	3DY 21	X	X	X			1IR-11-02a	0"	6"	REG
15-466	12/12/07	13:03	1	X		S	3DY 21	X	X	X			1IR-11-02b	6"	12"	Res
15-467	12/12/07	13:05	1	X		S	3DY 21	X	X	X			B-1IR-12a	2'	2.5'	REG
15-468	12/12/07	13:18	2	X		S	3DY 21	X	X	X	X		B-1IR-12b	2.5'	3'	REG
15-469	12/12/07	13:25	1	X		S	3DY 21	X	X	X			1IR-12-02a	0"	6"	Res
15-470	12/12/07	13:27	1	X		S	3DY 21	X	X	X			1IR-12-02b	6"	12"	Res
15-471	12/12/07	13:28	1	X		S	3DY 21	X	X	X			1IR-12-03a	2'	2.5'	REG

ANALYSES REQUIRED

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): FBA080256

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature)	DATE 11/7/06	RECEIVED BY (Signature)	
COMPANY TTEC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS
* 3DY +21 DY INGROWTHS

COMPOSITE DESCRIPTION
no 3-days - 1-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160.59099

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1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31655

ENTERED

PROJECT NAME: IR sites IR 1, 2 33?	PURCHASE ORDER NO.: 106.0629552 7017341
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: STL Test America

LABORATORY ID (FOR LABORATORY): F8A080258

Project Information Section Do not submit to Laboratory

5

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	Thorium	Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-472	12/12/07	13:30	1	X		S	21DY	X	X	X		IR-12-03b	2.5'	3'	Res
15-473	12/12/07	13:35	1	X		S	21DY	X	X	X		IR-12-04a	2'	2.5'	Res
15-474	12/12/07	13:37	1	X		S	21DY	X	X	X		IR-12-04b	2.5'	3'	Res
15-475	12/12/07	13:40	1	X		S	21DY	X	X	X		IR-12-05a	0"	6"	Res
15-476	12/12/07	13:43	1	X		S	21DY	X	X	X		IR-12-05b	6"	12"	Res

RELINQUISHED BY (Signature): [signature]	DATE: 1/7/08	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: * no 3 day 1-8-08 SL 3DY + 21DY Inbowths
COMPANY: TtEC / Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY:	TIME:	COMPANY:	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1600520799

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31645

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR Sites 1, 2, & 32	~~101731~~ 106.0629332	TestAmerica ~~STL~~
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 320-25P	LABORATORY ID (FOR LABORATORY): FBA080256 / FBA290194*
SAMPLER NAME: V. Richards	AIRBILL NUMBER	
PROJECT CONTACT: Lisa Dienkowskie	PROJECT CONTACT PHONE NUMBER: 441-126-1500	

Project Information Section — Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m Modified; Thorium; Uranium; 19 (Ra-226 & 228?)

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m	Thorium	Uranium	Ra	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-429 *	12-12-07	0855	1	X		S	21 Dy	X	X	X			B-1IR-8Ka	6"	12"	Reg.
15-430 *	12-12-07	0900	1	X		S	21 Dy	X	X	X			B-1IR-8Kb	1'	1.5'	Reg.
15-431	12-12-07	0906	2	X		S	21 Dy	X	X	X			Equipment Rinsate	/	/	ER
15-432 *	12-12-07	0915	1	X		S	21 Dy	X	X	X			1IR-8K-02a	0"	6"	Reg.
15-433 *	12-12-07	0918	1	X		S	21 Dy	X	X	X			1IR-8K-02b	6"	12"	Reg.
15-434 *	12-12-07	0933	1	X		S	21 Dy	X	X	X			B-1IR-8La	6"	12"	Reg.
15-435 *	12-12-07	0937	1	X		S	21 Dy	X	X	X			B-1IR-8Lb	12"	1.5'	Reg.
15-436 *	12-12-07	0944	1	X		S	21 Dy	X	X	X			1IR-8L-02b	0"	6"	Reg.
15-437 *	12-12-07	0947	1	X		S	21 Dy	X	X	X			1IR-8L-02a	6"	1'	Reg.
15-438 *	12-12-07	1001	1	X		S	21 Dy	X	X	X	X		B-1IR-8Ma	1'	1.5'	Reg.

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/7/07	
COMPANY: TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ** mo 3-day 1-8-08 SZ
3 Dy + 21 Dy Ingrowths

COMPOSITE DESCRIPTION: * Gamma spec on SDG F8A290194 1/30 SZ

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

F8A290194

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059099/16059161

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31646

ENTERED

PROJECT NAME	IR Sites 1, 2, 32
PURCHASE ORDER NO.	~~1017341~~ 106.0629552
PROJECT LOCATION	ALAMEDA, CA
PROJECT NO.	3210-025P
SAMPLER NAME	V. RICHARDS
AIRBILL NUMBER	
PROJECT CONTACT	LISA BIENKOWSKIE
PROJECT CONTACT PHONE NUMBER	619-756-7300
LABORATORY NAME	TestAmerica FL
LABORATORY ID (FOR LABORATORY)	F8A080256/F8A290194*

ANALYSES REQUIRED: Gamma Spec; Thorium; Uranium

Project Information Section
Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT *	Gamma Spec	Thorium	Uranium		COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-439 *	12-12-07	1005	1	X		S	21 3Dy	X	X	X			B-IIR-8Mb	1.5'	2'	Reg.
15-440 *	12-12-07	1013	1	X		S	21 3Dy	X	X	X			IIR-8M-02a	0"	6"	Reg.
15-441 *	12-12-07	1015	1	X		S	21 3Dy	X	X	X			IIR-8M-02b	6"	1'	Reg.
15-442 *	12-12-07	1040	1	X		S	21 3Dy	X	X	X			B-IIR-9Aa	2'	2.5'	Reg.
15-443 *	12-12-07	1044	1	X		S	21 3Dy	X	X	X			B-IIR-9Ab	2.5'	3'	Reg.
15-444 *	12-12-07	1054	1	X		S	21 3Dy	X	X	X			IIR-9A-02a	0"	6"	Reg.
15-445 *	12-12-07	1056	1	X		S	21 3Dy	X	X	X			IIR-9A-02b	6"	1'	Reg.
15-446 *	12-12-07	1104	1	X		S	21 3Dy	X	X	X			IIR-9A-03a	0"	6"	Reg.
15-447 *	12-12-07	1107	1	X		S	21 3Dy	X	X	X			IIR-9A-03b	6"	1'	Reg.
15-448 *	12-12-07	1115	2	X		S	21 3Dy	X	X	X	X		IIR-9A-04a	0"	6"	Reg.

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/7/07	
COMPANY: TtEC/[illegible]	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ** no 3-day 1-8-08 a
3 Dy + 21 Dy Ingrowths

COMPOSITE DESCRIPTION: * Gamma spec on SDG F8A290194 1/30 s2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

F8A290194-7

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059099/16059161

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31651

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552 US 1014341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

LABORATORY NAME: Test America SL S2

LABORATORY ID (FOR LABORATORY): FBA080256/FBA290194*

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	Thorium	URANIUM 238	238 DOE SR-01/S2-01	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-408	12/12/07	9:50	2	X		S	30DY	X	X	X	X		1IR-8E-02b	6"	12"	Reg
15-409	12/12/07	9:58	1	X		S	30DY	X	X	X			B-1IR-8Fa	2'	2.5'	Reg
15-410	12/12/07	10:00	1	X		S	30DY	X	X	X			B-1IR-8Fb	2.5'	3'	Reg
15-411	12/12/07	10:07	1	X		S	30DY	X	X	X			1IR-8F-02a	0"	6"	Reg
15-412 *	12/12/07	10:10	1	X		S	30DY	X	X	X			1IR-8F-02b	6"	12"	Reg
15-413 *	12/12/07	10:22	1	X		S	30DY	X	X	X			B-1IR-8Ga	2'	2.5'	Reg
15-414 *	12/12/07	10:25	1	X		S	30DY	X	X	X			B-1IR-8Gb	2.5'	3'	Reg
15-415 *	12/12/07	10:30	1	X		S	30DY	X	X	X			1IR-8G-02a	0"	6"	Reg
15-416 *	12/12/07	10:33	1	X		S	30DY	X	X	X			1IR-8G-02b	6"	12"	Reg
15-417 *	12/12/07	10:42	1	X		S	30DY	X	X	X			B-1IR-8Ha	2'	2.5'	Reg

RELINQUISHED BY (Signature)	DATE 1/9/08	RECEIVED BY (Signature)	
COMPANY TTEC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~30~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION: # no 3-days 1-8-08 S2 * - Gamma spec on this SDG FBA290194 1 of 2 S2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation S2 Restoration

FBA290194*

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160598.99 / 160598.61

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31652

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0649552 03 7017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 MM GAMMA	THORIUM	URANIUM	4% SE DOE 52-01/52-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-418 *	12/12/07	10:45	2	X		S	21DY	X	X	X	X		B-1IR-8Hb	2.5'	3'	Reg
15-419 *	12/12/07	10:52	1	X		S	21DY	X	X	X			1IR-8H-02a	0"	6"	Reg
15-420 *	12/12/07	10:54	1	X		S	21DY	X	X	X			1IR-8H-02b	6"	12"	Reg
15-421 *	12/12/07	11:05	1	X		S	21DY	X	X	X			B-1IR-8Ia	2'	2.5'	Reg
15-422 *	12/12/07	11:07	1	X		S	21DY	X	X	X			B-1IR-8Ib	2.5'	3'	Reg
15-423 *	12/12/07	11:10	1	X		S	21DY	X	X	X			1IR-8I-02a	0"	6"	Reg
15-424 *	12/12/07	11:13	1	X		S	21DY	X	X	X			1IR-8I-02b	6"	12"	Reg
15-425 *	12/12/07	11:17	1	X		S	21DY	X	X	X			B-1IR-8Ja	2'	2.5'	Reg
15-426 *	12/12/07	11:20	1	X		S	21DY	X	X	X			B-1IR-8Jb	2.5'	3'	Reg
15-427 *	12/12/07	11:22	1	X		S	21DY	X	X	X			1IR-8J-02a	0"	6"	Reg

ANALYSES REQUIRED

LABORATORY NAME: Test America SH

LABORATORY ID (FOR LABORATORY): F8A080256 / F8A290194 *

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature): V Rich	DATE: 12/17/07	RECEIVED BY (Signature):	
COMPANY: TtSE/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~30Y~~ + 21 DY INGROWTHS

COMPOSITE DESCRIPTION: * no 3-dap SL 1-8-08

* Gamma Spec on SDG F8A290194 1-30 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

F8A290194

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059099 / 16059164

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31653

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0679552 / 7017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500 *

LABORATORY NAME: Test America Sac
LABORATORY ID (FOR LABORATORY): F8A080256 / F8A290194 *

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 6010 GAMMA; THORIUM; URANIUM; % Rec SR-01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-428*	12/12/07	11:26	2	X		S	30d		IR-8J-026	6"	12'	Rg

RELINQUISHED BY (Signature): [signature] | DATE: 1/7/07 | RECEIVED BY (Signature):
COMPANY: TEC/Fedex | TIME: | COMPANY:
RELINQUISHED BY (Signature): | DATE: | RECEIVED BY (Signature):
COMPANY: | TIME: | COMPANY:
RELINQUISHED BY (Signature): | DATE: | RECEIVED BY (Signature):
COMPANY: | TIME: | COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS: * no 3-day 1-8 oz S~~30d~~ + 21 dy Ingrowths

COMPOSITE DESCRIPTION: * Gamma Spec on SDG-F8A290194 430 S2

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

F8A290194

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160599 99 / E 160599 61

Tetra Tech EC, Inc.

Client Sample ID: 15-449

Radiochemistry

Lab Sample ID: F8A080256-001
Work Order: KE7XC
Matrix: SOLID

Date Collected: 12/12/07 1118
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010409		Yld %
Actinium 228	0.36		0.19		0.23	01/10/08	01/31/08
Americium 241	0.032	U	0.080		0.14	01/10/08	01/31/08
Cesium 137	-0.03	U	0.97	0.20	0.13	01/10/08	01/31/08
Cobalt 60	0.022	U	0.043		0.077	01/10/08	01/31/08
Europium 152	-0.017	U	0.092		0.17	01/10/08	01/31/08
Europium 154	0.0	U	0.64		1.2	01/10/08	01/31/08
Potassium 40	7.4		1.5		0.8	01/10/08	01/31/08
Radium (226)	0.33	J	0.13	1.00	0.17	01/10/08	01/31/08
Thorium 232	0.36		0.19		0.23	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012101		Yld % 89
Thorium 228	0.49	J	0.15	1.00	0.1	01/12/08	01/24/08
Thorium 230	0.31	J	0.12	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012100		Yld % 97
Uranium 233/234	0.220	J	0.097	1.00	0.050	01/12/08	01/23/08
Uranium 235/236	0.023	U	0.036	1.00	0.054	01/12/08	01/23/08
Uranium 238	0.26	J	0.11	1.00	0.03	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-449 DUP

Radiochemistry

Lab Sample ID: F8A080256-001X
Work Order: KE7XC
Matrix: SOLID

Date Collected: 12/12/07 1118
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 89**
Uranium 233/234	**0.27**	**J**	**0.11**	**1.00**	**0.06**	**01/12/08**	**01/23/08**
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/12/08	01/23/08
Uranium 238	**0.31**	**J**	**0.12**	**1.00**	**0.06**	**01/12/08**	**01/23/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 45**
Thorium 228	**0.33**	**J**	**0.18**	**1.00**	**0.16**	**01/12/08**	**01/30/08**
Thorium 230	**0.26**	**J**	**0.15**	**1.00**	**0.1**	**01/12/08**	**01/30/08**
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.23	U	0.17		0.26	01/10/08	01/31/08
Americium 241	0.021	U	0.079		0.14	01/10/08	01/31/08
Cesium 137	-0.008	U	0.044	0.200	0.080	01/10/08	01/31/08
Cobalt 60	0.0	U	0.010		0.038	01/10/08	01/31/08
Europium 152	0.036	U	0.084		0.15	01/10/08	01/31/08
Europium 154	0.12	U	0.30		0.54	01/10/08	01/31/08
Potassium 40	**8.2**		**1.4**		**0.4**	**01/10/08**	**01/31/08**
Radium (226)	**0.297**	**J**	**0.092**	**1.00**	**0.074**	**01/10/08**	**01/31/08**
Thorium 232	0.23	U	0.17		0.26	01/10/08	01/31/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-450

Radiochemistry

Lab Sample ID: F8A080256-002
Work Order: KE7XD
Matrix: SOLID

Date Collected: 12/12/07 1237
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.38		0.15		0.25	01/10/08	01/31/08
Americium 241	0.008	U	0.078		0.13	01/10/08	01/31/08
Cesium 137	0.105	J	0.055	0.200	0.074	01/10/08	01/31/08
Cobalt 60	0.012	U	0.041		0.076	01/10/08	01/31/08
Europium 152	0.001	U	0.084		0.15	01/10/08	01/31/08
Europium 154	-0.006	U	0.32		0.61	01/10/08	01/31/08
Potassium 40	7.2		1.3		0.7	01/10/08	01/31/08
Radium (226)	0.44	J	0.10	1.00	0.04	01/10/08	01/31/08
Thorium 232	0.38		0.15		0.25	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 94**
Thorium 228	0.50	J	0.15	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.48	J	0.14	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 96**
Uranium 233/234	0.38	J	0.13	1.00	0.06	01/12/08	01/23/08
Uranium 235/236	0.023	U	0.033	1.00	0.031	01/12/08	01/23/08
Uranium 238	0.43	J	0.13	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-451

Radiochemistry

Lab Sample ID: F8A080256-003
Work Order: KE7XE
Matrix: SOLID

Date Collected: 12/12/07 1240
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010409**	**Yld %**
Actinium 228	0.37		0.22		0.30	01/10/08	01/31/08
Americium 241	-0.017	U	0.089		0.15	01/10/08	01/31/08
Cesium 137	0.0	U	0.062	0.200	0.11	01/10/08	01/31/08
Cobalt 60	-0.007	U	0.051		0.097	01/10/08	01/31/08
Europium 152	0.024	U	0.077		0.14	01/10/08	01/31/08
Europium 154	-0.006	U	0.37		0.70	01/10/08	01/31/08
Potassium 40	10.2		1.7		0.4	01/10/08	01/31/08
Radium (226)	0.39	J	0.13	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.37		0.22		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012101**	**Yld % 84**
Thorium 228	0.56	J	0.17	1.00	0.08	01/12/08	01/24/08
Thorium 230	0.51	J	0.16	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012100**	**Yld % 99**
Uranium 233/234	0.35	J	0.12	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.019	U	0.035	1.00	0.059	01/12/08	01/23/08
Uranium 238	0.33	J	0.12	1.00	0.03	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-452

Radiochemistry

Lab Sample ID: F8A080256-004
Work Order: KE7XF
Matrix: SOLID

Date Collected: 12/12/07 1248
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.26	U	0.14		0.28	01/10/08	01/31/08
Americium 241	0.063	U	0.091		0.15	01/10/08	01/31/08
Cesium 137	0.045	U	0.049	0.200	0.078	01/10/08	01/31/08
Cobalt 60	0.0	U	0.10		0.18	01/10/08	01/31/08
Europium 152	-0.03	U	0.13		0.22	01/10/08	01/31/08
Europium 154	0.01	U	0.35		0.64	01/10/08	01/31/08
Potassium 40	9.6		1.4		0.3	01/10/08	01/31/08
Radium (226)	0.32	J	0.12	1.00	0.17	01/10/08	01/31/08
Thorium 232	0.26	U	0.14		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 87**
Thorium 228	0.42	J	0.14	1.00	0.09	01/12/08	01/24/08
Thorium 230	0.28	J	0.11	1.00	0.07	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 88**
Uranium 233/234	0.38	J	0.13	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	01/12/08	01/23/08
Uranium 238	0.52	J	0.15	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-453

Radiochemistry

Lab Sample ID: F8A080256-005
Work Order: KE7XG
Matrix: SOLID

Date Collected: 12/12/07 1251
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.39	U	0.30		0.46	01/10/08	01/31/08
Americium 241	-0.005	U	0.13		0.23	01/10/08	01/31/08
Cesium 137	-0.003	U	0.053	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.037	U	0.054		0.090	01/10/08	01/31/08
Europium 152	0.01	U	0.13		0.24	01/10/08	01/31/08
Europium 154	-0.01	U	0.37		0.72	01/10/08	01/31/08
Potassium 40	**8.9**		1.7		0.6	**01/10/08**	**01/31/08**
Radium (226)	**0.63**	**J**	0.15	1.00	0.06	**01/10/08**	**01/31/08**
Thorium 232	0.39	U	0.30		0.46	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 70**
Thorium 228	**0.42**	**J**	0.16	1.00	0.12	**01/12/08**	**01/24/08**
Thorium 230	**0.34**	**J**	0.14	1.00	0.03	**01/12/08**	**01/24/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 88**
Uranium 233/234	**0.52**	**J**	0.15	1.00	0.06	**01/12/08**	**01/23/08**
Uranium 235/236	0.048	U	0.051	1.00	0.054	01/12/08	01/23/08
Uranium 238	**0.93**	**J**	0.21	1.00	0.04	**01/12/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-454

Radiochemistry

Lab Sample ID: F8A080256-006
Work Order: KE7XH
Matrix: SOLID

Date Collected: 12/12/07 1258
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.20	U	0.19		0.30	01/10/08	01/31/08
Americium 241	0.050	U	0.073		0.12	01/10/08	01/31/08
Cesium 137	0.171	J	0.073	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.0	U	0.013		0.047	01/10/08	01/31/08
Europium 152	-0.002	U	0.088		0.16	01/10/08	01/31/08
Europium 154	-0.009	U	0.38		0.73	01/10/08	01/31/08
Potassium 40	8.2		1.6		1.1	01/10/08	01/31/08
Radium (226)	0.54	J	0.14	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.20	U	0.19		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 81**
Thorium 228	0.44	J	0.14	1.00	0.07	01/12/08	01/25/08
Thorium 230	0.61	J	0.17	1.00	0.07	01/12/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 91**
Uranium 233/234	0.27	J	0.11	1.00	0.06	01/12/08	01/23/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	01/12/08	01/23/08
Uranium 238	0.38	J	0.13	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-455

Radiochemistry

Lab Sample ID: F8A080256-007
Work Order: KE7XJ
Matrix: SOLID

Date Collected: 12/12/07 1304
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.39		0.13		0.18	01/10/08	01/31/08
Americium 241	0.03	U	0.25		0.44	01/10/08	01/31/08
Cesium 137	0.0	U	0.043	0.200	0.077	01/10/08	01/31/08
Cobalt 60	-0.008	U	0.038		0.068	01/10/08	01/31/08
Europium 152	-0.005	U	0.070		0.13	01/10/08	01/31/08
Europium 154	-0.04	U	0.26		0.47	01/10/08	01/31/08
Potassium 40	9.6		1.3		0.5	01/10/08	01/31/08
Radium (226)	0.384	J	0.096	1.00	0.095	01/10/08	01/31/08
Thorium 232	0.39		0.13		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 84**
Thorium 228	0.36	J	0.13	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.36	J	0.13	1.00	0.03	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 86**
Uranium 233/234	0.42	J	0.14	1.00	0.07	01/12/08	01/23/08
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/12/08	01/23/08
Uranium 238	0.30	J	0.11	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-456

Radiochemistry

Lab Sample ID: F8A080256-008
Work Order: KE7XK
Matrix: SOLID

Date Collected: 12/12/07 1307
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	**0.25**		0.15		0.20	01/10/08	01/31/08
Americium 241	-0.002	U	0.083		0.14	01/10/08	01/31/08
Cesium 137	0.01	U	0.043	0.200	0.078	01/10/08	01/31/08
Cobalt 60	0.0	U	0.057		0.11	01/10/08	01/31/08
Europium 152	0.0	U	0.13		0.23	01/10/08	01/31/08
Europium 154	0.005	U	0.30		0.57	01/10/08	01/31/08
Potassium 40	**9.6**		1.5		0.4	01/10/08	01/31/08
Radium (226)	**0.22**	J	0.10	1.00	0.13	01/10/08	01/31/08
Thorium 232	**0.25**		0.15		0.20	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 92**
Thorium 228	**0.39**	J	0.13	1.00	0.06	01/12/08	01/24/08
Thorium 230	**0.229**	J	0.096	1.00	0.026	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 95**
Uranium 233/234	**0.193**	J	0.088	1.00	0.051	01/12/08	01/23/08
Uranium 235/236	0.017	U	0.034	1.00	0.063	01/12/08	01/23/08
Uranium 238	**0.215**	J	0.092	1.00	0.040	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-457

Radiochemistry

Lab Sample ID: F8A080256-009
Work Order: KE7XM
Matrix: SOLID

Date Collected: 12/12/07 1309
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010409		Yld %
Actinium 228	0.34		0.21		0.28	01/10/08	01/31/08
Americium 241	0.035	U	0.096		0.16	01/10/08	01/31/08
Cesium 137	-0.016	U	0.049	0.200	0.088	01/10/08	01/31/08
Cobalt 60	-0.009	U	0.054		0.10	01/10/08	01/31/08
Europium 152	-0.0008	U	0.11		0.20	01/10/08	01/31/08
Europium 154	-0.06	U	0.35		0.65	01/10/08	01/31/08
Potassium 40	9.5		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.45	J	0.13	1.00	0.11	01/10/08	01/31/08
Thorium 232	0.34		0.21		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012101		Yld % 82
Thorium 228	0.33	J	0.13	1.00	0.09	01/12/08	01/24/08
Thorium 230	0.35	J	0.13	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8012100		Yld % 91
Uranium 233/234	0.31	J	0.11	1.00	0.04	01/12/08	01/23/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/12/08	01/23/08
Uranium 238	0.27	J	0.11	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-458

Radiochemistry

Lab Sample ID: F8A080256-010
Work Order: KE7XP
Matrix: SOLID

Date Collected: 12/12/07 1314
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010409**	**Yld %**
Actinium 228	0.36		0.17		0.23	01/10/08	01/31/08
Americium 241	0.031	U	0.088		0.15	01/10/08	01/31/08
Cesium 137	0.084	U	0.058	0.200	0.088	01/10/08	01/31/08
Cobalt 60	0.005	U	0.049		0.090	01/10/08	01/31/08
Europium 152	0.003	U	0.10		0.18	01/10/08	01/31/08
Europium 154	0.05	U	0.30		0.55	01/10/08	01/31/08
Potassium 40	8.6		1.3		0.3	01/10/08	01/31/08
Radium (226)	0.35	J	0.13	1.00	0.19	01/10/08	01/31/08
Thorium 232	0.36		0.17		0.23	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012101**	**Yld % 81**
Thorium 228	0.42	J	0.14	1.00	0.06	01/12/08	01/24/08
Thorium 230	0.56	J	0.17	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012100**	**Yld % 97**
Uranium 233/234	0.29	J	0.11	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.005	U	0.025	1.00	0.064	01/12/08	01/23/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/12/08	01/23/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009071**	**Yld % 68**
Strontium 90	-0.03	U	0.33	3.00	0.57	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-459

Radiochemistry

Lab Sample ID: F8A080256-011
Work Order: KE7XQ
Matrix: SOLID

Date Collected: 12/12/07 1319
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.27		0.16		0.22	01/10/08	01/31/08
Americium 241	0.008	U	0.079		0.14	01/10/08	01/31/08
Cesium 137	0.051	U	0.042	0.200	0.065	01/10/08	01/31/08
Cobalt 60	0.004	U	0.044		0.082	01/10/08	01/31/08
Europium 152	0.006	U	0.091		0.16	01/10/08	01/31/08
Europium 154	-0.01	U	0.30		0.56	01/10/08	01/31/08
Potassium 40	7.4		1.1		0.3	01/10/08	01/31/08
Radium (226)	0.27	J	0.10	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.27		0.16		0.22	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 81**
Thorium 228	0.63	J	0.18	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.47	J	0.15	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 90**
Uranium 233/234	0.61	J	0.16	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	01/12/08	01/23/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-460

Radiochemistry

Lab Sample ID: F8A080256-012
Work Order: KE7XR
Matrix: SOLID

Date Collected: 12/12/07 1322
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010409**		**Yld %**
Actinium 228	0.35		0.20		0.26	01/10/08	01/31/08
Americium 241	0.033	U	0.097		0.17	01/10/08	01/31/08
Cesium 137	0.056	U	0.052	0.200	0.080	01/10/08	01/31/08
Cobalt 60	0.0	U	0.014		0.051	01/10/08	01/31/08
Europium 152	0.005	U	0.096		0.18	01/10/08	01/31/08
Europium 154	0.0	U	0.35		0.69	01/10/08	01/31/08
Potassium 40	7.7		1.6		0.8	01/10/08	01/31/08
Radium (226)	0.49	J	0.16	1.00	0.19	01/10/08	01/31/08
Thorium 232	0.35		0.20		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 83**
Thorium 228	0.60	J	0.17	1.00	0.08	01/12/08	01/24/08
Thorium 230	0.47	J	0.15	1.00	0.06	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 96**
Uranium 233/234	0.39	J	0.12	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.0	U	0.0098	1.00	0.031	01/12/08	01/23/08
Uranium 238	0.49	J	0.14	1.00	0.04	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-461

Radiochemistry

Lab Sample ID: F8A080256-013
Work Order: KE7XT
Matrix: SOLID

Date Collected: 12/12/07 1324
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010409**	**Yld %**
Actinium 228	0.28	U	0.21		0.30	01/10/08	01/31/08
Americium 241	0.053	U	0.090		0.15	01/10/08	01/31/08
Cesium 137	-0.02	U	0.23	0.20	0.11	01/10/08	01/31/08
Cobalt 60	-0.003	U	0.060		0.12	01/10/08	01/31/08
Europium 152	-0.02	U	0.11		0.19	01/10/08	01/31/08
Europium 154	-0.12	U	0.38		0.68	01/10/08	01/31/08
Potassium 40	**9.0**		1.7		**0.5**	**01/10/08**	**01/31/08**
Radium (226)	0.39	J	0.15	1.00	**0.16**	**01/10/08**	**01/31/08**
Thorium 232	0.28	U	0.21		0.30	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012101**	**Yld % 76**
Thorium 228	0.76	J	0.20	1.00	**0.07**	**01/12/08**	**01/24/08**
Thorium 230	0.41	J	0.15	1.00	**0.06**	**01/12/08**	**01/24/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012100**	**Yld % 94**
Uranium 233/234	0.62	J	0.16	1.00	**0.04**	**01/12/08**	**01/23/08**
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/12/08	01/23/08
Uranium 238	0.40	J	0.13	1.00	**0.04**	**01/12/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-462

Radiochemistry

Lab Sample ID: F8A080256-014
Work Order: KE7XW
Matrix: SOLID

Date Collected: 12/12/07 1255
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.15	U	0.17		0.28	01/10/08	01/31/08
Americium 241	-0.0004	U	0.070		0.12	01/10/08	01/31/08
Cesium 137	0.006	U	0.043	0.200	0.088	01/10/08	01/31/08
Cobalt 60	0.0	U	0.065		0.12	01/10/08	01/31/08
Europium 152	-0.009	U	0.066		0.13	01/10/08	01/31/08
Europium 154	-0.08	U	0.35		0.64	01/10/08	01/31/08
Potassium 40	**6.7**		**1.3**		**0.5**	**01/10/08**	**01/31/08**
Radium (226)	**0.31**	**J**	**0.12**	**1.00**	**0.15**	**01/10/08**	**01/31/08**
Thorium 232	0.15	U	0.17		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 78**
Thorium 228	**0.42**	**J**	**0.15**	**1.00**	**0.07**	**01/12/08**	**01/30/08**
Thorium 230	**0.49**	**J**	**0.16**	**1.00**	**0.05**	**01/12/08**	**01/30/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 93**
Uranium 233/234	**0.25**	**J**	**0.10**	**1.00**	**0.06**	**01/12/08**	**01/23/08**
Uranium 235/236	0.031	U	0.042	1.00	0.058	01/12/08	01/23/08
Uranium 238	**0.31**	**J**	**0.11**	**1.00**	**0.05**	**01/12/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-462 DUP

Radiochemistry

Lab Sample ID: F8A080256-014X
Work Order: KE7XW
Matrix: SOLID

Date Collected: 12/12/07 1255
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010410		Yld %
Actinium 228	**0.27**		**0.17**		**0.24**	**01/10/08**	**01/31/08**
Americium 241	-0.020	U	0.093		0.16	01/10/08	01/31/08
Cesium 137	0.01	U	0.040	0.200	0.072	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0077		0.028	01/10/08	01/31/08
Europium 152	-0.017	U	0.099		0.17	01/10/08	01/31/08
Europium 154	-0.10	U	0.34		0.61	01/10/08	01/31/08
Potassium 40	**9.2**		**1.3**		**0.3**	**01/10/08**	**01/31/08**
Radium (226)	**0.41**	J	**0.12**	1.00	**0.15**	**01/10/08**	**01/31/08**
Thorium 232	**0.27**		**0.17**		**0.24**	**01/10/08**	**01/31/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-463

Radiochemistry

Lab Sample ID: F8A080256-015
Work Order: KE7XX
Matrix: SOLID

Date Collected: 12/12/07 1257
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.38		0.11		0.14	01/10/08	01/31/08
Americium 241	0.03	U	0.25		0.43	01/10/08	01/31/08
Cesium 137	-0.010	U	0.033	0.200	0.058	01/10/08	01/31/08
Cobalt 60	0.0	U	0.054		0.097	01/10/08	01/31/08
Europium 152	-0.029	U	0.076		0.13	01/10/08	01/31/08
Europium 154	0.01	U	0.12		0.24	01/10/08	01/31/08
Potassium 40	9.1		1.2		0.5	01/10/08	01/31/08
Radium (226)	0.425	J	0.0998	1.00	0.095	01/10/08	01/31/08
Thorium 232	0.38		0.11		0.14	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 89**
Thorium 228	0.49	J	0.15	1.00	0.06	01/12/08	01/24/08
Thorium 230	0.67	J	0.18	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 98**
Uranium 233/234	0.33	J	0.12	1.00	0.06	01/12/08	01/23/08
Uranium 235/236	0.019	U	0.033	1.00	0.056	01/12/08	01/23/08
Uranium 238	0.40	J	0.13	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-465

Radiochemistry

Lab Sample ID: F8A080256-016
Work Order: KE7X0
Matrix: SOLID

Date Collected: 12/12/07 1300
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.31		0.12		0.21	01/10/08	01/31/08
Americium 241	0.004	U	0.079		0.14	01/10/08	01/31/08
Cesium 137	0.058	U	0.044	0.200	0.066	01/10/08	01/31/08
Cobalt 60	0.002	U	0.047		0.088	01/10/08	01/31/08
Europium 152	-0.014	U	0.081		0.14	01/10/08	01/31/08
Europium 154	0.23	U	0.23		0.36	01/10/08	01/31/08
Potassium 40	8.0		1.3		0.3	01/10/08	01/31/08
Radium (226)	0.33	J	0.10	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.31		0.12		0.21	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 85**
Thorium 228	0.48	J	0.15	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.40	J	0.14	1.00	0.07	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 90**
Uranium 233/234	0.29	J	0.11	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.026	U	0.037	1.00	0.036	01/12/08	01/23/08
Uranium 238	0.171	J	0.085	1.00	0.043	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-466

Radiochemistry

Lab Sample ID: F8A080256-017
Work Order: KE7X1
Matrix: SOLID

Date Collected: 12/12/07 1303
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.27		0.14		0.26	01/10/08	01/31/08
Americium 241	-0.033	U	0.087		0.15	01/10/08	01/31/08
Cesium 137	0.030	U	0.035	0.200	0.056	01/10/08	01/31/08
Cobalt 60	-0.014	U	0.046		0.084	01/10/08	01/31/08
Europium 152	0.0	U	0.10		0.19	01/10/08	01/31/08
Europium 154	-0.00002	U	0.20		0.41	01/10/08	01/31/08
Potassium 40	9.0		1.4		0.4	01/10/08	01/31/08
Radium (226)	0.46	J	0.11	1.00	0.08	01/10/08	01/31/08
Thorium 232	0.27		0.14		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 86**
Thorium 228	0.50	J	0.15	1.00	0.06	01/12/08	01/24/08
Thorium 230	0.182	J	0.089	1.00	0.029	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 88**
Uranium 233/234	0.47	J	0.15	1.00	0.04	01/12/08	01/23/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	01/12/08	01/23/08
Uranium 238	0.26	J	0.11	1.00	0.05	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-467

Radiochemistry

Lab Sample ID: F8A080256-018
Work Order: KE7X2
Matrix: SOLID

Date Collected: 12/12/07 1315
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.0	U	0.23		0.40	01/10/08	01/31/08
Americium 241	0.04	U	0.18		0.30	01/10/08	01/31/08
Cesium 137	-0.021	U	0.071	0.200	0.12	01/10/08	01/31/08
Cobalt 60	-0.025	U	0.076		0.13	01/10/08	01/31/08
Europium 152	0.29	U	0.17		0.32	01/10/08	01/31/08
Europium 154	0.12	U	0.44		0.77	01/10/08	01/31/08
Potassium 40	**10.6**		**1.4**		**0.3**	**01/10/08**	**01/31/08**
Radium (226)	**6.07**		**0.51**	**1.00**	**0.22**	**01/10/08**	**01/31/08**
Thorium 232	0.0	U	0.23		0.40	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 87**
Thorium 228	**0.41**	**J**	**0.14**	**1.00**	**0.07**	**01/12/08**	**01/24/08**
Thorium 230	**0.69**	**J**	**0.18**	**1.00**	**0.05**	**01/12/08**	**01/24/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 92**
Uranium 233/234	**0.43**	**J**	**0.14**	**1.00**	**0.05**	**01/12/08**	**01/23/08**
Uranium 235/236	0.047	U	0.050	1.00	0.053	01/12/08	01/23/08
Uranium 238	**0.47**	**J**	**0.14**	**1.00**	**0.04**	**01/12/08**	**01/23/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-468

Radiochemistry

Lab Sample ID: F8A080256-019
Work Order: KE7X3
Matrix: SOLID

Date Collected: 12/12/07 1318
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.41	U	0.49		0.80	01/10/08	01/31/08
Americium 241	0.14	U	0.36		0.59	01/10/08	01/31/08
Cesium 137	-0.07	U	0.14	0.20	0.23	01/10/08	01/31/08
Cobalt 60	0.05	U	0.13		0.22	01/10/08	01/31/08
Europium 152	**1.13**		**0.36**		**0.75**	**01/10/08**	**01/31/08**
Europium 154	0.01	U	1.0		1.8	01/10/08	01/31/08
Potassium 40	**9.8**		**2.1**		**1.5**	**01/10/08**	**01/31/08**
Radium (226)	**22.9**		**1.6**	1.0	**0.4**	**01/10/08**	**01/31/08**
Thorium 232	0.41	U	0.49		0.80	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012101**		**Yld % 87**
Thorium 228	**0.50**	**J**	**0.15**	1.00	**0.07**	**01/12/08**	**01/24/08**
Thorium 230	**0.64**	**J**	**0.17**	1.00	**0.04**	**01/12/08**	**01/24/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8012100**		**Yld % 19**
Uranium 233/234	**0.38**	**J**	**0.29**	1.00	**0.31**	**01/12/08**	**01/30/08**
Uranium 235/236	0.0	U	0.051	1.00	0.16	01/12/08	01/30/08
Uranium 238	**0.39**	**J**	**0.29**	1.00	**0.30**	**01/12/08**	**01/30/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 75**
Strontium 90	0.04	U	0.31	3.00	0.53	01/09/08	01/21/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-469

Radiochemistry

Lab Sample ID: F8A080256-020
Work Order: KE7X4
Matrix: SOLID

Date Collected: 12/12/07 1325
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010410**	**Yld %**
Actinium 228	0.27	U	0.22		0.32	01/10/08	01/31/08
Americium 241	0.0	U	0.078		0.14	01/10/08	01/31/08
Cesium 137	-0.008	U	0.083	0.200	0.10	01/10/08	01/31/08
Cobalt 60	0.0	U	0.013		0.047	01/10/08	01/31/08
Europium 152	-0.03	U	0.12		0.21	01/10/08	01/31/08
Europium 154	0.006	U	0.29		0.57	01/10/08	01/31/08
Potassium 40	8.5		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.52	J	0.17	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.27	U	0.22		0.32	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012101**	**Yld % 93**
Thorium 228	0.39	J	0.13	1.00	0.07	01/12/08	01/24/08
Thorium 230	0.42	J	0.14	1.00	0.05	01/12/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8012100**	**Yld % 97**
Uranium 233/234	0.24	J	0.10	1.00	0.05	01/12/08	01/23/08
Uranium 235/236	0.023	U	0.036	1.00	0.053	01/12/08	01/23/08
Uranium 238	0.31	J	0.12	1.00	0.03	01/12/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-470

Radiochemistry

Lab Sample ID: F8A080256-021
Work Order: KE7X5
Matrix: SOLID

Date Collected: 12/12/07 1327
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.29		0.11		0.17	01/10/08	01/31/08
Americium 241	0.03	U	0.26		0.45	01/10/08	01/31/08
Cesium 137	0.014	U	0.022	0.200	0.038	01/10/08	01/31/08
Cobalt 60	-0.004	U	0.025		0.047	01/10/08	01/31/08
Europium 152	0.034	U	0.067		0.11	01/10/08	01/31/08
Europium 154	-0.02	U	0.24		0.44	01/10/08	01/31/08
Potassium 40	6.36		0.996		0.65	01/10/08	01/31/08
Radium (226)	0.401	J	0.092	1.00	0.083	01/10/08	01/31/08
Thorium 232	0.29		0.11		0.17	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 87**
Thorium 228	0.53	J	0.16	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.41	J	0.14	1.00	0.05	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 93**
Uranium 233/234	0.30	J	0.11	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.020	U	0.036	1.00	0.060	01/13/08	01/25/08
Uranium 238	0.30	J	0.12	1.00	0.07	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-471

Radiochemistry

Lab Sample ID: F8A080256-022
Work Order: KE7X6
Matrix: SOLID

Date Collected: 12/12/07 1328
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.35	U	0.24		0.37	01/10/08	01/31/08
Americium 241	-0.04	U	0.18		0.30	01/10/08	01/31/08
Cesium 137	-0.011	U	0.066	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.014	U	0.054		0.097	01/10/08	01/31/08
Europium 152	-0.002	U	0.19		0.33	01/10/08	01/31/08
Europium 154	0.05	U	0.48		0.84	01/10/08	01/31/08
Potassium 40	**10.5**		**1.6**		**0.8**	**01/10/08**	**01/31/08**
Radium (226)	**6.55**		**0.54**	**1.00**	**0.17**	**01/10/08**	**01/31/08**
Thorium 232	0.35	U	0.24		0.37	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 84**
Thorium 228	**0.65**	**J**	**0.19**	**1.00**	**0.08**	**01/13/08**	**01/25/08**
Thorium 230	**0.54**	**J**	**0.17**	**1.00**	**0.06**	**01/13/08**	**01/25/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 92**
Uranium 233/234	**0.37**	**J**	**0.12**	**1.00**	**0.04**	**01/13/08**	**01/25/08**
Uranium 235/236	0.032	U	0.040	1.00	0.049	01/13/08	01/25/08
Uranium 238	**0.257**	**J**	**0.0996**	**1.00**	**0.025**	**01/13/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-470 DUP

Radiochemistry

Lab Sample ID: F8A080256-021X
Work Order: KE7X5
Matrix: SOLID

Date Collected: 12/12/07 1327
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 91**
Uranium 233/234	**0.34**	J	**0.12**	1.00	**0.05**	**01/13/08**	**01/25/08**
Uranium 235/236	0.047	U	0.050	1.00	0.053	01/13/08	01/25/08
Uranium 238	**0.44**	J	**0.14**	1.00	**0.04**	**01/13/08**	**01/25/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 83**
Thorium 228	**0.52**	J	**0.15**	1.00	**0.07**	**01/13/08**	**01/25/08**
Thorium 230	**0.54**	J	**0.15**	1.00	**0.04**	**01/13/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-471

Radiochemistry

Lab Sample ID: F8A080256-022
Work Order: KE7X6
Matrix: SOLID

Date Collected: 12/12/07 1328
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.35	U	0.24		0.37	01/10/08	01/31/08
Americium 241	-0.04	U	0.18		0.30	01/10/08	01/31/08
Cesium 137	-0.011	U	0.066	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.014	U	0.054		0.097	01/10/08	01/31/08
Europium 152	-0.002	U	0.19		0.33	01/10/08	01/31/08
Europium 154	0.05	U	0.48		0.84	01/10/08	01/31/08
Potassium 40	**10.5**		**1.6**		**0.8**	**01/10/08**	**01/31/08**
Radium (226)	**6.55**		**0.54**	**1.00**	**0.17**	**01/10/08**	**01/31/08**
Thorium 232	0.35	U	0.24		0.37	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 84**
Thorium 228	**0.65**	**J**	**0.19**	**1.00**	**0.08**	**01/13/08**	**01/25/08**
Thorium 230	**0.54**	**J**	**0.17**	**1.00**	**0.06**	**01/13/08**	**01/25/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 92**
Uranium 233/234	**0.37**	**J**	**0.12**	**1.00**	**0.04**	**01/13/08**	**01/25/08**
Uranium 235/236	0.032	U	0.040	1.00	0.049	01/13/08	01/25/08
Uranium 238	**0.257**	**J**	**0.0996**	**1.00**	**0.025**	**01/13/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-472

Radiochemistry

Lab Sample ID: F8A080256-023
Work Order: KE7X7
Matrix: SOLID

Date Collected: 12/12/07 1330
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010410**	**Yld %**
Actinium 228	0.18	U	0.18		0.28	01/10/08	01/31/08
Americium 241	0.0	U	0.11		0.19	01/10/08	01/31/08
Cesium 137	0.047	U	0.046	0.200	0.073	01/10/08	01/31/08
Cobalt 60	0.025	U	0.055		0.096	01/10/08	01/31/08
Europium 152	-0.0001	U	0.10		0.19	01/10/08	01/31/08
Europium 154	-0.09	U	0.36		0.64	01/10/08	01/31/08
Potassium 40	10.8		1.6		0.4	01/10/08	01/31/08
Radium (226)	2.00		0.27	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.18	U	0.18		0.28	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013012**	**Yld % 90**
Thorium 228	0.54	J	0.16	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.50	J	0.15	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013013**	**Yld % 93**
Uranium 233/234	0.28	J	0.11	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.024	U	0.034	1.00	0.033	01/13/08	01/25/08
Uranium 238	0.33	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-473

Radiochemistry

Lab Sample ID: F8A080256-024
Work Order: KE7X8
Matrix: SOLID

Date Collected: 12/12/07 1335
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.62		0.30		0.42	01/10/08	01/31/08
Americium 241	-0.0001	U	0.16		0.28	01/10/08	01/31/08
Cesium 137	0.0	U	0.10	0.20	0.18	01/10/08	01/31/08
Cobalt 60	-0.015	U	0.069		0.12	01/10/08	01/31/08
Europium 152	0.15	U	0.15		0.25	01/10/08	01/31/08
Europium 154	-0.14	U	0.59		1.0	01/10/08	01/31/08
Potassium 40	13.2		1.8		0.4	01/10/08	01/31/08
Radium (226)	4.51		0.47	1.00	0.20	01/10/08	01/31/08
Thorium 232	0.62		0.30		0.42	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 84**
Thorium 228	0.85	J	0.21	1.00	0.10	01/13/08	01/25/08
Thorium 230	0.71	J	0.19	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 92**
Uranium 233/234	0.48	J	0.15	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	01/13/08	01/25/08
Uranium 238	0.48	J	0.14	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-474

Radiochemistry

Lab Sample ID: F8A080256-026
Work Order: KE70A
Matrix: SOLID

Date Collected: 12/12/07 1337
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.47		0.29		0.42	01/10/08	01/31/08
Americium 241	-0.009	U	0.18		0.31	01/10/08	01/31/08
Cesium 137	-0.017	U	0.084	0.200	0.15	01/10/08	01/31/08
Cobalt 60	-0.031	U	0.094		0.16	01/10/08	01/31/08
Europium 152	-0.001	U	0.17		0.30	01/10/08	01/31/08
Europium 154	0.15	U	0.47		0.84	01/10/08	01/31/08
Potassium 40	13.7		2.0		0.5	01/10/08	01/31/08
Radium (226)	2.72		0.35	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.47		0.29		0.42	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 84**
Thorium 228	0.69	J	0.19	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.58	J	0.17	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 89**
Uranium 233/234	0.62	J	0.17	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.050	J	0.051	1.00	0.034	01/13/08	01/25/08
Uranium 238	0.56	J	0.16	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-475

Radiochemistry

Lab Sample ID: F8A080256-027
Work Order: KE70D
Matrix: SOLID

Date Collected: 12/12/07 1340
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.41		0.23		0.32	01/10/08	01/31/08
Americium 241	-0.027	U	0.094		0.16	01/10/08	01/31/08
Cesium 137	0.071	U	0.054	0.200	0.080	01/10/08	01/31/08
Cobalt 60	0.0	U	0.071		0.13	01/10/08	01/31/08
Europium 152	-0.01	U	0.079		0.15	01/10/08	01/31/08
Europium 154	-0.06	U	0.36		0.67	01/10/08	01/31/08
Potassium 40	8.7		1.6		0.5	01/10/08	01/31/08
Radium (226)	0.57	J	0.13	1.00	0.05	01/10/08	01/31/08
Thorium 232	0.41		0.23		0.32	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 93**
Thorium 228	0.59	J	0.16	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.39	J	0.13	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 92**
Uranium 233/234	0.39	J	0.13	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.020	U	0.035	1.00	0.059	01/13/08	01/25/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-476

Radiochemistry

Lab Sample ID: F8A080256-028
Work Order: KE70E
Matrix: SOLID

Date Collected: 12/12/07 1343
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.33		0.19		0.26	01/10/08	01/31/08
Americium 241	-0.012	U	0.094		0.16	01/10/08	01/31/08
Cesium 137	0.082	U	0.057	0.200	0.091	01/10/08	01/31/08
Cobalt 60	0.0002	U	0.047		0.092	01/10/08	01/31/08
Europium 152	0.020	U	0.095		0.17	01/10/08	01/31/08
Europium 154	-0.05	U	0.35		0.65	01/10/08	01/31/08
Potassium 40	8.9		1.5		0.4	01/10/08	01/31/08
Radium (226)	0.87	J	0.16	1.00	0.08	01/10/08	01/31/08
Thorium 232	0.33		0.19		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 87**
Thorium 228	0.32	J	0.12	1.00	0.08	01/13/08	01/25/08
Thorium 230	0.43	J	0.14	1.00	0.05	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 91**
Uranium 233/234	0.43	J	0.14	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.018	U	0.036	1.00	0.067	01/13/08	01/25/08
Uranium 238	0.40	J	0.13	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-398

Radiochemistry

Lab Sample ID: F8A080256-029
Work Order: KE70F
Matrix: SOLID

Date Collected: 12/12/07 0857
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.37		0.14		0.17	01/10/08	01/31/08
Americium 241	0.08	U	0.23		0.40	01/10/08	01/31/08
Cesium 137	0.006	U	0.028	0.200	0.051	01/10/08	01/31/08
Cobalt 60	0.01	U	0.026		0.047	01/10/08	01/31/08
Europium 152	0.0	U	0.052		0.098	01/10/08	01/31/08
Europium 154	0.0	U	0.32		0.57	01/10/08	01/31/08
Potassium 40	9.3		1.2		0.5	01/10/08	01/31/08
Radium (226)	0.364	J	0.092	1.00	0.090	01/10/08	01/31/08
Thorium 232	0.37		0.14		0.17	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 83**
Thorium 228	0.43	J	0.15	1.00	0.08	01/13/08	01/25/08
Thorium 230	0.56	J	0.17	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 91**
Uranium 233/234	0.35	J	0.12	1.00	0.04	01/13/08	01/25/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.053	01/13/08	01/25/08
Uranium 238	0.174	J	0.085	1.00	0.049	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-399

Radiochemistry

Lab Sample ID: F8A080256-030
Work Order: KE70G
Matrix: SOLID

Date Collected: 12/12/07 0900
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010410**	**Yld %**
Actinium 228	0.41		0.20		0.26	01/10/08	01/31/08
Americium 241	0.012	U	0.089		0.15	01/10/08	01/31/08
Cesium 137	-0.009	U	0.042	0.200	0.076	01/10/08	01/31/08
Cobalt 60	0.0	U	0.058		0.11	01/10/08	01/31/08
Europium 152	0.008	U	0.086		0.16	01/10/08	01/31/08
Europium 154	0.06	U	0.24		0.45	01/10/08	01/31/08
Potassium 40	10.5		1.6		0.4	01/10/08	01/31/08
Radium (226)	0.49	J	0.11	1.00	0.04	01/10/08	01/31/08
Thorium 232	0.41		0.20		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013012**	**Yld % 80**
Thorium 228	0.75	J	0.19	1.00	0.09	01/13/08	01/25/08
Thorium 230	0.60	J	0.17	1.00	0.07	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013013**	**Yld % 88**
Uranium 233/234	0.35	J	0.13	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.032	U	0.046	1.00	0.070	01/13/08	01/25/08
Uranium 238	0.31	J	0.12	1.00	0.05	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-400

Radiochemistry

Lab Sample ID: F8A080256-031
Work Order: KE70H
Matrix: SOLID

Date Collected: 12/12/07 0911
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.39		0.19		0.22	01/10/08	01/31/08
Americium 241	0.004	U	0.084		0.15	01/10/08	01/31/08
Cesium 137	0.013	U	0.036	0.200	0.065	01/10/08	01/31/08
Cobalt 60	0.0	U	0.057		0.11	01/10/08	01/31/08
Europium 152	-0.03	U	0.10		0.18	01/10/08	01/31/08
Europium 154	-0.03	U	0.28		0.54	01/10/08	01/31/08
Potassium 40	10.0		1.6		0.4	01/10/08	01/31/08
Radium (226)	0.55	J	0.13	1.00	0.09	01/10/08	01/31/08
Thorium 232	0.39		0.19		0.22	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 81**
Thorium 228	0.56	J	0.17	1.00	0.11	01/13/08	01/25/08
Thorium 230	0.34	J	0.13	1.00	0.03	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 88**
Uranium 233/234	0.38	J	0.13	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.038	J	0.044	1.00	0.034	01/13/08	01/25/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/13/08	01/25/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 68**
Strontium 90	0.0	U	0.35	3.00	0.61	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-401

Radiochemistry

Lab Sample ID: F8A080256-032
Work Order: KE70J
Matrix: SOLID

Date Collected: 12/12/07 0913
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010410		Yld %
Actinium 228	0.51		0.20		0.23	01/10/08	01/31/08
Americium 241	0.013	U	0.091		0.16	01/10/08	01/31/08
Cesium 137	-0.004	U	0.038	0.200	0.070	01/10/08	01/31/08
Cobalt 60	0.0008	U	0.046		0.087	01/10/08	01/31/08
Europium 152	-0.001	U	0.089		0.16	01/10/08	01/31/08
Europium 154	0.03	U	0.34		0.61	01/10/08	01/31/08
Potassium 40	9.6		1.4		0.3	01/10/08	01/31/08
Radium (226)	0.33	J	0.11	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.51		0.20		0.23	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8013012		Yld % 92
Thorium 228	0.48	J	0.15	1.00	0.08	01/13/08	01/25/08
Thorium 230	0.52	J	0.15	1.00	0.04	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8013013		Yld % 96
Uranium 233/234	0.35	J	0.12	1.00	0.04	01/13/08	01/25/08
Uranium 235/236	0.0	U	0.010	1.00	0.032	01/13/08	01/25/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-402

Radiochemistry

Lab Sample ID: F8A080256-033
Work Order: KE70K
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010410**	**Yld %**
Actinium 228	0.20	U	0.17		0.26	01/10/08	01/31/08
Americium 241	-0.019	U	0.092		0.16	01/10/08	01/31/08
Cesium 137	0.027	U	0.040	0.200	0.067	01/10/08	01/31/08
Cobalt 60	0.0	U	0.046		0.087	01/10/08	01/31/08
Europium 152	-0.04	U	0.11		0.19	01/10/08	01/31/08
Europium 154	0.0	U	0.046		0.17	01/10/08	01/31/08
Potassium 40	7.7		1.3		0.9	01/10/08	01/31/08
Radium (226)	0.30	J	0.11	1.00	0.15	01/10/08	01/31/08
Thorium 232	0.20	U	0.17		0.26	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013012**	**Yld % 94**
Thorium 228	0.43	J	0.14	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.34	J	0.12	1.00	0.03	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013013**	**Yld % 93**
Uranium 233/234	0.33	J	0.12	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.019	U	0.034	1.00	0.058	01/13/08	01/25/08
Uranium 238	0.25	J	0.10	1.00	0.05	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-403

Radiochemistry

Lab Sample ID: F8A080256-034
Work Order: KE70M
Matrix: SOLID

Date Collected: 12/12/07 0920
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010410**		**Yld %**
Actinium 228	0.38		0.24		0.33	01/10/08	01/31/08
Americium 241	0.005	U	0.10		0.18	01/10/08	01/31/08
Cesium 137	0.018	U	0.052	0.200	0.093	01/10/08	01/31/08
Cobalt 60	-0.003	U	0.058		0.11	01/10/08	01/31/08
Europium 152	-0.04	U	0.14		0.25	01/10/08	01/31/08
Europium 154	0.02	U	0.37		0.71	01/10/08	01/31/08
Potassium 40	10.6		1.8		0.5	01/10/08	01/31/08
Radium (226)	0.37	J	0.13	1.00	0.13	01/10/08	01/31/08
Thorium 232	0.38		0.24		0.33	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 86**
Thorium 228	0.38	J	0.13	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.57	J	0.16	1.00	0.03	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 99**
Uranium 233/234	0.34	J	0.12	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.011	U	0.023	1.00	0.031	01/13/08	01/25/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-404

Radiochemistry

Lab Sample ID: F8A080256-035
Work Order: KE70N
Matrix: SOLID

Date Collected: 12/12/07 0933
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010411		Yld %
Actinium 228	0.61		0.18		0.27	01/10/08	01/31/08
Americium 241	0.051	U	0.081		0.13	01/10/08	01/31/08
Cesium 137	0.032	U	0.045	0.200	0.075	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0085		0.031	01/10/08	01/31/08
Europium 152	-0.01	U	0.10		0.18	01/10/08	01/31/08
Europium 154	-0.08	U	0.35		0.62	01/10/08	01/31/08
Potassium 40	8.7		1.3		0.3	01/10/08	01/31/08
Radium (226)	0.48	J	0.13	1.00	0.16	01/10/08	01/31/08
Thorium 232	0.61		0.18		0.27	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8013012		Yld % 80
Thorium 228	0.68	J	0.18	1.00	0.06	01/13/08	01/25/08
Thorium 230	0.75	J	0.19	1.00	0.05	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8013013		Yld % 94
Uranium 233/234	0.53	J	0.15	1.00	0.06	01/13/08	01/25/08
Uranium 235/236	0.007	U	0.024	1.00	0.056	01/13/08	01/25/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-404 DUP

Radiochemistry

Lab Sample ID: F8A080256-035X
Work Order: KE70N
Matrix: SOLID

Date Collected: 12/12/07 0933
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8010411		Yld %
Actinium 228	0.27		0.18		0.23	01/10/08	01/31/08
Americium 241	0.0006	U	0.090		0.16	01/10/08	01/31/08
Cesium 137	0.029	U	0.061	0.200	0.11	01/10/08	01/31/08
Cobalt 60	0.014	U	0.057		0.11	01/10/08	01/31/08
Europium 152	0.03	U	0.11		0.19	01/10/08	01/31/08
Europium 154	0.05	U	0.42		0.78	01/10/08	01/31/08
Potassium 40	9.8		1.8		0.5	01/10/08	01/31/08
Radium (226)	0.70	J	0.16	1.00	0.06	01/10/08	01/31/08
Thorium 232	0.27		0.18		0.23	01/10/08	01/31/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-405

Radiochemistry

Lab Sample ID: F8A080256-036
Work Order: KE70P
Matrix: SOLID

Date Collected: 12/12/07 0935
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010411**		**Yld %**
Actinium 228	0.32		0.18		0.25	01/10/08	01/31/08
Americium 241	0.050	U	0.093		0.16	01/10/08	01/31/08
Cesium 137	-0.016	U	0.045	0.200	0.078	01/10/08	01/31/08
Cobalt 60	-0.0009	U	0.046		0.087	01/10/08	01/31/08
Europium 152	-0.0004	U	0.096		0.18	01/10/08	01/31/08
Europium 154	-0.08	U	0.37		0.66	01/10/08	01/31/08
Potassium 40	8.6		1.4		0.7	01/10/08	01/31/08
Radium (226)	0.27	J	0.10	1.00	0.14	01/10/08	01/31/08
Thorium 232	0.32		0.18		0.25	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 89**
Thorium 228	0.39	J	0.13	1.00	0.06	01/13/08	01/25/08
Thorium 230	0.49	J	0.15	1.00	0.05	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 92**
Uranium 233/234	0.39	J	0.13	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.005	U	0.026	1.00	0.066	01/13/08	01/25/08
Uranium 238	0.27	J	0.11	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-406

Radiochemistry

Lab Sample ID: F8A080256-037
Work Order: KE70Q
Matrix: WATER

Date Collected: 12/12/07 0945
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	-0.6	U	20		37	01/10/08	01/14/08
Americium 241	1.7	U	8.4		15	01/10/08	01/14/08
Cesium 137	-7	U	33	20	15	01/10/08	01/14/08
Cobalt 60	2.2	U	5.6		10	01/10/08	01/14/08
Europium 152	-3	U	13		24	01/10/08	01/14/08
Europium 154	5	U	49		90	01/10/08	01/14/08
Potassium 40	43	U	82		140	01/10/08	01/14/08
Thorium 232	-0.6	U	20		37	01/10/08	01/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 92**
Uranium 233/234	0.06	U	0.12	1.00	0.22	01/18/08	01/22/08
Uranium 235/236	0.09	U	0.15	1.00	0.22	01/18/08	01/22/08
Uranium 238	0.16	U	0.16	1.00	0.17	01/18/08	01/22/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8029172**		**Yld % 63**
Thorium 228	-0.12	U	0.33	1.00	1.1	01/29/08	01/29/08
Thorium 230	0.49	U	0.58	1.00	0.76	01/29/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-407

Radiochemistry

Lab Sample ID: F8A080256-038
Work Order: KE70T
Matrix: SOLID

Date Collected: 12/12/07 0948
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010411**		**Yld %**
Actinium 228	**0.28**		0.18		0.25	01/10/08	01/31/08
Americium 241	0.033	U	0.090		0.15	01/10/08	01/31/08
Cesium 137	**0.144**	J	0.072	0.200	0.097	01/10/08	01/31/08
Cobalt 60	0.0	U	0.013		0.049	01/10/08	01/31/08
Europium 152	0.06	U	0.12		0.20	01/10/08	01/31/08
Europium 154	-0.19	U	0.53		0.92	01/10/08	01/31/08
Potassium 40	**8.4**		1.6		0.5	01/10/08	01/31/08
Radium (226)	**0.67**	J	0.17	1.00	0.10	01/10/08	01/31/08
Thorium 232	**0.28**		0.18		0.25	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013012**		**Yld % 81**
Thorium 228	**0.50**	J	0.16	1.00	0.09	01/13/08	01/25/08
Thorium 230	**0.70**	J	0.19	1.00	0.06	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8013013**		**Yld % 93**
Uranium 233/234	**0.45**	J	0.14	1.00	0.04	01/13/08	01/25/08
Uranium 235/236	0.01	U	0.025	1.00	0.051	01/13/08	01/25/08
Uranium 238	**0.34**	J	0.12	1.00	0.05	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-408

Radiochemistry

Lab Sample ID: F8A080256-039
Work Order: KE70W
Matrix: SOLID

Date Collected: 12/12/07 0950
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8010411	Yld %
Actinium 228	0.29		0.15		0.17	01/10/08	01/31/08
Americium 241	-0.016	U	0.062		0.11	01/10/08	01/31/08
Cesium 137	0.025	U	0.047	0.200	0.088	01/10/08	01/31/08
Cobalt 60	0.025	U	0.037		0.061	01/10/08	01/31/08
Europium 152	-0.0005	U	0.082		0.15	01/10/08	01/31/08
Europium 154	0.06	U	0.29		0.54	01/10/08	01/31/08
Potassium 40	6.3		1.3		0.9	01/10/08	01/31/08
Radium (226)	0.39	J	0.11	1.00	0.09	01/10/08	01/31/08
Thorium 232	0.29		0.15		0.17	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8013012	Yld % 90
Thorium 228	0.39	J	0.12	1.00	0.05	01/13/08	01/25/08
Thorium 230	0.280	J	0.099	1.00	0.040	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8013013	Yld % 93
Uranium 233/234	0.31	J	0.10	1.00	0.04	01/13/08	01/25/08
Uranium 235/236	-0.0056	U	0.0064	1.00	0.053	01/13/08	01/25/08
Uranium 238	0.30	J	0.10	1.00	0.04	01/13/08	01/25/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g		Batch # 8009071	Yld % 65
Strontium 90	0.16	U	0.35	3.00	0.60	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-409

Radiochemistry

Lab Sample ID: F8A080256-040
Work Order: KE700
Matrix: SOLID

Date Collected: 12/12/07 0958
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010411**	**Yld %**
Actinium 228	0.48		0.14		0.18	01/10/08	01/31/08
Americium 241	-0.07	U	0.25		0.44	01/10/08	01/31/08
Cesium 137	0.028	U	0.032	0.200	0.051	01/10/08	01/31/08
Cobalt 60	0.0	U	0.0065		0.024	01/10/08	01/31/08
Europium 152	0.0	U	0.087		0.16	01/10/08	01/31/08
Europium 154	-0.009	U	0.19		0.37	01/10/08	01/31/08
Potassium 40	9.1		1.2		0.5	01/10/08	01/31/08
Radium (226)	0.395	J	0.098	1.00	0.086	01/10/08	01/31/08
Thorium 232	0.48		0.14		0.18	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013012**	**Yld % 80**
Thorium 228	0.94	J	0.22	1.00	0.07	01/13/08	01/25/08
Thorium 230	0.54	J	0.16	1.00	0.07	01/13/08	01/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8013013**	**Yld % 94**
Uranium 233/234	0.43	J	0.13	1.00	0.05	01/13/08	01/25/08
Uranium 235/236	0.024	U	0.034	1.00	0.032	01/13/08	01/25/08
Uranium 238	0.38	J	0.12	1.00	0.04	01/13/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-410

Radiochemistry

Lab Sample ID: F8A080256-041
Work Order: KE702
Matrix: SOLID

Date Collected: 12/12/07 1000
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8010411**		**Yld %**
Actinium 228	0.39		0.14		0.20	01/10/08	01/31/08
Americium 241	0.059	U	0.084		0.14	01/10/08	01/31/08
Cesium 137	-0.004	U	0.038	0.200	0.071	01/10/08	01/31/08
Cobalt 60	0.0	U	0.098		0.17	01/10/08	01/31/08
Europium 152	-0.002	U	0.080		0.15	01/10/08	01/31/08
Europium 154	0.06	U	0.31		0.57	01/10/08	01/31/08
Potassium 40	6.3		1.3		0.9	01/10/08	01/31/08
Radium (226)	0.44	J	0.12	1.00	0.12	01/10/08	01/31/08
Thorium 232	0.39		0.14		0.20	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 89**
Thorium 228	0.37	J	0.13	1.00	0.08	01/18/08	01/28/08
Thorium 230	0.30	J	0.12	1.00	0.06	01/18/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 91**
Uranium 233/234	0.28	J	0.11	1.00	0.06	01/18/08	01/25/08
Uranium 235/236	0.013	U	0.026	1.00	0.036	01/18/08	01/25/08
Uranium 238	0.36	J	0.12	1.00	0.04	01/18/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-411

Radiochemistry

Lab Sample ID: F8A080256-042
Work Order: KE703
Matrix: SOLID

Date Collected: 12/12/07 1007
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8010411**	**Yld %**
Actinium 228	0.30	U	0.14		0.34	01/10/08	01/31/08
Americium 241	-0.0482	U	0.100		0.17	01/10/08	01/31/08
Cesium 137	0.0	U	0.065	0.200	0.12	01/10/08	01/31/08
Cobalt 60	-0.006	U	0.050		0.097	01/10/08	01/31/08
Europium 152	-0.03	U	0.11		0.20	01/10/08	01/31/08
Europium 154	0.0	U	0.22		0.46	01/10/08	01/31/08
Potassium 40	**9.3**		**1.6**		**0.4**	**01/10/08**	**01/31/08**
Radium (226)	**0.41**	**J**	**0.14**	**1.00**	**0.14**	**01/10/08**	**01/31/08**
Thorium 232	0.30	U	0.14		0.34	01/10/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 84**
Thorium 228	**0.58**	**J**	**0.17**	**1.00**	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.52**	**J**	**0.16**	**1.00**	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 92**
Uranium 233/234	**0.210**	**J**	**0.096**	**1.00**	**0.075**	**01/18/08**	**01/25/08**
Uranium 235/236	0.01	U	0.024	1.00	0.051	01/18/08	01/25/08
Uranium 238	**0.30**	**J**	**0.11**	**1.00**	**0.08**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-412

Radiochemistry

Lab Sample ID: F8A080256-043
Work Order: KE704
Matrix: SOLID

Date Collected: 12/12/07 1010
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 87**
Thorium 228	**0.39**	**J**	**0.14**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.40**	**J**	**0.14**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 90**
Uranium 233/234	**0.34**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/25/08**
Uranium 235/236	0.021	U	0.037	1.00	0.063	01/18/08	01/25/08
Uranium 238	**0.40**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-413

Radiochemistry

Lab Sample ID: F8A080256-044
Work Order: KE705
Matrix: SOLID

Date Collected: 12/12/07 1022
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 86**
Thorium 228	**0.39**	**J**	**0.14**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.44**	**J**	**0.14**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 90**
Uranium 233/234	**0.38**	**J**	**0.13**	1.00	**0.05**	**01/18/08**	**01/25/08**
Uranium 235/236	0.023	U	0.036	1.00	0.054	01/18/08	01/25/08
Uranium 238	**0.32**	**J**	**0.12**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-414

Radiochemistry

Lab Sample ID: F8A080256-045
Work Order: KE708
Matrix: SOLID

Date Collected: 12/12/07 1025
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 83**
Thorium 228	**0.39**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/29/08**
Thorium 230	**0.46**	**J**	**0.15**	1.00	**0.07**	**01/18/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 87**
Uranium 233/234	**0.36**	**J**	**0.12**	1.00	**0.04**	**01/18/08**	**01/25/08**
Uranium 235/236	0.047	U	0.050	1.00	0.052	01/18/08	01/25/08
Uranium 238	**0.27**	**J**	**0.11**	1.00	**0.03**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-415

Radiochemistry

Lab Sample ID: F8A080256-046
Work Order: KE709
Matrix: SOLID

Date Collected: 12/12/07 1030
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 91**
Thorium 228	**0.48**	**J**	**0.15**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.47**	**J**	**0.15**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 94**
Uranium 233/234	**0.34**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/25/08**
Uranium 235/236	0.037	U	0.046	1.00	0.056	01/18/08	01/25/08
Uranium 238	**0.26**	**J**	**0.11**	1.00	**0.03**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-416

Radiochemistry

Lab Sample ID: F8A080256-047
Work Order: KE71A
Matrix: SOLID

Date Collected: 12/12/07 1033
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018143		Yld % 93
Thorium 228	0.36	J	0.13	1.00	0.07	01/18/08	01/26/08
Thorium 230	0.43	J	0.14	1.00	0.05	01/18/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018145		Yld % 91
Uranium 233/234	0.38	J	0.13	1.00	0.06	01/18/08	01/25/08
Uranium 235/236	0.063	J	0.059	1.00	0.056	01/18/08	01/25/08
Uranium 238	0.39	J	0.13	1.00	0.06	01/18/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-417

Radiochemistry

Lab Sample ID: F8A080256-048
Work Order: KE71D
Matrix: SOLID

Date Collected: 12/12/07 1042
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 84**
Thorium 228	0.54	J	0.16	1.00	0.07	01/18/08	01/26/08
Thorium 230	0.55	J	0.16	1.00	0.04	01/18/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 101**
Uranium 233/234	0.28	J	0.11	1.00	0.06	01/18/08	01/25/08
Uranium 235/236	0.034	J	0.039	1.00	0.030	01/18/08	01/25/08
Uranium 238	0.33	J	0.11	1.00	0.04	01/18/08	01/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-418

Radiochemistry

Lab Sample ID: F8A080256-049
Work Order: KE71E
Matrix: SOLID

Date Collected: 12/12/07 1045
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 97**
Thorium 228	**0.62**	**J**	**0.17**	1.00	**0.07**	**01/18/08**	01/26/08
Thorium 230	**0.51**	**J**	**0.15**	1.00	**0.05**	**01/18/08**	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 100**
Uranium 233/234	**0.37**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	01/25/08
Uranium 235/236	0.032	U	0.043	1.00	0.059	01/18/08	01/25/08
Uranium 238	**0.35**	**J**	**0.12**	1.00	**0.03**	**01/18/08**	01/25/08
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**		**Batch # 8009071**	**Yld % 75**
Strontium 90	-0.02	U	0.29	3.00	0.50	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-419

Radiochemistry

Lab Sample ID: F8A080256-050
Work Order: KE71G
Matrix: SOLID

Date Collected: 12/12/07 1052
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018143		Yld % 95
Thorium 228	**0.40**	**J**	**0.13**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.25**	**J**	**0.10**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018145		Yld % 91
Uranium 233/234	**0.215**	**J**	**0.099**	1.00	**0.067**	**01/18/08**	**01/25/08**
Uranium 235/236	0.023	U	0.037	1.00	0.055	01/18/08	01/25/08
Uranium 238	**0.24**	**J**	**0.10**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-420

Radiochemistry

Lab Sample ID: F8A080256-051
Work Order: KE71K
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018143		Yld % 91
Thorium 228	**0.76**	**J**	**0.19**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.48**	**J**	**0.15**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018145		Yld % 90
Uranium 233/234	**0.34**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/25/08**
Uranium 235/236	0.049	U	0.051	1.00	0.054	01/18/08	01/25/08
Uranium 238	**0.58**	**J**	**0.16**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-421

Radiochemistry

Lab Sample ID: F8A080256-052
Work Order: KE71L
Matrix: SOLID

Date Collected: 12/12/07 1105
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 92**
Thorium 228	**0.27**	**J**	**0.11**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.26**	**J**	**0.11**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 97**
Uranium 233/234	**0.30**	**J**	**0.11**	1.00	**0.06**	**01/18/08**	**01/25/08**
Uranium 235/236	0.024	U	0.034	1.00	0.033	01/18/08	01/25/08
Uranium 238	**0.25**	**J**	**0.10**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-422

Radiochemistry

Lab Sample ID: F8A080256-053
Work Order: KE71V
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 78**
Thorium 228	**0.52**	**J**	**0.17**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.51**	**J**	**0.16**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 94**
Uranium 233/234	**0.34**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/25/08**
Uranium 235/236	0.043	U	0.048	1.00	0.058	01/18/08	01/25/08
Uranium 238	**0.30**	**J**	**0.11**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-423

Radiochemistry

Lab Sample ID: F8A080256-054
Work Order: KE71X
Matrix: SOLID

Date Collected: 12/12/07 1110
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 94**
Thorium 228	**0.48**	**J**	**0.15**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.41**	**J**	**0.13**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 92**
Uranium 233/234	**0.32**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/25/08**
Uranium 235/236	-0.0069	U	0.0080	1.00	0.066	01/18/08	01/25/08
Uranium 238	**0.196**	**J**	**0.090**	1.00	**0.042**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-424

Radiochemistry

Lab Sample ID: F8A080256-055
Work Order: KE712
Matrix: SOLID

Date Collected: 12/12/07 1113
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 87**
Thorium 228	**0.48**	**J**	**0.15**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.49**	**J**	**0.15**	1.00	**0.07**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 88**
Uranium 233/234	**0.37**	**J**	**0.13**	1.00	**0.04**	**01/18/08**	**01/25/08**
Uranium 235/236	0.023	U	0.037	1.00	0.055	01/18/08	01/25/08
Uranium 238	**0.41**	**J**	**0.14**	1.00	**0.05**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-425

Radiochemistry

Lab Sample ID: F8A080256-056
Work Order: KE713
Matrix: SOLID

Date Collected: 12/12/07 1117
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 91**
Thorium 228	**0.23**	**J**	**0.11**	1.00	**0.1**	**01/18/08**	**01/26/08**
Thorium 230	**0.25**	**J**	**0.10**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 93**
Uranium 233/234	**0.31**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/25/08**
Uranium 235/236	0.031	U	0.045	1.00	0.069	01/18/08	01/25/08
Uranium 238	**0.25**	**J**	**0.10**	1.00	**0.05**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-426

Radiochemistry

Lab Sample ID: F8A080256-057
Work Order: KE717
Matrix: SOLID

Date Collected: 12/12/07 1120
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8018143	Yld % 96
Thorium 228	**0.30**	**J**	**0.11**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.33**	**J**	**0.12**	1.00	**0.04**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8018145	Yld % 92
Uranium 233/234	**0.220**	**J**	**0.096**	1.00	**0.043**	**01/18/08**	**01/25/08**
Uranium 235/236	0.025	U	0.036	1.00	0.034	01/18/08	01/25/08
Uranium 238	**0.27**	**J**	**0.11**	1.00	**0.04**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-427

Radiochemistry

Lab Sample ID: F8A080256-058
Work Order: KE72A
Matrix: SOLID

Date Collected: 12/12/07 1122
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 91**
Thorium 228	**0.45**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.40**	**J**	**0.13**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 91**
Uranium 233/234	**0.38**	**J**	**0.13**	1.00	**0.06**	**01/18/08**	**01/25/08**
Uranium 235/236	0.044	U	0.050	1.00	0.060	01/18/08	01/25/08
Uranium 238	**0.24**	**J**	**0.10**	1.00	**0.05**	**01/18/08**	**01/25/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-428

Radiochemistry

Lab Sample ID: F8A080256-059
Work Order: KE72C
Matrix: SOLID

Date Collected: 12/12/07 1126
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018143**		**Yld % 86**
Thorium 228	**0.46**	**J**	**0.15**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.30**	**J**	**0.12**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018145**		**Yld % 95**
Uranium 233/234	**0.32**	**J**	**0.11**	1.00	**0.05**	**01/18/08**	**01/25/08**
Uranium 235/236	0.024	U	0.034	1.00	0.032	01/18/08	01/25/08
Uranium 238	**0.170**	**J**	**0.082**	1.00	**0.041**	**01/18/08**	**01/25/08**
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 72**
Strontium 90	0.12	U	0.31	3.00	0.52	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-429

Radiochemistry

Lab Sample ID: F8A080256-060
Work Order: KE72E
Matrix: SOLID

Date Collected: 12/12/07 0855
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018143**	**Yld % 86**
Thorium 228	**0.45**	J	**0.15**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.56**	J	**0.16**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018145**	**Yld % 93**
Uranium 233/234	**0.35**	J	**0.12**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/18/08	01/26/08
Uranium 238	**0.44**	J	**0.14**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-430

Radiochemistry

Lab Sample ID: F8A080256-061
Work Order: KE72H
Matrix: SOLID

Date Collected: 12/12/07 0900
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 78**
Thorium 228	**0.41**	**J**	**0.15**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.39**	**J**	**0.14**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 89**
Uranium 233/234	**0.37**	**J**	**0.13**	1.00	**0.06**	**01/18/08**	**01/28/08**
Uranium 235/236	0.01	U	0.025	1.00	0.052	01/18/08	01/28/08
Uranium 238	**0.43**	**J**	**0.14**	1.00	**0.05**	**01/18/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-430 DUP

Radiochemistry

Lab Sample ID: F8A080256-061X
Work Order: KE72H
Matrix: SOLID

Date Collected: 12/12/07 0900
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018201		Yld % 86
Thorium 228	**0.31**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.193**	**J**	**0.094**	1.00	**0.054**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018203		Yld % 86
Uranium 233/234	**0.23**	**J**	**0.10**	1.00	**0.07**	**01/18/08**	**01/28/08**
Uranium 235/236	0.006	U	0.029	1.00	0.073	01/18/08	01/28/08
Uranium 238	**0.126**	**J**	**0.084**	1.00	**0.091**	**01/18/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-431

Radiochemistry

Lab Sample ID: F8A080256-062
Work Order: KE72K
Matrix: WATER

Date Collected: 12/12/07 0906
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	2	U	14		27	01/10/08	01/14/08
Americium 241	2.6	U	7.2		13	01/10/08	01/14/08
Cesium 137	-7	U	38	20	16	01/10/08	01/14/08
Cobalt 60	4.6	U	8.3		14	01/10/08	01/14/08
Europium 152	-3	U	14		26	01/10/08	01/14/08
Europium 154	0.0	U	36		71	01/10/08	01/14/08
Potassium 40	12	U	78		150	01/10/08	01/14/08
Thorium 232	2	U	14		27	01/10/08	01/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 67**
Thorium 228	0.018	U	0.079	1.00	0.18	01/18/08	01/22/08
Thorium 230	0.1	U	0.12	1.00	0.18	01/18/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 96**
Uranium 233/234	0.021	U	0.058	1.00	0.12	01/18/08	01/22/08
Uranium 235/236	0.049	U	0.069	1.00	0.066	01/18/08	01/22/08
Uranium 238	0.016	U	0.040	1.00	0.083	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-432

Radiochemistry

Lab Sample ID: F8A080256-063
Work Order: KE72M
Matrix: SOLID

Date Collected: 12/12/07 0915
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 80**
Thorium 228	**0.36**	**J**	**0.13**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.60**	**J**	**0.17**	1.00	**0.08**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 92**
Uranium 233/234	**0.37**	**J**	**0.13**	1.00	**0.08**	**01/18/08**	**01/26/08**
Uranium 235/236	0.034	U	0.042	1.00	0.051	01/18/08	01/26/08
Uranium 238	**0.25**	**J**	**0.10**	1.00	**0.08**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-433

Radiochemistry

Lab Sample ID: F8A080256-064
Work Order: KE72P
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018201		Yld % 92
Thorium 228	**0.41**	**J**	**0.14**	1.00	**0.07**	01/18/08	01/28/08
Thorium 230	**0.175**	**J**	**0.088**	1.00	**0.059**	01/18/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018203		Yld % 94
Uranium 233/234	**0.37**	**J**	**0.13**	1.00	**0.05**	01/18/08	01/26/08
Uranium 235/236	0.008	U	0.026	1.00	0.061	01/18/08	01/26/08
Uranium 238	**0.28**	**J**	**0.11**	1.00	**0.07**	01/18/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-434

Radiochemistry

Lab Sample ID: F8A080256-065
Work Order: KE72R
Matrix: SOLID

Date Collected: 12/12/07 0933
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 86**
Thorium 228	**0.44**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.41**	**J**	**0.14**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 92**
Uranium 233/234	**0.24**	**J**	**0.10**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/18/08	01/26/08
Uranium 238	**0.28**	**J**	**0.11**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-435

Radiochemistry

Lab Sample ID: F8A080256-066
Work Order: KE73C
Matrix: SOLID

Date Collected: 12/12/07 0937
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 87**
Thorium 228	**0.44**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/28/08**
Thorium 230	**0.40**	**J**	**0.13**	1.00	**0.06**	**01/18/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 90**
Uranium 233/234	**0.40**	**J**	**0.13**	1.00	**0.04**	**01/18/08**	**01/26/08**
Uranium 235/236	0.021	U	0.034	1.00	0.050	01/18/08	01/26/08
Uranium 238	**0.31**	**J**	**0.11**	1.00	**0.03**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-436

Radiochemistry

Lab Sample ID: F8A080256-067
Work Order: KE73E
Matrix: SOLID

Date Collected: 12/12/07 0944
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 94**
Thorium 228	**0.46**	**J**	**0.15**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.45**	**J**	**0.14**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 99**
Uranium 233/234	**0.30**	**J**	**0.11**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	0.010	U	0.026	1.00	0.053	01/18/08	01/26/08
Uranium 238	**0.32**	**J**	**0.12**	1.00	**0.03**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-437

Radiochemistry

Lab Sample ID: F8A080256-068
Work Order: KE73F
Matrix: SOLID

Date Collected: 12/12/07 0947
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 81**
Thorium 228	**0.46**	**J**	**0.16**	1.00	**0.11**	**01/18/08**	**01/26/08**
Thorium 230	**0.27**	**J**	**0.11**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 92**
Uranium 233/234	**0.24**	**J**	**0.10**	1.00	**0.06**	**01/18/08**	**01/26/08**
Uranium 235/236	0.025	U	0.035	1.00	0.033	01/18/08	01/26/08
Uranium 238	**0.33**	**J**	**0.12**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-438

Radiochemistry

Lab Sample ID: F8A080256-069
Work Order: KE73J
Matrix: SOLID

Date Collected: 12/12/07 1001
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 87**
Thorium 228	**0.28**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.28**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 97**
Uranium 233/234	**0.31**	**J**	**0.11**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	0.008	U	0.026	1.00	0.061	01/18/08	01/26/08
Uranium 238	**0.27**	**J**	**0.11**	1.00	**0.03**	**01/18/08**	**01/26/08**
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 90**
Strontium 90	0.08	U	0.26	3.00	0.43	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-439

Radiochemistry

Lab Sample ID: F8A080256-070
Work Order: KE73L
Matrix: SOLID

Date Collected: 12/12/07 1005
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 93**
Thorium 228	**0.42**	**J**	**0.14**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.40**	**J**	**0.13**	1.00	**0.05**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 92**
Uranium 233/234	**0.27**	**J**	**0.11**	1.00	**0.07**	**01/18/08**	**01/26/08**
Uranium 235/236	0.036	U	0.044	1.00	0.054	01/18/08	01/26/08
Uranium 238	**0.201**	**J**	**0.092**	1.00	**0.043**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-440

Radiochemistry

Lab Sample ID: F8A080256-071
Work Order: KE73O
Matrix: SOLID

Date Collected: 12/12/07 1013
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 78**
Thorium 228	**0.37**	**J**	**0.14**	1.00	**0.09**	**01/18/08**	**01/29/08**
Thorium 230	**0.51**	**J**	**0.16**	1.00	**0.06**	**01/18/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 91**
Uranium 233/234	**0.30**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/26/08**
Uranium 235/236	0.049	U	0.052	1.00	0.055	01/18/08	01/26/08
Uranium 238	**0.26**	**J**	**0.10**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-441

Radiochemistry

Lab Sample ID: F8A080256-072
Work Order: KE73R
Matrix: SOLID

Date Collected: 12/12/07 1015
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 87**
Thorium 228	**0.44**	**J**	**0.15**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.61**	**J**	**0.17**	1.00	**0.06**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 89**
Uranium 233/234	**0.29**	**J**	**0.12**	1.00	**0.06**	**01/18/08**	**01/26/08**
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/18/08	01/26/08
Uranium 238	**0.39**	**J**	**0.13**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-442

Radiochemistry

Lab Sample ID: F8A080256-073
Work Order: KE73T
Matrix: SOLID

Date Collected: 12/12/07 1040
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8018201	Yld % 84
Thorium 228	**0.59**	**J**	**0.17**	1.00	**0.09**	**01/18/08**	**01/26/08**
Thorium 230	**0.51**	**J**	**0.16**	1.00	**0.07**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8018203	Yld % 89
Uranium 233/234	**0.37**	**J**	**0.13**	1.00	**0.07**	**01/18/08**	**01/26/08**
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/18/08	01/26/08
Uranium 238	**0.49**	**J**	**0.15**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-443

Radiochemistry

Lab Sample ID: F8A080256-074
Work Order: KE73W
Matrix: SOLID

Date Collected: 12/12/07 1044
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 82**
Thorium 228	**0.41**	**J**	**0.15**	1.00	**0.11**	**01/18/08**	**01/26/08**
Thorium 230	**0.55**	**J**	**0.16**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 95**
Uranium 233/234	**0.37**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	0.029	U	0.042	1.00	0.065	01/18/08	01/26/08
Uranium 238	**0.29**	**J**	**0.11**	1.00	**0.04**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-444

Radiochemistry

Lab Sample ID: F8A080256-075
Work Order: KE731
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 90**
Thorium 228	**0.46**	**J**	**0.15**	1.00	**0.08**	**01/18/08**	**01/26/08**
Thorium 230	**0.51**	**J**	**0.15**	1.00	**0.04**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 95**
Uranium 233/234	**0.26**	**J**	**0.10**	1.00	**0.04**	**01/18/08**	**01/26/08**
Uranium 235/236	-0.0022	U	0.0045	1.00	0.051	01/18/08	01/26/08
Uranium 238	**0.30**	**J**	**0.11**	1.00	**0.05**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-445

Radiochemistry

Lab Sample ID: F8A080256-076
Work Order: KE735
Matrix: SOLID

Date Collected: 12/12/07 1056
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 89**
Thorium 228	**0.68**	**J**	**0.18**	1.00	**0.07**	**01/18/08**	**01/26/08**
Thorium 230	**0.49**	**J**	**0.15**	1.00	**0.03**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 91**
Uranium 233/234	**0.33**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/26/08**
Uranium 235/236	-0.0073	U	0.0084	1.00	0.070	01/18/08	01/26/08
Uranium 238	**0.32**	**J**	**0.12**	1.00	**0.05**	**01/18/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-446

Radiochemistry

Lab Sample ID: F8A080256-077
Work Order: KE736
Matrix: SOLID

Date Collected: 12/12/07 1104
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018201**		**Yld % 92**
Thorium 228	0.36	J	0.13	1.00	0.06	01/18/08	01/26/08
Thorium 230	0.39	J	0.13	1.00	0.03	01/18/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8018203**		**Yld % 85**
Uranium 233/234	0.29	J	0.12	1.00	0.05	01/18/08	01/26/08
Uranium 235/236	0.040	J	0.046	1.00	0.036	01/18/08	01/26/08
Uranium 238	0.24	J	0.10	1.00	0.05	01/18/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-447

Radiochemistry

Lab Sample ID: F8A080256-078
Work Order: KE738
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018201		Yld % 80
Thorium 228	0.91	J	0.22	1.00	0.09	01/18/08	01/26/08
Thorium 230	0.52	J	0.16	1.00	0.06	01/18/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8018203		Yld % 95
Uranium 233/234	0.27	J	0.10	1.00	0.05	01/18/08	01/26/08
Uranium 235/236	0.035	J	0.041	1.00	0.032	01/18/08	01/26/08
Uranium 238	0.36	J	0.12	1.00	0.05	01/18/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-448

Radiochemistry

Lab Sample ID: F8A080256-079
Work Order: KE739
Matrix: SOLID

Date Collected: 12/12/07 1115
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018201**	**Yld % 91**
Thorium 228	**0.37**	**J**	**0.13**	1.00	**0.06**	**01/18/08**	**01/26/08**
Thorium 230	**0.38**	**J**	**0.13**	1.00	**0.04**	**01/18/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8018203**	**Yld % 95**
Uranium 233/234	**0.27**	**J**	**0.11**	1.00	**0.04**	**01/18/08**	**01/26/08**
Uranium 235/236	0.024	U	0.034	1.00	0.033	01/18/08	01/26/08
Uranium 238	**0.242**	**J**	**0.0995**	1.00	**0.041**	**01/18/08**	**01/26/08**
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**		**Batch # 8009071**	**Yld % 78**
Strontium 90	0.03	U	0.29	3.00	0.50	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-412

Radiochemistry

Lab Sample ID: F8A290194-001
Work Order: KF8VD
Matrix: SOLID

Date Collected: 12/12/07 1010
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.40		0.19		0.24	01/30/08	02/01/08
Americium 241	0.014	U	0.091		0.16	01/30/08	02/01/08
Cesium 137	0.013	U	0.042	0.200	0.075	01/30/08	02/01/08
Cobalt 60	0.008	U	0.042		0.080	01/30/08	02/01/08
Europium 152	-0.008	U	0.080		0.15	01/30/08	02/01/08
Europium 154	0.13	U	0.30		0.52	01/30/08	02/01/08
Potassium 40	10		1.6		0.4	01/30/08	02/01/08
Radium (226)	0.46	J	0.13	1.00	0.12	01/30/08	02/01/08
Thorium 232	0.40		0.19		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-412 DUP

Radiochemistry

Lab Sample ID: F8A290194-001X
Work Order: KF8VD
Matrix: SOLID

Date Collected: 12/12/07 1010
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.22	U	0.24		0.39	01/30/08	02/01/08
Americium 241	0.009	U	0.098		0.17	01/30/08	02/01/08
Cesium 137	-0.004	U	0.062	0.200	0.11	01/30/08	02/01/08
Cobalt 60	0.0	U	0.11		0.19	01/30/08	02/01/08
Europium 152	-0.03	U	0.12		0.21	01/30/08	02/01/08
Europium 154	-0.12	U	0.39		0.71	01/30/08	02/01/08
Potassium 40	8.1		1.7		1.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.15	1.00	0.18	01/30/08	02/01/08
Thorium 232	0.22	U	0.24		0.39	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-413

Radiochemistry

Lab Sample ID: F8A290194-002
Work Order: KF8VN
Matrix: SOLID

Date Collected: 12/12/07 1022
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.33		0.15		0.23	01/30/08	02/01/08
Americium 241	-0.05	U	0.11		0.19	01/30/08	02/01/08
Cesium 137	0.055	U	0.052	0.200	0.081	01/30/08	02/01/08
Cobalt 60	-0.015	U	0.054		0.10	01/30/08	02/01/08
Europium 152	0.0003	U	0.093		0.17	01/30/08	02/01/08
Europium 154	-0.10	U	0.38		0.68	01/30/08	02/01/08
Potassium 40	8.7		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.47	J	0.12	1.00	0.09	01/30/08	02/01/08
Thorium 232	0.33		0.15		0.23	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-414

Radiochemistry

Lab Sample ID: F8A290194-003
Work Order: KF8VT
Matrix: SOLID

Date Collected: 12/12/07 1025
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.43		0.13		0.17	01/30/08	02/01/08
Americium 241	0.09	U	0.28		0.47	01/30/08	02/01/08
Cesium 137	0.0001	U	0.029	0.200	0.054	01/30/08	02/01/08
Cobalt 60	-0.003	U	0.039		0.072	01/30/08	02/01/08
Europium 152	0.004	U	0.079		0.14	01/30/08	02/01/08
Europium 154	-0.03	U	0.25		0.45	01/30/08	02/01/08
Potassium 40	9.9		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.313	J	0.092	1.00	0.10	01/30/08	02/01/08
Thorium 232	0.43		0.13		0.17	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-415

Radiochemistry

Lab Sample ID: F8A290194-004
Work Order: KF8VV
Matrix: SOLID

Date Collected: 12/12/07 1030
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.35		0.21		0.29	01/30/08	02/01/08
Americium 241	0.063	U	0.087		0.14	01/30/08	02/01/08
Cesium 137	0.041	U	0.041	0.200	0.065	01/30/08	02/01/08
Cobalt 60	0.002	U	0.051		0.097	01/30/08	02/01/08
Europium 152	-0.014	U	0.094		0.17	01/30/08	02/01/08
Europium 154	-0.03	U	0.29		0.54	01/30/08	02/01/08
Potassium 40	9.6		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.13	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.35		0.21		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-416

Radiochemistry

Lab Sample ID: F8A290194-005
Work Order: KF8VX
Matrix: SOLID

Date Collected: 12/12/07 1033
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.26	U	0.19		0.27	01/30/08	02/01/08
Americium 241	0.079	U	0.057		0.083	01/30/08	02/01/08
Cesium 137	-0.005	U	0.039	0.200	0.074	01/30/08	02/01/08
Cobalt 60	-0.005	U	0.033		0.068	01/30/08	02/01/08
Europium 152	0.0	U	0.10		0.19	01/30/08	02/01/08
Europium 154	0.05	U	0.25		0.49	01/30/08	02/01/08
Potassium 40	7.5		1.5		0.7	01/30/08	02/01/08
Radium (226)	0.33	J	0.13	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.26	U	0.19		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-417

Radiochemistry

Lab Sample ID: F8A290194-006
Work Order: KF8V0
Matrix: SOLID

Date Collected: 12/12/07 1042
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.26		0.17		0.22	01/30/08	02/01/08
Americium 241	0.031	U	0.083		0.14	01/30/08	02/01/08
Cesium 137	0.018	U	0.049	0.200	0.096	01/30/08	02/01/08
Cobalt 60	0.002	U	0.053		0.10	01/30/08	02/01/08
Europium 152	-0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.005	U	0.31		0.62	01/30/08	02/01/08
Potassium 40	9.1		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.53	J	0.16	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.26		0.17		0.22	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-418

Radiochemistry

Lab Sample ID: F8A290194-007
Work Order: KF8V1
Matrix: SOLID

Date Collected: 12/12/07 1045
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.46		0.14		0.14	01/30/08	02/01/08
Americium 241	-0.06	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.035	U	0.030	0.200	0.046	01/30/08	02/01/08
Cobalt 60	-0.011	U	0.037		0.067	01/30/08	02/01/08
Europium 152	0.017	U	0.080		0.14	01/30/08	02/01/08
Europium 154	0.0	U	0.30		0.55	01/30/08	02/01/08
Potassium 40	9.3		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.48	J	0.10	1.00	0.08	01/30/08	02/01/08
Thorium 232	0.46		0.14		0.14	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-419

Radiochemistry

Lab Sample ID: F8A290194-008
Work Order: KF8V2
Matrix: SOLID

Date Collected: 12/12/07 1052
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.38		0.15		0.26	01/30/08	02/01/08
Americium 241	0.0	U	0.098		0.17	01/30/08	02/01/08
Cesium 137	0.020	U	0.050	0.200	0.086	01/30/08	02/01/08
Cobalt 60	0.001	U	0.050		0.096	01/30/08	02/01/08
Europium 152	-0.04	U	0.10		0.18	01/30/08	02/01/08
Europium 154	0.09	U	0.35		0.63	01/30/08	02/01/08
Potassium 40	10.0		1.6		0.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.12	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.38		0.15		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-420

Radiochemistry

Lab Sample ID: F8A290194-009
Work Order: KF8V4
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.27	U	0.19		0.27	01/30/08	02/01/08
Americium 241	-0.06	U	0.11		0.18	01/30/08	02/01/08
Cesium 137	-0.0002	U	0.049	0.200	0.091	01/30/08	02/01/08
Cobalt 60	0.0006	U	0.042		0.086	01/30/08	02/01/08
Europium 152	-0.01	U	0.11		0.20	01/30/08	02/01/08
Europium 154	0.07	U	0.32		0.59	01/30/08	02/01/08
Potassium 40	**7.9**		**1.5**		**0.8**	**01/30/08**	**02/01/08**
Radium (226)	**0.35**	**J**	**0.14**	**1.00**	**0.18**	**01/30/08**	**02/01/08**
Thorium 232	0.27	U	0.19		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-421

Radiochemistry

Lab Sample ID: F8A290194-010
Work Order: KF8V5
Matrix: SOLID

Date Collected: 12/12/07 1105
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.41		0.21		0.24	01/30/08	02/01/08
Americium 241	-0.001	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.22	0.20	0.12	01/30/08	02/01/08
Cobalt 60	0.027	U	0.063		0.11	01/30/08	02/01/08
Europium 152	0.06	U	0.11		0.19	01/30/08	02/01/08
Europium 154	0.0	U	0.46		0.87	01/30/08	02/01/08
Potassium 40	9.8		1.8		0.5	01/30/08	02/01/08
Radium (226)	0.31	J	0.14	1.00	0.20	01/30/08	02/01/08
Thorium 232	0.41		0.21		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-422

Radiochemistry

Lab Sample ID: F8A290194-011
Work Order: KF8V8
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.34		0.11		0.14	01/30/08	02/01/08
Americium 241	-0.01	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.030	U	0.030	0.200	0.047	01/30/08	02/01/08
Cobalt 60	-0.008	U	0.037		0.067	01/30/08	02/01/08
Europium 152	-0.024	U	0.084		0.15	01/30/08	02/01/08
Europium 154	0.0	U	0.038		0.14	01/30/08	02/01/08
Potassium 40	9.4		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.427	J	0.097	1.00	0.084	01/30/08	02/01/08
Thorium 232	0.34		0.11		0.14	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-423

Radiochemistry

Lab Sample ID: F8A290194-012
Work Order: KF8V9
Matrix: SOLID

Date Collected: 12/12/07 1110
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.23	U	0.17		0.26	01/30/08	02/01/08
Americium 241	0.046	U	0.077		0.13	01/30/08	02/01/08
Cesium 137	**0.125**	**J**	**0.050**	**0.200**	**0.057**	**01/30/08**	**02/01/08**
Cobalt 60	-0.011	U	0.051		0.094	01/30/08	02/01/08
Europium 152	0.035	U	0.067		0.12	01/30/08	02/01/08
Europium 154	-0.11	U	0.37		0.65	01/30/08	02/01/08
Potassium 40	**7.6**		**1.4**		**0.8**	**01/30/08**	**02/01/08**
Radium (226)	**0.32**	**J**	**0.11**	**1.00**	**0.12**	**01/30/08**	**02/01/08**
Thorium 232	0.23	U	0.17		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-424

Radiochemistry

Lab Sample ID: F8A290194-013
Work Order: KF8WC
Matrix: SOLID

Date Collected: 12/12/07 1113
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.23	U	0.18		0.27	01/30/08	02/01/08
Americium 241	0.0	U	0.099		0.17	01/30/08	02/01/08
Cesium 137	**0.104**	**J**	0.057	0.200	**0.076**	**01/30/08**	**02/01/08**
Cobalt 60	0.002	U	0.051		0.10	01/30/08	02/01/08
Europium 152	0.026	U	0.087		0.16	01/30/08	02/01/08
Europium 154	-0.04	U	0.37		0.70	01/30/08	02/01/08
Potassium 40	**8.7**		1.6		0.6	**01/30/08**	**02/01/08**
Radium (226)	**0.52**	**J**	0.17	1.00	0.16	**01/30/08**	**02/01/08**
Thorium 232	0.23	U	0.18		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-425

Radiochemistry

Lab Sample ID: F8A290194-014
Work Order: KF8WD
Matrix: SOLID

Date Collected: 12/12/07 1117
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.28	U	0.21		0.31	01/30/08	02/01/08
Americium 241	0.0008	U	0.090		0.16	01/30/08	02/01/08
Cesium 137	0.076	U	0.064	0.200	0.11	01/30/08	02/01/08
Cobalt 60	-0.026	U	0.076		0.14	01/30/08	02/01/08
Europium 152	-0.03	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.14	U	0.42		0.76	01/30/08	02/01/08
Potassium 40	9.4		1.7		0.5	01/30/08	02/01/08
Radium (226)	0.44	J	0.15	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.28	U	0.21		0.31	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-426

Radiochemistry

Lab Sample ID: F8A290194-015
Work Order: KF8WF
Matrix: SOLID

Date Collected: 12/12/07 1120
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.35		0.13		0.21	01/30/08	02/01/08
Americium 241	0.09	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.040	U	0.034	0.200	0.052	01/30/08	02/01/08
Cobalt 60	-0.005	U	0.030		0.057	01/30/08	02/01/08
Europium 152	-0.003	U	0.057		0.11	01/30/08	02/01/08
Europium 154	0.09	U	0.24		0.42	01/30/08	02/01/08
Potassium 40	9.3		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.405	J	0.099	1.00	0.092	01/30/08	02/01/08
Thorium 232	0.35		0.13		0.21	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-427

Radiochemistry

Lab Sample ID: F8A290194-016
Work Order: KF8WH
Matrix: SOLID

Date Collected: 12/12/07 1122
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.22	U	0.17		0.24	01/30/08	02/01/08
Americium 241	-0.05	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	**0.102**	**J**	**0.051**	0.200	**0.064**	**01/30/08**	**02/01/08**
Cobalt 60	-0.002	U	0.051		0.098	01/30/08	02/01/08
Europium 152	0.02	U	0.10		0.18	01/30/08	02/01/08
Europium 154	0.0	U	0.67		1.2	01/30/08	02/01/08
Potassium 40	**7.6**		**1.4**		**0.8**	**01/30/08**	**02/01/08**
Radium (226)	**0.52**	**J**	0.15	1.00	0.10	**01/30/08**	02/01/08
Thorium 232	0.22	U	0.17		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-428

Radiochemistry

Lab Sample ID: F8A290194-017
Work Order: KF8WJ
Matrix: SOLID

Date Collected: 12/12/07 1126
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.19	U	0.19		0.29	01/30/08	02/01/08
Americium 241	-0.020	U	0.093		0.16	01/30/08	02/01/08
Cesium 137	-0.001	U	0.033	0.200	0.066	01/30/08	02/01/08
Cobalt 60	0.0	U	0.013		0.047	01/30/08	02/01/08
Europium 152	0.002	U	0.082		0.16	01/30/08	02/01/08
Europium 154	-0.02	U	0.37		0.70	01/30/08	02/01/08
Potassium 40	**8.0**		1.6		0.9	**01/30/08**	**02/01/08**
Radium (226)	**0.22**	**J**	0.12	1.00	0.17	**01/30/08**	**02/01/08**
Thorium 232	0.19	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-429

Radiochemistry

Lab Sample ID: F8A290194-018
Work Order: KF8WL
Matrix: SOLID

Date Collected: 12/12/07 0855
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.32		0.19		0.25	01/30/08	02/01/08
Americium 241	0.026	U	0.080		0.14	01/30/08	02/01/08
Cesium 137	0.048	U	0.058	0.200	0.10	01/30/08	02/01/08
Cobalt 60	0.0	U	0.014		0.051	01/30/08	02/01/08
Europium 152	-0.02	U	0.12		0.22	01/30/08	02/01/08
Europium 154	-0.08	U	0.48		0.87	01/30/08	02/01/08
Potassium 40	8.2		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.47	J	0.16	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.32		0.19		0.25	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-430

Radiochemistry

Lab Sample ID: F8A290194-019
Work Order: KF8W3
Matrix: SOLID

Date Collected: 12/12/07 0900
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.33		0.15		0.20	01/30/08	02/01/08
Americium 241	0.005	U	0.21		0.38	01/30/08	02/01/08
Cesium 137	0.011	U	0.026	0.200	0.047	01/30/08	02/01/08
Cobalt 60	0.004	U	0.034		0.064	01/30/08	02/01/08
Europium 152	0.003	U	0.077		0.14	01/30/08	02/01/08
Europium 154	-0.02	U	0.22		0.40	01/30/08	02/01/08
Potassium 40	9.2		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.34	J	0.10	1.00	0.1	01/30/08	02/01/08
Thorium 232	0.33		0.15		0.20	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-432

Radiochemistry

Lab Sample ID: F8A290194-021
Work Order: KF8XA
Matrix: SOLID

Date Collected: 12/12/07 0915
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.25	U	0.19		0.29	01/30/08	02/01/08
Americium 241	0.03	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	**0.083**	**J**	**0.053**	**0.200**	**0.076**	**01/30/08**	**02/01/08**
Cobalt 60	0.031	U	0.052		0.090	01/30/08	02/01/08
Europium 152	-0.04	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.005	U	0.35		0.65	01/30/08	02/01/08
Potassium 40	**8.8**		**1.6**		**1.0**	**01/30/08**	**02/01/08**
Radium (226)	**0.30**	**J**	**0.11**	**1.00**	**0.14**	**01/30/08**	**02/01/08**
Thorium 232	0.25	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-433

Radiochemistry

Lab Sample ID: F8A290194-022
Work Order: KF8XC
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.40		0.12		0.15	01/30/08	02/01/08
Americium 241	0.15	U	0.26		0.43	01/30/08	02/01/08
Cesium 137	0.021	U	0.035	0.200	0.059	01/30/08	02/01/08
Cobalt 60	0.0	U	0.050		0.091	01/30/08	02/01/08
Europium 152	0.003	U	0.071		0.13	01/30/08	02/01/08
Europium 154	0.006	U	0.26		0.49	01/30/08	02/01/08
Potassium 40	9.1		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.41	J	0.10	1.00	0.11	01/30/08	02/01/08
Thorium 232	0.40		0.12		0.15	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-433 DUP

Radiochemistry

Lab Sample ID: F8A290194-022X
Work Order: KF8XC
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.11	U	0.17		0.28	01/30/08	02/01/08
Americium 241	0.004	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.17	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.031	U	0.059		0.10	01/30/08	02/01/08
Europium 152	-0.007	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.0004	U	0.37		0.71	01/30/08	02/01/08
Potassium 40	7.5		1.6		1.1	01/30/08	02/01/08
Radium (226)	0.34	J	0.13	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.11	U	0.17		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-434

Radiochemistry

Lab Sample ID: F8A290194-023
Work Order: KF8XD
Matrix: SOLID

Date Collected: 12/12/07 0933
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.34		0.21		0.31	01/30/08	02/01/08
Americium 241	0.027	U	0.095		0.16	01/30/08	02/01/08
Cesium 137	0.033	U	0.038	0.200	0.061	01/30/08	02/01/08
Cobalt 60	-0.016	U	0.054		0.098	01/30/08	02/01/08
Europium 152	-0.018	U	0.095		0.17	01/30/08	02/01/08
Europium 154	-0.06	U	0.38		0.69	01/30/08	02/01/08
Potassium 40	9.6		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.50	J	0.11	1.00	0.04	01/30/08	02/01/08
Thorium 232	0.34		0.21		0.31	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-435

Radiochemistry

Lab Sample ID: F8A290194-024
Work Order: KF8XE
Matrix: SOLID

Date Collected: 12/12/07 0937
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.40		0.19		0.19	01/30/08	02/01/08
Americium 241	0.00006	U	0.073		0.13	01/30/08	02/01/08
Cesium 137	0.012	U	0.053	0.200	0.095	01/30/08	02/01/08
Cobalt 60	0.003	U	0.054		0.11	01/30/08	02/01/08
Europium 152	0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.02	U	0.31		0.61	01/30/08	02/01/08
Potassium 40	10.4		1.7		0.5	01/30/08	02/01/08
Radium (226)	0.43	J	0.16	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.40		0.19		0.19	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-436

Radiochemistry

Lab Sample ID: F8A290194-025
Work Order: KF8XF
Matrix: SOLID

Date Collected: 12/12/07 0944
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.45		0.12		0.18	01/30/08	02/01/08
Americium 241	0.08	U	0.22		0.38	01/30/08	02/01/08
Cesium 137	0.038	U	0.035	0.200	0.055	01/30/08	02/01/08
Cobalt 60	-0.0009	U	0.033		0.063	01/30/08	02/01/08
Europium 152	-0.027	U	0.098		0.17	01/30/08	02/01/08
Europium 154	-0.08	U	0.27		0.47	01/30/08	02/01/08
Potassium 40	9.8		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.39	J	0.11	1.00	0.11	01/30/08	02/01/08
Thorium 232	0.45		0.12		0.18	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-437

Radiochemistry

Lab Sample ID: F8A290194-026
Work Order: KF8XH
Matrix: SOLID

Date Collected: 12/12/07 0947
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.23	U	0.19		0.29	01/30/08	02/01/08
Americium 241	-0.007	U	0.085		0.15	01/30/08	02/01/08
Cesium 137	0.0008	U	0.049	0.200	0.090	01/30/08	02/01/08
Cobalt 60	0.0	U	0.011		0.042	01/30/08	02/01/08
Europium 152	0.014	U	0.092		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.40		0.75	01/30/08	02/01/08
Potassium 40	**7.9**		1.5		1.0	01/30/08	02/01/08
Radium (226)	**0.38**	J	0.12	1.00	0.12	01/30/08	02/01/08
Thorium 232	0.23	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-438

Radiochemistry

Lab Sample ID: F8A290194-027
Work Order: KF8XJ
Matrix: SOLID

Date Collected: 12/12/07 1001
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.12	U	0.18		0.30	01/30/08	02/01/08
Americium 241	0.029	U	0.088		0.15	01/30/08	02/01/08
Cesium 137	0.012	U	0.047	0.200	0.085	01/30/08	02/01/08
Cobalt 60	0.009	U	0.034		0.068	01/30/08	02/01/08
Europium 152	-0.016	U	0.098		0.18	01/30/08	02/01/08
Europium 154	0.0	U	0.30		0.59	01/30/08	02/01/08
Potassium 40	8.7		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.34	J	0.13	1.00	0.16	01/30/08	02/01/08
Thorium 232	0.12	U	0.18		0.30	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-439

Radiochemistry

Lab Sample ID: F8A290194-028
Work Order: KF8XK
Matrix: SOLID

Date Collected: 12/12/07 1005
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.35		0.24		0.33	01/30/08	02/01/08
Americium 241	-0.02	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	-0.04	U	160	0.2	0.1	01/30/08	02/01/08
Cobalt 60	0.022	U	0.055		0.099	01/30/08	02/01/08
Europium 152	0.050	U	0.099		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.34		0.67	01/30/08	02/01/08
Potassium 40	7.2		1.6		0.9	01/30/08	02/01/08
Radium (226)	0.39	J	0.16	1.00	0.16	01/30/08	02/01/08
Thorium 232	0.35		0.24		0.33	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-440

Radiochemistry

Lab Sample ID: F8A290194-029
Work Order: KF8XL
Matrix: SOLID

Date Collected: 12/12/07 1013
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.50		0.15		0.18	01/30/08	02/01/08
Americium 241	0.14	U	0.28		0.47	01/30/08	02/01/08
Cesium 137	0.124	J	0.045	0.200	0.037	01/30/08	02/01/08
Cobalt 60	0.0	U	0.051		0.093	01/30/08	02/01/08
Europium 152	-0.041	U	0.094		0.16	01/30/08	02/01/08
Europium 154	0.08	U	0.22		0.40	01/30/08	02/01/08
Potassium 40	10.1		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.55	J	0.12	1.00	0.10	01/30/08	02/01/08
Thorium 232	0.50		0.15		0.18	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-441

Radiochemistry

Lab Sample ID: F8A290194-030
Work Order: KF8XN
Matrix: SOLID

Date Collected: 12/12/07 1015
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.32		0.20		0.28	01/30/08	02/01/08
Americium 241	0.017	U	0.091		0.16	01/30/08	02/01/08
Cesium 137	-0.004	U	0.043	0.200	0.079	01/30/08	02/01/08
Cobalt 60	-0.015	U	0.053		0.097	01/30/08	02/01/08
Europium 152	-0.002	U	0.086		0.16	01/30/08	02/01/08
Europium 154	0.08	U	0.34		0.62	01/30/08	02/01/08
Potassium 40	8.0		1.5		0.8	01/30/08	02/01/08
Radium (226)	0.54	J	0.12	1.00	0.04	01/30/08	02/01/08
Thorium 232	0.32		0.20		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-442

Radiochemistry

Lab Sample ID: F8A290194-031
Work Order: KF8XQ
Matrix: SOLID

Date Collected: 12/12/07 1040
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.39		0.16		0.24	01/30/08	02/01/08
Americium 241	-0.035	U	0.096		0.16	01/30/08	02/01/08
Cesium 137	0.056	U	0.049	0.200	0.074	01/30/08	02/01/08
Cobalt 60	-0.0004	U	0.047		0.093	01/30/08	02/01/08
Europium 152	-0.005	U	0.092		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.068		0.25	01/30/08	02/01/08
Potassium 40	7.8		1.4		0.4	01/30/08	02/01/08
Radium (226)	0.45	J	0.12	1.00	0.09	01/30/08	02/01/08
Thorium 232	0.39		0.16		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-443

Radiochemistry

Lab Sample ID: F8A290194-032
Work Order: KF8XR
Matrix: SOLID

Date Collected: 12/12/07 1044
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.34		0.21		0.28	01/30/08	02/01/08
Americium 241	-0.038	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.17	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.028	U	0.051		0.090	01/30/08	02/01/08
Europium 152	-0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.14	U	0.44		0.79	01/30/08	02/01/08
Potassium 40	8.0		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.33	J	0.13	1.00	0.17	01/30/08	02/01/08
Thorium 232	0.34		0.21		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-444

Radiochemistry

Lab Sample ID: F8A290194-033
Work Order: KF8XV
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.31		0.10		0.17	01/30/08	02/01/08
Americium 241	0.06	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.099	J	0.036	0.200	0.039	01/30/08	02/01/08
Cobalt 60	-0.00005	U	0.026		0.052	01/30/08	02/01/08
Europium 152	-0.012	U	0.082		0.15	01/30/08	02/01/08
Europium 154	-0.003	U	0.18		0.35	01/30/08	02/01/08
Potassium 40	9.6		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.461	J	0.095	1.00	0.045	01/30/08	02/01/08
Thorium 232	0.31		0.10		0.17	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-445

Radiochemistry

Lab Sample ID: F8A290194-034
Work Order: KF8XW
Matrix: SOLID

Date Collected: 12/12/07 1056
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.44		0.16		0.27	01/30/08	02/01/08
Americium 241	0.044	U	0.070		0.12	01/30/08	02/01/08
Cesium 137	0.013	U	0.039	0.200	0.070	01/30/08	02/01/08
Cobalt 60	0.0	U	0.0099		0.037	01/30/08	02/01/08
Europium 152	-0.0002	U	0.079		0.15	01/30/08	02/01/08
Europium 154	0.03	U	0.27		0.51	01/30/08	02/01/08
Potassium 40	7.7		1.3		0.4	01/30/08	02/01/08
Radium (226)	0.311	J	0.094	1.00	0.082	01/30/08	02/01/08
Thorium 232	0.44		0.16		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-446

Radiochemistry

Lab Sample ID: F8A290194-035
Work Order: KF8XX
Matrix: SOLID

Date Collected: 12/12/07 1104
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.52		0.19		0.24	01/30/08	02/01/08
Americium 241	0.008	U	0.099		0.17	01/30/08	02/01/08
Cesium 137	0.013	U	0.039	0.200	0.070	01/30/08	02/01/08
Cobalt 60	0.0	U	0.012		0.046	01/30/08	02/01/08
Europium 152	-0.008	U	0.12		0.22	01/30/08	02/01/08
Europium 154	-0.10	U	0.43		0.78	01/30/08	02/01/08
Potassium 40	7.5		1.5		0.6	01/30/08	02/01/08
Radium (226)	0.52	J	0.13	1.00	0.1	01/30/08	02/01/08
Thorium 232	0.52		0.19		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-447

Radiochemistry

Lab Sample ID: F8A290194-036
Work Order: KF8X0
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.23	U	0.18		0.26	01/30/08	02/01/08
Americium 241	0.029	U	0.075		0.13	01/30/08	02/01/08
Cesium 137	-0.02	U	0.26	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.030	U	0.057		0.099	01/30/08	02/01/08
Europium 152	0.05	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.06	U	0.39		0.73	01/30/08	02/01/08
Potassium 40	**8.5**		**1.6**		**0.5**	**01/30/08**	**02/01/08**
Radium (226)	**0.38**	**J**	**0.15**	**1.00**	**0.15**	**01/30/08**	**02/01/08**
Thorium 232	0.23	U	0.18		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-448

Radiochemistry

Lab Sample ID: F8A290194-037
Work Order: KF8X1
Matrix: SOLID

Date Collected: 12/12/07 1115
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.232		0.092		0.16	01/30/08	02/01/08
Americium 241	0.06	U	0.19		0.34	01/30/08	02/01/08
Cesium 137	0.065	J	0.033	0.200	0.043	01/30/08	02/01/08
Cobalt 60	-0.0008	U	0.025		0.049	01/30/08	02/01/08
Europium 152	0.003	U	0.061		0.11	01/30/08	02/01/08
Europium 154	-0.07	U	0.20		0.36	01/30/08	02/01/08
Potassium 40	6.37		0.93		0.44	01/30/08	02/01/08
Radium (226)	0.321	J	0.089	1.00	0.088	01/30/08	02/01/08
Thorium 232	0.232		0.092		0.16	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-431

Radiochemistry

Lab Sample ID: F8A080256-062
Work Order: KE72K
Matrix: WATER

Date Collected: 12/12/07 0906
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	2	U	14		27	01/10/08	01/14/08
Americium 241	2.6	U	7.2		13	01/10/08	01/14/08
Cesium 137	-7	U	38	20	16	01/10/08	01/14/08
Cobalt 60	4.6	U	8.3		14	01/10/08	01/14/08
Europium 152	-3	U	14		26	01/10/08	01/14/08
Europium 154	0.0	U	36		71	01/10/08	01/14/08
Potassium 40	12	U	78		150	01/10/08	01/14/08
Thorium 232	2	U	14		27	01/10/08	01/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 67**
Thorium 228	0.018	U	0.079	1.00	0.18	01/18/08	01/22/08
Thorium 230	0.1	U	0.12	1.00	0.18	01/18/08	01/22/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 96**
Uranium 233/234	0.021	U	0.058	1.00	0.12	01/18/08	01/22/08
Uranium 235/236	0.049	U	0.069	1.00	0.066	01/18/08	01/22/08
Uranium 238	0.016	U	0.040	1.00	0.083	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-412

Radiochemistry

Lab Sample ID: F8A290194-001
Work Order: KF8VD
Matrix: SOLID

Date Collected: 12/12/07 1010
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.40		0.19		0.24	01/30/08	02/01/08
Americium 241	0.014	U	0.091		0.16	01/30/08	02/01/08
Cesium 137	0.013	U	0.042	0.200	0.075	01/30/08	02/01/08
Cobalt 60	0.008	U	0.042		0.080	01/30/08	02/01/08
Europium 152	-0.008	U	0.080		0.15	01/30/08	02/01/08
Europium 154	0.13	U	0.30		0.52	01/30/08	02/01/08
Potassium 40	10		1.6		0.4	01/30/08	02/01/08
Radium (226)	0.46	J	0.13	1.00	0.12	01/30/08	02/01/08
Thorium 232	0.40		0.19		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-412 DUP

Radiochemistry

Lab Sample ID: F8A290194-001X
Work Order: KF8VD
Matrix: SOLID

Date Collected: 12/12/07 1010
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.22	U	0.24		0.39	01/30/08	02/01/08
Americium 241	0.009	U	0.098		0.17	01/30/08	02/01/08
Cesium 137	-0.004	U	0.062	0.200	0.11	01/30/08	02/01/08
Cobalt 60	0.0	U	0.11		0.19	01/30/08	02/01/08
Europium 152	-0.03	U	0.12		0.21	01/30/08	02/01/08
Europium 154	-0.12	U	0.39		0.71	01/30/08	02/01/08
Potassium 40	8.1		1.7		1.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.15	1.00	0.18	01/30/08	02/01/08
Thorium 232	0.22	U	0.24		0.39	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-413

Radiochemistry

Lab Sample ID: F8A290194-002
Work Order: KF8VN
Matrix: SOLID

Date Collected: 12/12/07 1022
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.33		0.15		0.23	01/30/08	02/01/08
Americium 241	-0.05	U	0.11		0.19	01/30/08	02/01/08
Cesium 137	0.055	U	0.052	0.200	0.081	01/30/08	02/01/08
Cobalt 60	-0.015	U	0.054		0.10	01/30/08	02/01/08
Europium 152	0.0003	U	0.093		0.17	01/30/08	02/01/08
Europium 154	-0.10	U	0.38		0.68	01/30/08	02/01/08
Potassium 40	8.7		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.47	J	0.12	1.00	0.09	01/30/08	02/01/08
Thorium 232	0.33		0.15		0.23	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-414

Radiochemistry

Lab Sample ID: F8A290194-003
Work Order: KF8VT
Matrix: SOLID

Date Collected: 12/12/07 1025
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.43		0.13		0.17	01/30/08	02/01/08
Americium 241	0.09	U	0.28		0.47	01/30/08	02/01/08
Cesium 137	0.0001	U	0.029	0.200	0.054	01/30/08	02/01/08
Cobalt 60	-0.003	U	0.039		0.072	01/30/08	02/01/08
Europium 152	0.004	U	0.079		0.14	01/30/08	02/01/08
Europium 154	-0.03	U	0.25		0.45	01/30/08	02/01/08
Potassium 40	9.9		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.313	J	0.092	1.00	0.10	01/30/08	02/01/08
Thorium 232	0.43		0.13		0.17	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-415

Radiochemistry

Lab Sample ID: F8A290194-004
Work Order: KF8VV
Matrix: SOLID

Date Collected: 12/12/07 1030
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.35		0.21		0.29	01/30/08	02/01/08
Americium 241	0.063	U	0.087		0.14	01/30/08	02/01/08
Cesium 137	0.041	U	0.041	0.200	0.065	01/30/08	02/01/08
Cobalt 60	0.002	U	0.051		0.097	01/30/08	02/01/08
Europium 152	-0.014	U	0.094		0.17	01/30/08	02/01/08
Europium 154	-0.03	U	0.29		0.54	01/30/08	02/01/08
Potassium 40	9.6		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.13	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.35		0.21		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-416

Radiochemistry

Lab Sample ID: F8A290194-005
Work Order: KF8VX
Matrix: SOLID

Date Collected: 12/12/07 1033
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.26	U	0.19		0.27	01/30/08	02/01/08
Americium 241	0.079	U	0.057		0.083	01/30/08	02/01/08
Cesium 137	-0.005	U	0.039	0.200	0.074	01/30/08	02/01/08
Cobalt 60	-0.005	U	0.033		0.068	01/30/08	02/01/08
Europium 152	0.0	U	0.10		0.19	01/30/08	02/01/08
Europium 154	0.05	U	0.25		0.49	01/30/08	02/01/08
Potassium 40	7.5		1.5		0.7	01/30/08	02/01/08
Radium (226)	0.33	J	0.13	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.26	U	0.19		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-417

Radiochemistry

Lab Sample ID: F8A290194-006
Work Order: KF8V0
Matrix: SOLID

Date Collected: 12/12/07 1042
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.26		0.17		0.22	01/30/08	02/01/08
Americium 241	0.031	U	0.083		0.14	01/30/08	02/01/08
Cesium 137	0.018	U	0.049	0.200	0.096	01/30/08	02/01/08
Cobalt 60	0.002	U	0.053		0.10	01/30/08	02/01/08
Europium 152	-0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.005	U	0.31		0.62	01/30/08	02/01/08
Potassium 40	9.1		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.53	J	0.16	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.26		0.17		0.22	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-418

Radiochemistry

Lab Sample ID: F8A290194-007
Work Order: KF8V1
Matrix: SOLID

Date Collected: 12/12/07 1045
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.46		0.14		0.14	01/30/08	02/01/08
Americium 241	-0.06	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.035	U	0.030	0.200	0.046	01/30/08	02/01/08
Cobalt 60	-0.011	U	0.037		0.067	01/30/08	02/01/08
Europium 152	0.017	U	0.080		0.14	01/30/08	02/01/08
Europium 154	0.0	U	0.30		0.55	01/30/08	02/01/08
Potassium 40	9.3		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.48	J	0.10	1.00	0.08	01/30/08	02/01/08
Thorium 232	0.46		0.14		0.14	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-419

Radiochemistry

Lab Sample ID: F8A290194-008
Work Order: KF8V2
Matrix: SOLID

Date Collected: 12/12/07 1052
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.38		0.15		0.26	01/30/08	02/01/08
Americium 241	0.0	U	0.098		0.17	01/30/08	02/01/08
Cesium 137	0.020	U	0.050	0.200	0.086	01/30/08	02/01/08
Cobalt 60	0.001	U	0.050		0.096	01/30/08	02/01/08
Europium 152	-0.04	U	0.10		0.18	01/30/08	02/01/08
Europium 154	0.09	U	0.35		0.63	01/30/08	02/01/08
Potassium 40	10.0		1.6		0.4	01/30/08	02/01/08
Radium (226)	0.40	J	0.12	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.38		0.15		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-420

Radiochemistry

Lab Sample ID: F8A290194-009
Work Order: KF8V4
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.27	U	0.19		0.27	01/30/08	02/01/08
Americium 241	-0.06	U	0.11		0.18	01/30/08	02/01/08
Cesium 137	-0.0002	U	0.049	0.200	0.091	01/30/08	02/01/08
Cobalt 60	0.0006	U	0.042		0.086	01/30/08	02/01/08
Europium 152	-0.01	U	0.11		0.20	01/30/08	02/01/08
Europium 154	0.07	U	0.32		0.59	01/30/08	02/01/08
Potassium 40	7.9		1.5		0.8	01/30/08	02/01/08
Radium (226)	0.35	J	0.14	1.00	0.18	01/30/08	02/01/08
Thorium 232	0.27	U	0.19		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-421

Radiochemistry

Lab Sample ID: F8A290194-010
Work Order: KF8V5
Matrix: SOLID

Date Collected: 12/12/07 1105
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.41		0.21		0.24	01/30/08	02/01/08
Americium 241	-0.001	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.22	0.20	0.12	01/30/08	02/01/08
Cobalt 60	0.027	U	0.063		0.11	01/30/08	02/01/08
Europium 152	0.06	U	0.11		0.19	01/30/08	02/01/08
Europium 154	0.0	U	0.46		0.87	01/30/08	02/01/08
Potassium 40	9.8		1.8		0.5	01/30/08	02/01/08
Radium (226)	0.31	J	0.14	1.00	0.20	01/30/08	02/01/08
Thorium 232	0.41		0.21		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-422

Radiochemistry

Lab Sample ID: F8A290194-011
Work Order: KF8V8
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.34		0.11		0.14	01/30/08	02/01/08
Americium 241	-0.01	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.030	U	0.030	0.200	0.047	01/30/08	02/01/08
Cobalt 60	-0.008	U	0.037		0.067	01/30/08	02/01/08
Europium 152	-0.024	U	0.084		0.15	01/30/08	02/01/08
Europium 154	0.0	U	0.038		0.14	01/30/08	02/01/08
Potassium 40	9.4		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.427	J	0.097	1.00	0.084	01/30/08	02/01/08
Thorium 232	0.34		0.11		0.14	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-423

Radiochemistry

Lab Sample ID: F8A290194-012
Work Order: KF8V9
Matrix: SOLID

Date Collected: 12/12/07 1110
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.23	U	0.17		0.26	01/30/08	02/01/08
Americium 241	0.046	U	0.077		0.13	01/30/08	02/01/08
Cesium 137	0.125	J	0.050	0.200	0.057	01/30/08	02/01/08
Cobalt 60	-0.011	U	0.051		0.094	01/30/08	02/01/08
Europium 152	0.035	U	0.067		0.12	01/30/08	02/01/08
Europium 154	-0.11	U	0.37		0.65	01/30/08	02/01/08
Potassium 40	7.6		1.4		0.8	01/30/08	02/01/08
Radium (226)	0.32	J	0.11	1.00	0.12	01/30/08	02/01/08
Thorium 232	0.23	U	0.17		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-424

Radiochemistry

Lab Sample ID: F8A290194-013
Work Order: KF8WC
Matrix: SOLID

Date Collected: 12/12/07 1113
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.23	U	0.18		0.27	01/30/08	02/01/08
Americium 241	0.0	U	0.099		0.17	01/30/08	02/01/08
Cesium 137	0.104	J	0.057	0.200	0.076	01/30/08	02/01/08
Cobalt 60	0.002	U	0.051		0.10	01/30/08	02/01/08
Europium 152	0.026	U	0.087		0.16	01/30/08	02/01/08
Europium 154	-0.04	U	0.37		0.70	01/30/08	02/01/08
Potassium 40	8.7		1.6		0.6	01/30/08	02/01/08
Radium (226)	0.52	J	0.17	1.00	0.16	01/30/08	02/01/08
Thorium 232	0.23	U	0.18		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-425

Radiochemistry

Lab Sample ID: F8A290194-014
Work Order: KF8WD
Matrix: SOLID

Date Collected: 12/12/07 1117
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.28	U	0.21		0.31	01/30/08	02/01/08
Americium 241	0.0008	U	0.090		0.16	01/30/08	02/01/08
Cesium 137	0.076	U	0.064	0.200	0.11	01/30/08	02/01/08
Cobalt 60	-0.026	U	0.076		0.14	01/30/08	02/01/08
Europium 152	-0.03	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.14	U	0.42		0.76	01/30/08	02/01/08
Potassium 40	9.4		1.7		0.5	01/30/08	02/01/08
Radium (226)	0.44	J	0.15	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.28	U	0.21		0.31	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-426

Radiochemistry

Lab Sample ID: F8A290194-015
Work Order: KF8WF
Matrix: SOLID

Date Collected: 12/12/07 1120
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
			pCi/g		Batch # 8030153		Yld %
Gamma Ra-226 & Hits By EPA 901.1 MOD							
Actinium 228	0.35		0.13		0.21	01/30/08	02/01/08
Americium 241	0.09	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.040	U	0.034	0.200	0.052	01/30/08	02/01/08
Cobalt 60	-0.005	U	0.030		0.057	01/30/08	02/01/08
Europium 152	-0.003	U	0.057		0.11	01/30/08	02/01/08
Europium 154	0.09	U	0.24		0.42	01/30/08	02/01/08
Potassium 40	9.3		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.405	J	0.099	1.00	0.092	01/30/08	02/01/08
Thorium 232	0.35		0.13		0.21	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

REVISED

LOT# F8A290194

Tetra Tech EC, Inc.

Client Sample ID: 15-427

Radiochemistry

Lab Sample ID: F8A290194-016
Work Order: KF8WH
Matrix: SOLID

Date Collected: 12/12/07 1122
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.22	U	0.17		0.24	01/30/08	02/01/08
Americium 241	-0.05	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	0.102	J	0.051	0.200	0.064	01/30/08	02/01/08
Cobalt 60	-0.002	U	0.051		0.098	01/30/08	02/01/08
Europium 152	0.02	U	0.10		0.18	01/30/08	02/01/08
Europium 154	0.0	U	0.67		1.2	01/30/08	02/01/08
Potassium 40	7.6		1.4		0.8	01/30/08	02/01/08
Radium (226)	0.52	J	0.15	1.00	0.10	01/30/08	02/01/08
Thorium 232	0.22	U	0.17		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-428

Radiochemistry

Lab Sample ID: F8A290194-017
Work Order: KF8WJ
Matrix: SOLID

Date Collected: 12/12/07 1126
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.19	U	0.19		0.29	01/30/08	02/01/08
Americium 241	-0.020	U	0.093		0.16	01/30/08	02/01/08
Cesium 137	-0.001	U	0.033	0.200	0.066	01/30/08	02/01/08
Cobalt 60	0.0	U	0.013		0.047	01/30/08	02/01/08
Europium 152	0.002	U	0.082		0.16	01/30/08	02/01/08
Europium 154	-0.02	U	0.37		0.70	01/30/08	02/01/08
Potassium 40	8.0		1.6		0.9	01/30/08	02/01/08
Radium (226)	0.22	J	0.12	1.00	0.17	01/30/08	02/01/08
Thorium 232	0.19	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-429

Radiochemistry

Lab Sample ID: F8A290194-018
Work Order: KF8WL
Matrix: SOLID

Date Collected: 12/12/07 0855
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.32		0.19		0.25	01/30/08	02/01/08
Americium 241	0.026	U	0.080		0.14	01/30/08	02/01/08
Cesium 137	0.048	U	0.058	0.200	0.10	01/30/08	02/01/08
Cobalt 60	0.0	U	0.014		0.051	01/30/08	02/01/08
Europium 152	-0.02	U	0.12		0.22	01/30/08	02/01/08
Europium 154	-0.08	U	0.48		0.87	01/30/08	02/01/08
Potassium 40	8.2		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.47	J	0.16	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.32		0.19		0.25	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-430

Radiochemistry

Lab Sample ID: F8A290194-019
Work Order: KF8W3
Matrix: SOLID

Date Collected: 12/12/07 0900
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.33		0.15		0.20	01/30/08	02/01/08
Americium 241	0.005	U	0.21		0.38	01/30/08	02/01/08
Cesium 137	0.011	U	0.026	0.200	0.047	01/30/08	02/01/08
Cobalt 60	0.004	U	0.034		0.064	01/30/08	02/01/08
Europium 152	0.003	U	0.077		0.14	01/30/08	02/01/08
Europium 154	-0.02	U	0.22		0.40	01/30/08	02/01/08
Potassium 40	9.2		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.34	J	0.10	1.00	0.1	01/30/08	02/01/08
Thorium 232	0.33		0.15		0.20	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-432

Radiochemistry

Lab Sample ID: F8A290194-021
Work Order: KF8XA
Matrix: SOLID

Date Collected: 12/12/07 0915
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030153		Yld %
Actinium 228	0.25	U	0.19		0.29	01/30/08	02/01/08
Americium 241	0.03	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	0.083	J	0.053	0.200	0.076	01/30/08	02/01/08
Cobalt 60	0.031	U	0.052		0.090	01/30/08	02/01/08
Europium 152	-0.04	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.005	U	0.35		0.65	01/30/08	02/01/08
Potassium 40	8.8		1.6		1.0	01/30/08	02/01/08
Radium (226)	0.30	J	0.11	1.00	0.14	01/30/08	02/01/08
Thorium 232	0.25	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-433

Radiochemistry

Lab Sample ID: F8A290194-022
Work Order: KF8XC
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.40		0.12		0.15	01/30/08	02/01/08
Americium 241	0.15	U	0.26		0.43	01/30/08	02/01/08
Cesium 137	0.021	U	0.035	0.200	0.059	01/30/08	02/01/08
Cobalt 60	0.0	U	0.050		0.091	01/30/08	02/01/08
Europium 152	0.003	U	0.071		0.13	01/30/08	02/01/08
Europium 154	0.006	U	0.26		0.49	01/30/08	02/01/08
Potassium 40	9.1		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.41	J	0.10	1.00	0.11	01/30/08	02/01/08
Thorium 232	0.40		0.12		0.15	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-433 DUP

Radiochemistry

Lab Sample ID: F8A290194-022X
Work Order: KF8XC
Matrix: SOLID

Date Collected: 12/12/07 0918
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.11	U	0.17		0.28	01/30/08	02/01/08
Americium 241	0.004	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.17	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.031	U	0.059		0.10	01/30/08	02/01/08
Europium 152	-0.007	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.0004	U	0.37		0.71	01/30/08	02/01/08
Potassium 40	7.5		1.6		1.1	01/30/08	02/01/08
Radium (226)	0.34	J	0.13	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.11	U	0.17		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-434

Radiochemistry

Lab Sample ID: F8A290194-023
Work Order: KF8XD
Matrix: SOLID

Date Collected: 12/12/07 0933
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.34		0.21		0.31	01/30/08	02/01/08
Americium 241	0.027	U	0.095		0.16	01/30/08	02/01/08
Cesium 137	0.033	U	0.038	0.200	0.061	01/30/08	02/01/08
Cobalt 60	-0.016	U	0.054		0.098	01/30/08	02/01/08
Europium 152	-0.018	U	0.095		0.17	01/30/08	02/01/08
Europium 154	-0.06	U	0.38		0.69	01/30/08	02/01/08
Potassium 40	9.6		1.5		0.4	01/30/08	02/01/08
Radium (226)	0.50	J	0.11	1.00	0.04	01/30/08	02/01/08
Thorium 232	0.34		0.21		0.31	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-435

Radiochemistry

Lab Sample ID: F8A290194-024
Work Order: KF8XE
Matrix: SOLID

Date Collected: 12/12/07 0937
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.40		0.19		0.19	01/30/08	02/01/08
Americium 241	0.00006	U	0.073		0.13	01/30/08	02/01/08
Cesium 137	0.012	U	0.053	0.200	0.095	01/30/08	02/01/08
Cobalt 60	0.003	U	0.054		0.11	01/30/08	02/01/08
Europium 152	0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.02	U	0.31		0.61	01/30/08	02/01/08
Potassium 40	10.4		1.7		0.5	01/30/08	02/01/08
Radium (226)	0.43	J	0.16	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.40		0.19		0.19	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-436

Radiochemistry

Lab Sample ID: F8A290194-025
Work Order: KF8XF
Matrix: SOLID

Date Collected: 12/12/07 0944
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.45		0.12		0.18	01/30/08	02/01/08
Americium 241	0.08	U	0.22		0.38	01/30/08	02/01/08
Cesium 137	0.038	U	0.035	0.200	0.055	01/30/08	02/01/08
Cobalt 60	-0.0009	U	0.033		0.063	01/30/08	02/01/08
Europium 152	-0.027	U	0.098		0.17	01/30/08	02/01/08
Europium 154	-0.08	U	0.27		0.47	01/30/08	02/01/08
Potassium 40	9.8		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.39	J	0.11	1.00	0.11	01/30/08	02/01/08
Thorium 232	0.45		0.12		0.18	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-437

Radiochemistry

Lab Sample ID: F8A290194-026
Work Order: KF8XH
Matrix: SOLID

Date Collected: 12/12/07 0947
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.23	U	0.19		0.29	01/30/08	02/01/08
Americium 241	-0.007	U	0.085		0.15	01/30/08	02/01/08
Cesium 137	0.0008	U	0.049	0.200	0.090	01/30/08	02/01/08
Cobalt 60	0.0	U	0.011		0.042	01/30/08	02/01/08
Europium 152	0.014	U	0.092		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.40		0.75	01/30/08	02/01/08
Potassium 40	7.9		1.5		1.0	01/30/08	02/01/08
Radium (226)	0.38	J	0.12	1.00	0.12	01/30/08	02/01/08
Thorium 232	0.23	U	0.19		0.29	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-438

Radiochemistry

Lab Sample ID: F8A290194-027
Work Order: KF8XJ
Matrix: SOLID

Date Collected: 12/12/07 1001
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.12	U	0.18		0.30	01/30/08	02/01/08
Americium 241	0.029	U	0.088		0.15	01/30/08	02/01/08
Cesium 137	0.012	U	0.047	0.200	0.085	01/30/08	02/01/08
Cobalt 60	0.009	U	0.034		0.068	01/30/08	02/01/08
Europium 152	-0.016	U	0.098		0.18	01/30/08	02/01/08
Europium 154	0.0	U	0.30		0.59	01/30/08	02/01/08
Potassium 40	8.7		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.34	J	0.13	1.00	0.16	01/30/08	02/01/08
Thorium 232	0.12	U	0.18		0.30	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-439

Radiochemistry

Lab Sample ID: F8A290194-028
Work Order: KF8XK
Matrix: SOLID

Date Collected: 12/12/07 1005
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.35		0.24		0.33	01/30/08	02/01/08
Americium 241	-0.02	U	0.10		0.17	01/30/08	02/01/08
Cesium 137	-0.04	U	160	0.2	0.1	01/30/08	02/01/08
Cobalt 60	0.022	U	0.055		0.099	01/30/08	02/01/08
Europium 152	0.050	U	0.099		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.34		0.67	01/30/08	02/01/08
Potassium 40	7.2		1.6		0.9	01/30/08	02/01/08
Radium (226)	0.39	J	0.16	1.00	0.16	01/30/08	02/01/08
Thorium 232	0.35		0.24		0.33	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-440

Radiochemistry

Lab Sample ID: F8A290194-029
Work Order: KF8XL
Matrix: SOLID

Date Collected: 12/12/07 1013
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.50		0.15		0.18	01/30/08	02/01/08
Americium 241	0.14	U	0.28		0.47	01/30/08	02/01/08
Cesium 137	0.124	J	0.045	0.200	0.037	01/30/08	02/01/08
Cobalt 60	0.0	U	0.051		0.093	01/30/08	02/01/08
Europium 152	-0.041	U	0.094		0.16	01/30/08	02/01/08
Europium 154	0.08	U	0.22		0.40	01/30/08	02/01/08
Potassium 40	10.1		1.3		0.5	01/30/08	02/01/08
Radium (226)	0.55	J	0.12	1.00	0.10	01/30/08	02/01/08
Thorium 232	0.50		0.15		0.18	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-441

Radiochemistry

Lab Sample ID: F8A290194-030
Work Order: KF8XN
Matrix: SOLID

Date Collected: 12/12/07 1015
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.32		0.20		0.28	01/30/08	02/01/08
Americium 241	0.017	U	0.091		0.16	01/30/08	02/01/08
Cesium 137	-0.004	U	0.043	0.200	0.079	01/30/08	02/01/08
Cobalt 60	-0.015	U	0.053		0.097	01/30/08	02/01/08
Europium 152	-0.002	U	0.086		0.16	01/30/08	02/01/08
Europium 154	0.08	U	0.34		0.62	01/30/08	02/01/08
Potassium 40	8.0		1.5		0.8	01/30/08	02/01/08
Radium (226)	0.54	J	0.12	1.00	0.04	01/30/08	02/01/08
Thorium 232	0.32		0.20		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-442

Radiochemistry

Lab Sample ID: F8A290194-031
Work Order: KF8XQ
Matrix: SOLID

Date Collected: 12/12/07 1040
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.39		0.16		0.24	01/30/08	02/01/08
Americium 241	-0.035	U	0.096		0.16	01/30/08	02/01/08
Cesium 137	0.056	U	0.049	0.200	0.074	01/30/08	02/01/08
Cobalt 60	-0.0004	U	0.047		0.093	01/30/08	02/01/08
Europium 152	-0.005	U	0.092		0.17	01/30/08	02/01/08
Europium 154	0.0	U	0.068		0.25	01/30/08	02/01/08
Potassium 40	7.8		1.4		0.4	01/30/08	02/01/08
Radium (226)	0.45	J	0.12	1.00	0.09	01/30/08	02/01/08
Thorium 232	0.39		0.16		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-443

Radiochemistry

Lab Sample ID: F8A290194-032
Work Order: KF8XR
Matrix: SOLID

Date Collected: 12/12/07 1044
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.34		0.21		0.28	01/30/08	02/01/08
Americium 241	-0.038	U	0.094		0.16	01/30/08	02/01/08
Cesium 137	-0.02	U	0.17	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.028	U	0.051		0.090	01/30/08	02/01/08
Europium 152	-0.02	U	0.11		0.20	01/30/08	02/01/08
Europium 154	-0.14	U	0.44		0.79	01/30/08	02/01/08
Potassium 40	8.0		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.33	J	0.13	1.00	0.17	01/30/08	02/01/08
Thorium 232	0.34		0.21		0.28	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-444

Radiochemistry

Lab Sample ID: F8A290194-033
Work Order: KF8XV
Matrix: SOLID

Date Collected: 12/12/07 1054
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.31		0.10		0.17	01/30/08	02/01/08
Americium 241	0.06	U	0.28		0.48	01/30/08	02/01/08
Cesium 137	0.099	J	0.036	0.200	0.039	01/30/08	02/01/08
Cobalt 60	-0.00005	U	0.026		0.052	01/30/08	02/01/08
Europium 152	-0.012	U	0.082		0.15	01/30/08	02/01/08
Europium 154	-0.003	U	0.18		0.35	01/30/08	02/01/08
Potassium 40	9.6		1.2		0.5	01/30/08	02/01/08
Radium (226)	0.461	J	0.095	1.00	0.045	01/30/08	02/01/08
Thorium 232	0.31		0.10		0.17	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-445

Radiochemistry

Lab Sample ID: F8A290194-034
Work Order: KF8XW
Matrix: SOLID

Date Collected: 12/12/07 1056
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.44		0.16		0.27	01/30/08	02/01/08
Americium 241	0.044	U	0.070		0.12	01/30/08	02/01/08
Cesium 137	0.013	U	0.039	0.200	0.070	01/30/08	02/01/08
Cobalt 60	0.0	U	0.0099		0.037	01/30/08	02/01/08
Europium 152	-0.0002	U	0.079		0.15	01/30/08	02/01/08
Europium 154	0.03	U	0.27		0.51	01/30/08	02/01/08
Potassium 40	7.7		1.3		0.4	01/30/08	02/01/08
Radium (226)	0.311	J	0.094	1.00	0.082	01/30/08	02/01/08
Thorium 232	0.44		0.16		0.27	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-446

Radiochemistry

Lab Sample ID: F8A290194-035
Work Order: KF8XX
Matrix: SOLID

Date Collected: 12/12/07 1104
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.52		0.19		0.24	01/30/08	02/01/08
Americium 241	0.008	U	0.099		0.17	01/30/08	02/01/08
Cesium 137	0.013	U	0.039	0.200	0.070	01/30/08	02/01/08
Cobalt 60	0.0	U	0.012		0.046	01/30/08	02/01/08
Europium 152	-0.008	U	0.12		0.22	01/30/08	02/01/08
Europium 154	-0.10	U	0.43		0.78	01/30/08	02/01/08
Potassium 40	7.5		1.5		0.6	01/30/08	02/01/08
Radium (226)	0.52	J	0.13	1.00	0.1	01/30/08	02/01/08
Thorium 232	0.52		0.19		0.24	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-447

Radiochemistry

Lab Sample ID: F8A290194-036
Work Order: KF8X0
Matrix: SOLID

Date Collected: 12/12/07 1107
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.23	U	0.18		0.26	01/30/08	02/01/08
Americium 241	0.029	U	0.075		0.13	01/30/08	02/01/08
Cesium 137	-0.02	U	0.26	0.20	0.11	01/30/08	02/01/08
Cobalt 60	0.030	U	0.057		0.099	01/30/08	02/01/08
Europium 152	0.05	U	0.11		0.19	01/30/08	02/01/08
Europium 154	-0.06	U	0.39		0.73	01/30/08	02/01/08
Potassium 40	8.5		1.6		0.5	01/30/08	02/01/08
Radium (226)	0.38	J	0.15	1.00	0.15	01/30/08	02/01/08
Thorium 232	0.23	U	0.18		0.26	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-448

Radiochemistry

Lab Sample ID: F8A290194-037
Work Order: KF8X1
Matrix: SOLID

Date Collected: 12/12/07 1115
Date Received: 01/29/08 1330

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8030154		Yld %
Actinium 228	0.232		0.092		0.16	01/30/08	02/01/08
Americium 241	0.06	U	0.19		0.34	01/30/08	02/01/08
Cesium 137	0.065	J	0.033	0.200	0.043	01/30/08	02/01/08
Cobalt 60	-0.0008	U	0.025		0.049	01/30/08	02/01/08
Europium 152	0.003	U	0.061		0.11	01/30/08	02/01/08
Europium 154	-0.07	U	0.20		0.36	01/30/08	02/01/08
Potassium 40	6.37		0.93		0.44	01/30/08	02/01/08
Radium (226)	0.321	J	0.089	1.00	0.088	01/30/08	02/01/08
Thorium 232	0.232		0.092		0.16	01/30/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 2, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. This SDG was received on March 28th, 2008.

LDC project# 18521:

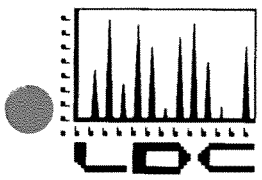
SDG #	Fraction
F8A290194	Gamma Spec (DOE GA-01-R Mod)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Tetra Tech EC Database Qualification Summary
- Attachment IV — Field Blank Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits



- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-412	F8A290194001	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-412DUP	F8A290194001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-413	F8A290194002	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-414	F8A290194003	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-415	F8A290194004	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-416	F8A290194005	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-417	F8A290194006	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-418	F8A290194007	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-419	F8A290194008	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-420	F8A290194009	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-421	F8A290194010	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-422	F8A290194011	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-423	F8A290194012	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-424	F8A290194013	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-425	F8A290194014	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-426	F8A290194015	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-427	F8A290194016	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-428	F8A290194017	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-429	F8A290194018	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-430	F8A290194019	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-432	F8A290194021	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-433	F8A290194022	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-433DUP	F8A290194022DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-434	F8A290194023	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-435	F8A290194024	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-436	F8A290194025	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-437	F8A290194026	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-438	F8A290194027	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-439	F8A290194028	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-440	F8A290194029	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-441	F8A290194030	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-442	F8A290194031	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-443	F8A290194032	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-444	F8A290194033	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-445	F8A290194034	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-446	F8A290194035	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-447	F8A290194036	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-448	F8A290194037	N	Gen Prep	DOE GA-01-R MOD	3

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code

SDG: F8A290194

No Qualified Results

N = Normal Sample *TB = Trip Blank*

FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A290194

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Attachment IV

Field Blank Summary

Field QC Detect Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A290194

(No Outlier Reports)

LDC #: 18521A35
SDG #: F8A290194
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 4-1-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff. or both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1 1	15-412	11 1	15-422	21 2	15-433	31 2	15-443
2 1	15-413	12 1	15-423	22 2	15-434	32 2	15-444
3 1	15-414	13 1	15-424	23 2	15-435	33 2	15-445
4 1	15-415	14 1	15-425	24 2	15-436	34 2	15-446
5 1	15-416	15 1	15-426	25 2	15-437	35 2	15-447
6 1	15-417	16 1	15-427	26 2	15-438	36 2	15-448
7 1	15-418	17 1	15-428	27 2	15-439	37 1	~~15-438DUP~~ 15-412 DUP
8 1	15-419	18 1	15-429	28 2	15-440	38 2	15-433DUP
9 1	15-420	19 1	15-430	29 2	15-441	39 1	PBS1
10 1	15-421	20 1	15-432	30 2	15-442	40 2	PBS2

Notes: _____

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-449	F8A080256001	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-449	F8A080256001	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-449	F8A080256001	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-449DUP	F8A080256001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-449DUP	F8A080256001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-449DUP	F8A080256001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-450	F8A080256002	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-450	F8A080256002	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-450	F8A080256002	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-451	F8A080256003	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-451	F8A080256003	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-451	F8A080256003	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-452	F8A080256004	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-452	F8A080256004	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-452	F8A080256004	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-453	F8A080256005	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-453	F8A080256005	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-453	F8A080256005	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-454	F8A080256006	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-454	F8A080256006	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-454	F8A080256006	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-455	F8A080256007	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-455	F8A080256007	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-455	F8A080256007	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-456	F8A080256008	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-456	F8A080256008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-456	F8A080256008	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-457	F8A080256009	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-457	F8A080256009	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-457	F8A080256009	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-458	F8A080256010	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-458	F8A080256010	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-458	F8A080256010	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-458	F8A080256010	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-459	F8A080256011	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-459	F8A080256011	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-459	F8A080256011	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-460	F8A080256012	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-460	F8A080256012	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-460	F8A080256012	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-461	F8A080256013	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-461	F8A080256013	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-461	F8A080256013	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-462	F8A080256014	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-462	F8A080256014	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-462	F8A080256014	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-462DUP	F8A080256014DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-463	F8A080256015	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-463	F8A080256015	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-463	F8A080256015	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-465	F8A080256016	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-465	F8A080256016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-465	F8A080256016	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-466	F8A080256017	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-466	F8A080256017	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-466	F8A080256017	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-467	F8A080256018	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-467	F8A080256018	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-467	F8A080256018	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-468	F8A080256019	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-468	F8A080256019	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-468	F8A080256019	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-468	F8A080256019	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-469	F8A080256020	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-469	F8A080256020	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-469	F8A080256020	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-470	F8A080256021	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-470	F8A080256021	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-470	F8A080256021	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-470DUP	F8A080256021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-470DUP	F8A080256021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-471	F8A080256022	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-471	F8A080256022	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-471	F8A080256022	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-472	F8A080256023	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-472	F8A080256023	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-472	F8A080256023	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-473	F8A080256024	N	Gen Prep	)OE A-01-R TH MOI	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-473	F8A080256024	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-473	F8A080256024	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-474	F8A080256026	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-474	F8A080256026	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-474	F8A080256026	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-475	F8A080256027	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-475	F8A080256027	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-475	F8A080256027	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-476	F8A080256028	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-476	F8A080256028	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-476	F8A080256028	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-398	F8A080256029	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-398	F8A080256029	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-398	F8A080256029	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-399	F8A080256030	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-399	F8A080256030	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-399	F8A080256030	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-400	F8A080256031	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-400	F8A080256031	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-400	F8A080256031	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-400	F8A080256031	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-401	F8A080256032	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-401	F8A080256032	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-401	F8A080256032	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-402	F8A080256033	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-402	F8A080256033	N	Gen Prep	DOE A-01-R U MOD	3

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N = Normal Sample
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TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-402	F8A080256033	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-403	F8A080256034	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-403	F8A080256034	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-403	F8A080256034	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-404	F8A080256035	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-404	F8A080256035	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-404	F8A080256035	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-404DUP	F8A080256035DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-405	F8A080256036	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-405	F8A080256036	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-405	F8A080256036	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-406	F8A080256037	EB	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-406	F8A080256037	EB	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-406	F8A080256037	EB	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-407	F8A080256038	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-407	F8A080256038	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-407	F8A080256038	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-408	F8A080256039	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-408	F8A080256039	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-408	F8A080256039	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-408	F8A080256039	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-409	F8A080256040	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-409	F8A080256040	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-409	F8A080256040	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-410	F8A080256041	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-410	F8A080256041	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-410	F8A080256041	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-410DUP	F8A080256041DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-410DUP	F8A080256041DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-411	F8A080256042	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-411	F8A080256042	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-411	F8A080256042	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-412	F8A080256043	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-412	F8A080256043	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-413	F8A080256044	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-413	F8A080256044	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-414	F8A080256045	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-414	F8A080256045	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-415	F8A080256046	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-415	F8A080256046	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-416	F8A080256047	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-416	F8A080256047	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-417	F8A080256048	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-417	F8A080256048	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-418	F8A080256049	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-418	F8A080256049	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-418	F8A080256049	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-419	F8A080256050	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-419	F8A080256050	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-420	F8A080256051	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-420	F8A080256051	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-421	F8A080256052	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-421	F8A080256052	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-422	F8A080256053	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-422	F8A080256053	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-423	F8A080256054	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-423	F8A080256054	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-424	F8A080256055	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-424	F8A080256055	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-425	F8A080256056	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-425	F8A080256056	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-426	F8A080256057	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-426	F8A080256057	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-427	F8A080256058	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-427	F8A080256058	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-428	F8A080256059	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-428	F8A080256059	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-428	F8A080256059	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-429	F8A080256060	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-429	F8A080256060	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-430	F8A080256061	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-430	F8A080256061	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-430DUP	F8A080256061DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-430DUP	F8A080256061DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-431	F8A080256062	EB	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-431	F8A080256062	EB	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-431	F8A080256062	EB	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-432	F8A080256063	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
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FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-432	F8A080256063	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-433	F8A080256064	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-433	F8A080256064	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-434	F8A080256065	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-434	F8A080256065	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-435	F8A080256066	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-435	F8A080256066	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-436	F8A080256067	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-436	F8A080256067	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-437	F8A080256068	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-437	F8A080256068	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-438	F8A080256069	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-438	F8A080256069	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-438	F8A080256069	N	Gen Prep	)OE SR-03-RC MOI	3
12-Dec-2007	15-439	F8A080256070	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-439	F8A080256070	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-440	F8A080256071	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-440	F8A080256071	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-441	F8A080256072	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-441	F8A080256072	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-442	F8A080256073	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-442	F8A080256073	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-443	F8A080256074	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-443	F8A080256074	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-444	F8A080256075	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-444	F8A080256075	N	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-445	F8A080256076	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-445	F8A080256076	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-446	F8A080256077	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-446	F8A080256077	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-447	F8A080256078	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-447	F8A080256078	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-448	F8A080256079	N	Gen Prep	)OE A-01-R TH MOI	3
12-Dec-2007	15-448	F8A080256079	N	Gen Prep	DOE A-01-R U MOD	3
12-Dec-2007	15-448	F8A080256079	N	Gen Prep	)OE SR-03-RC MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080256										
DOE A-01-R TH MOD	15-398	SO	N							
				THORIUM-228	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-400	SO	N							
				THORIUM-228	1.00	0.56J	0.17	U	pCi/g	
				THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-401	SO	N							
				THORIUM-228	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-402	SO	N							
				THORIUM-228	1.00	0.43J	0.14	U	pCi/g	
				THORIUM-230	1.00	0.34J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-403	SO	N							
				THORIUM-228	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-404	SO	N							
				THORIUM-228	1.00	0.68J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-405	SO	N							
				THORIUM-228	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-407	SO	N							
				THORIUM-228	1.00	0.50J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-408	SO	N							
				THORIUM-228	1.00	0.39J	0.12	U	pCi/g	
				THORIUM-230	1.00	0.280J	0.099	U	pCi/g	
DOE A-01-R TH MOD	15-410	SO	N							
				THORIUM-228	1.00	0.37J	0.13	U	pCi/g	
				THORIUM-230	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-416	SO	N							
				THORIUM-228	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-419	SO	N							
				THORIUM-230	1.00	0.25J	0.10	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080256										
DOE A-01-R TH MOD	15-421	SO	N							
				THORIUM-228	1.00	0.27J	0.11	U	pCi/g	
				THORIUM-230	1.00	0.26J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-425	SO	N							
				THORIUM-228	1.00	0.23J	0.11	U	pCi/g	
				THORIUM-230	1.00	0.25J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-426	SO	N							
				THORIUM-228	1.00	0.30J	0.11	U	pCi/g	
				THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-428	SO	N							
				THORIUM-230	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-430	SO	N							
				THORIUM-230	1.00	0.39J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-433	SO	N							
				THORIUM-230	1.00	0.175J	0.088	U	pCi/g	
DOE A-01-R TH MOD	15-434	SO	N							
				THORIUM-230	1.00	0.41J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-435	SO	N							
				THORIUM-230	1.00	0.40J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-437	SO	N							
				THORIUM-230	1.00	0.27J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-438	SO	N							
				THORIUM-230	1.00	0.28J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-439	SO	N							
				THORIUM-230	1.00	0.40J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-446	SO	N							
				THORIUM-230	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-448	SO	N							
				THORIUM-230	1.00	0.38J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080256										
DOE A-01-R TH MOD	15-470	SO	N							
				THORIUM-228	1.00	0.53J	0.16	U	pCi/g	
				THORIUM-230	1.00	0.41J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-471	SO	N							
				THORIUM-228	1.00	0.65J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-472	SO	N							
				THORIUM-228	1.00	0.54J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-475	SO	N							
				THORIUM-228	1.00	0.59J	0.16	U	pCi/g	
				THORIUM-230	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-476	SO	N							
				THORIUM-228	1.00	0.32J	0.12	U	pCi/g	
DOE A-01-R U MOD	15-468	SO	N							
				URANIUM-233/234	1.00	0.38J	0.29	J	pCi/g	
				URANIUM-235/236	1.00	0.0U	0.051	UJ	pCi/g	
				URANIUM-238	1.00	0.39J	0.29	J	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A080256

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected	Non Detected Qualifier	Analyte Name	Reason
F8A080256	15-398	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-400	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-400	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-401	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-402	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-402	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-403	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-404	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-405	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-407	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-408	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-408	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-410	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-410	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-416	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-419	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-421	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-421	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-425	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-425	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-426	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-426	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-428	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-430	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-433	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-434	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-435	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-437	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-438	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-439	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-446	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-448	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Reason for Qualified Results

SDG Nos. : F8A080256

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected	Non Detected Qualifier	Analyte Name	Reason
F8A080256	15-468	DOE A-01-R U MOD	-163	J		URANIUM-233/234	Tracer recovery
F8A080256	15-468	DOE A-01-R U MOD	-164		J	URANIUM-235/236	Tracer recovery
F8A080256	15-468	DOE A-01-R U MOD	7440611	J		URANIUM-238	Tracer recovery
F8A080256	15-470	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-470	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-471	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-472	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-475	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A080256	15-475	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080256	15-476	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank

Attachment IV

Field Blank Summary

All Field QC were reported as ND

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A080256

Method Blank Outlier Report

Lab Reporting Batch : F8A080256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/25/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A130000012MB
Preparation Batch : 8013012

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.136	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-398	F8A080256029	1	0.43	J	pCi/g
15-400	F8A080256031	1	0.56	J	pCi/g
15-401	F8A080256032	1	0.48	J	pCi/g
15-402	F8A080256033	1	0.43	J	pCi/g
15-403	F8A080256034	1	0.38	J	pCi/g
15-404	F8A080256035	1	0.68	J	pCi/g
15-405	F8A080256036	1	0.39	J	pCi/g
15-407	F8A080256038	1	0.50	J	pCi/g
15-408	F8A080256039	1	0.39	J	pCi/g
15-470	F8A080256021	1	0.53	J	pCi/g
15-471	F8A080256022	1	0.65	J	pCi/g
15-472	F8A080256023	1	0.54	J	pCi/g
15-475	F8A080256027	1	0.59	J	pCi/g
15-476	F8A080256028	1	0.32	J	pCi/g

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.085	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-400	F8A080256031	1	0.34	J	pCi/g
15-402	F8A080256033	1	0.34	J	pCi/g
15-408	F8A080256039	1	0.280	J	pCi/g
15-470	F8A080256021	1	0.41	J	pCi/g
15-475	F8A080256027	1	0.39	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/23/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000117MB
Preparation Batch : 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.16	1.00	pCi/L	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A080256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/26/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000143MB
Preparation Batch : 8018143

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.075	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-410	F8A080256041	1	0.37	J	pCi/g
15-416	F8A080256047	1	0.36	J	pCi/g
15-421	F8A080256052	1	0.27	J	pCi/g
15-425	F8A080256056	1	0.23	J	pCi/g
15-426	F8A080256057	1	0.30	J	pCi/g

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.069	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-410	F8A080256041	1	0.30	J	pCi/g
15-419	F8A080256050	1	0.25	J	pCi/g
15-421	F8A080256052	1	0.26	J	pCi/g
15-425	F8A080256056	1	0.25	J	pCi/g
15-426	F8A080256057	1	0.33	J	pCi/g
15-428	F8A080256059	1	0.30	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/26/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000201MB
Preparation Batch : 8018201

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.082	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-430	F8A080256061	1	0.39	J	pCi/g
15-433	F8A080256064	1	0.175	J	pCi/g
15-434	F8A080256065	1	0.41	J	pCi/g
15-435	F8A080256066	1	0.40	J	pCi/g
15-437	F8A080256068	1	0.27	J	pCi/g
15-438	F8A080256069	1	0.28	J	pCi/g
15-439	F8A080256070	1	0.40	J	pCi/g
15-446	F8A080256077	1	0.39	J	pCi/g
15-448	F8A080256079	1	0.38	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A080256
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/29/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A290000172MB
Preparation Batch : 8029172

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.24	1.00	pCi/L	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18448R35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 1 of 2
Laboratory : Test America QuA Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N/A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	No Fdup
IX.	Field blanks	ND	ER = 36, 42

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-449	S	11	1	15-459	S	21	2	15-470	S
2	1	15-450		12	1	15-460		22	2	15-471	
3	1	15-451		13	1	15-461		23	2	15-472	
4	1	15-452		14	2	15-462		24	2	15-473	
5	1	15-453		15	2	15-463		25	2	15-474	
6	1	15-454		16	2	15-465		26	2	15-475	
7	1	15-455		17	2	15-466		27	2	15-476	
8	1	15-456		18	2	15-467		28	2	15-398	
9	1	15-457		19	2	15-468		29	2	15-399	
10	1	15-458		20	2	15-469		30	2	15-400	

31	2	15-401	S				
32	2	15-402					
33	2	15-403					
34	3	15-404					
35	3	15-405					
36	4	15-406	W				
37	3	15-407	S				
38	3	15-408					
39	3	15-409					
40	3	15-410					

Notes:

LDC #: 18448R35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 2 of 2
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DoE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	See page 2
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates		
IX.	Field blanks		

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 3	15-411 S	51		61		71	
42 4	15-431 W	52		62		72	
43 1	15-449DUP S	53		63		73	
44 2	15-462DUP "	54		64		74	
45 3	15-404DUP "	55		65		75	
46 1	PBS1	56		66		76	
47 2	PBS2	57		67		77	
48 3	PBS3	58		68		78	
49 4	PBW	59		69		79	
50		60		70		80	

Notes:

LDC #: 18448R73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 1 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	ND	ER = 36, 61

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	2	15-449	S	11	2	15-459	S	21	1	15-470	S
2	2	15-450	↓	12	2	15-460	↓	22	1	15-471	↓
3	2	15-451		13	2	15-461		23	1	15-472	
4	2	15-452		14	2	15-462		24	1	15-473	
5	2	15-453		15	2	15-463		25	1	15-474	
6	2	15-454		16	2	15-465		26	1	15-475	
7	2	15-455		17	2	15-466		27	1	15-476	
8	2	15-456		18	2	15-467		28	1	15-398	
9	2	15-457		19	2	15-468		29	1	15-399	
10	2	15-458	↓	20	2	15-469	↓	30	1	15-400	↓

31	1	15-401	S								
32	1	15-402	↓								
33	1	15-403									
34	1	15-404									
35	1	15-405	↓								
36	5	15-406	W								
37	1	15-407	S								
38	1	15-408	↓								
39	1	15-409									
40	4	15-410	↓								

Notes:

LDC #: 18448R73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 2 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

Page 2 type 1 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41	4	15-411 S	51	4	15-421 S	61	6	15-431 W	71	3	15-441 S
42	4	15-412	52	4	15-422	62	3	15-432 S	72	3	15-442
43	4	15-413	53	4	15-423	63	3	15-433	73	3	15-443
44	4	15-414	54	4	15-424	64	3	15-434	74	3	15-444
45	4	15-415	55	4	15-425	65	3	15-435	75	3	15-445
46	4	15-416	56	4	15-426	66	3	15-436	76	3	15-446
47	4	15-417	57	4	15-427	67	3	15-437	77	3	15-447
48	4	15-418	58	4	15-428	68	3	15-438	78	3	15-448
49	4	15-419	59	4	15-429	69	3	15-439	79	2	15-449DUP
50	4	15-420	60	3	15-430	70	3	15-440	80	1	15-470DUP
									81	4	15-410DUP

3) 15-430DUP

Notes:
1 PBS1
2 PBS2
3 PBS3
4 PBS4
5 PBW1
6 PBW2

LDC #: 18448R59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 1 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup crr. Lutetium crr
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	SW	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 36, 61

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	2	15-449	S	11	2	15-459	S	21	1	15-470	S
2	2	15-450		12	2	15-460		22	1	15-471	
3	2	15-451		13	2	15-461		23	1	15-472	
4	2	15-452		14	2	15-462		24	1	15-473	
5	2	15-453		15	2	15-463		25	1	15-474	
6	2	15-454		16	2	15-465		26	1	15-475	
7	2	15-455		17	2	15-466		27	1	15-476	
8	2	15-456		18	2	15-467		28	1	15-398	
9	2	15-457		19	2	15-468		29	1	15-399	
10	2	15-458		20	2	15-469		30	1	15-400	

31	1	15-401	S								
32	1	15-402									
33	1	15-403									
34	1	15-404									
35	1	15-405									
36	5	15-406	W								
37	1	15-407	S								
38	1	15-408									
39	1	15-409									
40	4	15-410									

Notes:

LDC #: 18448R59
SDG #: F8A080256
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-19-08

Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

see page 2 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41	4	15-411	S	51	4	15-421	S	61	5	15-431	W
42	4	15-412		52	4	15-422		62	3	15-432	S
43	4	15-413		53	4	15-423		63	3	15-433	
44	4	15-414		54	4	15-424		64	3	15-434	
45	4	15-415		55	4	15-425		65	3	15-435	
46	4	15-416		56	4	15-426		66	3	15-436	
47	4	15-417		57	4	15-427		67	3	15-437	
48	4	15-418		58	4	15-428		68	3	15-438	
49	4	15-419		59	4	15-429		69	3	15-439	
50	4	15-420		60	3	15-430		70	3	15-440	

71	3	15-441	S
72	3	15-442	
73	3	15-443	
74	3	15-444	
75	3	15-445	
76	3	15-446	
77	3	15-447	
78	3	15-448	
79	2	15-449DUP	
80	1	15-470DUP	
81	4	15-410DUP	

3) 15-430 DUP

Notes:
1 PBS1
2 PBS2
3 PBS3
4 PBS4
5 PBW

LDC #: 18[illegible]R59
SDG #: See cover

VALIDATION FIND[illegible]GS WORKSHEET
Sample Chemical Recovery

[illegible]ge: 1 of 1
Reviewer: MM
2nd Reviewer: _____

METHOD: Radiochemistry (Method: DOE A-01-R MOD)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a tracer added to each sample?

Y N N/A Were tracer recoveries within the control limits?

LEVEL IV ONLY:

Y N ~~N/A~~ Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	ID	Matrix	Analyte	%R (limits)	Associated Samples	Qualifications
1		19	Soil	~~N/A~~ U-232	19 ~~(70-130)~~ 40-110	19	U/U3/A (All U isotopes)

Comments: _____

LDC #: 18448R61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-19-08
SDG #: F8A080256 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N/A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	ca
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-458	11		21		31	
2	15-468	12		22		32	
3	15-400	13		23		33	
4	15-408	14		24		34	
5	15-418	15		25		35	
6	15-428	16		26		36	
7	15-438	17		27		37	
8	15-448	18		28		38	
9	PBS	19		29		39	
10		20		30		40	

Notes:

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-412	F8A290194001	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-412DUP	F8A290194001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-413	F8A290194002	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-414	F8A290194003	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-415	F8A290194004	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-416	F8A290194005	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-417	F8A290194006	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-418	F8A290194007	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-419	F8A290194008	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-420	F8A290194009	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-421	F8A290194010	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-422	F8A290194011	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-423	F8A290194012	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-424	F8A290194013	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-425	F8A290194014	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-426	F8A290194015	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-427	F8A290194016	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-428	F8A290194017	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-429	F8A290194018	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-430	F8A290194019	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-432	F8A290194021	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-433	F8A290194022	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-433DUP	F8A290194022DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-434	F8A290194023	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-435	F8A290194024	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-436	F8A290194025	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Dec-2007	15-437	F8A290194026	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-438	F8A290194027	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-439	F8A290194028	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-440	F8A290194029	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-441	F8A290194030	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-442	F8A290194031	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-443	F8A290194032	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-444	F8A290194033	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-445	F8A290194034	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-446	F8A290194035	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-447	F8A290194036	N	Gen Prep	DOE GA-01-R MOD	3
12-Dec-2007	15-448	F8A290194037	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code

SDG: F8A290194

No Qualified Results

N = Normal Sample *TB = Trip Blank*

FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A290194

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

F8A290194

(No Outlier Reports)

LDC #: 18521A35
SDG #: F8A290194
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 4-1-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-12-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff. or both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1 1	15-412	11 1	15-422	21 2	15-433	31 2	15-443
2 1	15-413	12 1	15-423	22 2	15-434	32 2	15-444
3 1	15-414	13 1	15-424	23 2	15-435	33 2	15-445
4 1	15-415	14 1	15-425	24 2	15-436	34 2	15-446
5 1	15-416	15 1	15-426	25 2	15-437	35 2	15-447
6 1	15-417	16 1	15-427	26 2	15-438	36 2	15-448
7 1	15-418	17 1	15-428	27 2	15-439	37 1	~~15-438DUP~~ 15-412 DUP
8 1	15-419	18 1	15-429	28 2	15-440	38 2	15-433DUP
9 1	15-420	19 1	15-430	29 2	15-441	39 1	PBS1
10 1	15-421	20 1	15-432	30 2	15-442	40 2	PBS2

Notes: _____

TETRA TECH
[illegible] Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31651

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 06.0629552 03 1014344
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.1 gamma; Thorium; Uranium; Ra-226 SR-01/SR-02

LABORATORY NAME: Testamerica SL SC

LABORATORY ID (FOR LABORATORY): FBA080253/FBA290194*

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-408	12/12/07	9:50	2	X		S	21DY		1IR-8E-02b	6"	12"	RS
15-409	12/12/07	9:58	1	X		S	21DY		B-1IR-8Fa	2'	2.5'	Res
15-410	12/12/07	10:00	1	X		S	21DY		B-1IR-8Fb	2.5'	3'	Res
15-411	12/12/07	10:07	1	X		S	21DY		1IR-8F-02a	0"	6"	Res
15-412 *	12/12/07	10:10	1	X		S	21DY		1IR-8F-02b	6"	12"	Res
15-413 *	12/12/07	10:22	1	X		S	21DY		B-1IR-8Ga	2'	2.5'	Res
15-414 *	12/12/07	10:25	1	X		S	21DY		B-1IR-8Gb	2.5'	3'	Res
15-415 *	12/12/07	10:30	1	X		S	21DY		1IR-8G-02a	0"	6"	Res
15-416 *	12/12/07	10:33	1	X		S	21DY		1IR-8G-02b	6"	12"	Res
15-417 *	12/12/07	10:42	1	X		S	21DY		B-1IR-8Ha	2'	2.5'	Res

RELINQUISHED BY (Signature): [signature]	DATE: 1/7/08	RECEIVED BY (Signature):	
COMPANY: TTEC / Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	

LABORATORY INSTRUCTIONS/COMMENTS: ~~30 DY~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION: # no 3-days 1-8-08 SC * - Gamma spec on this SDG FBA290194

[redacted] INTACT BROKEN

SAMPLING COMMENT: IR = Installation & Restoration

FBA290194

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1105090 99 / 1105911.1

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31635

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0679532 / 1017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Test America STLS

LABORATORY ID (FOR LABORATORY): FBA080280

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EBA 9 Gamma	Thorium	Uranium	90 Sr DOE SR-01 Rev 2.0	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-355	12/10/07	8:35	1	X		S	30DY	X	X	X			B-1IR-6Ba	0"	6"	Reg
15-356	12/10/07	8:40	1	X		S	30DY	X	X	X		FBB120265	B-1IR-6Bb	6"	12"	Reg
15-357	12/10/07	8:55	2	X		W	30DY	X	X	X		~~Field Blank~~	EQUIP. RINSATE ~~FIELD BLANK~~			ER FB
15-358	—	—	0			TRIP BLANK										
15-359	12/10/07	9:10	1	X		S	30DY	X	X	X			1IR-6B-02a	0"	6"	Reg
15-360	12/10/07	9:12	2	X		S	30DY	X	X	X	X		1IR-6B-02b	6"	12"	Reg
15-361	12/10/07	9:20	1	X		S	30DY	X	X	X			1IR-6B-03a	0"	6"	Reg
15-362	12/10/07	9:22	1	X		S	30DY	X	X	X			1IR-6B-03b	6"	12"	Reg
15-363	12/10/07	9:27	1	X		S	30DY	X	X	X			1IR-6B-04a	0"	6"	Reg
15-364	12/10/07	9:30	1	X		S	30DY	X	X	X			1IR-6B-04b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/4/08	RECEIVED BY (Signature)	
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~30DY~~ + 21 DY INGROWTHS

COMPOSITE DESCRIPTION: * no 3dup - 1-808 5⁴ / Ra-226 via 903.0m 2-8-08 5⁴

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605916.1

Tetra Tech EC, Inc.

Client Sample ID: 15-355

Radiochemistry

Lab Sample ID: F8A080280-001
Work Order: KE746
Matrix: SOLID

Date Collected: 12/10/07 0835
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.37		0.20		0.26	01/11/08	02/01/08
Americium 241	0.018	U	0.081		0.14	01/11/08	02/01/08
Cesium 137	-0.001	U	0.049	0.200	0.092	01/11/08	02/01/08
Cobalt 60	-0.014	U	0.060		0.11	01/11/08	02/01/08
Europium 152	0.0	U	0.11		0.20	01/11/08	02/01/08
Europium 154	0.04	U	0.39		0.73	01/11/08	02/01/08
Potassium 40	10.7		1.8		0.9	01/11/08	02/01/08
Radium (226)	0.44	J	0.12	1.00	0.1	01/11/08	02/01/08
Thorium 232	0.37		0.20		0.26	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 83**
Thorium 228	0.40	J	0.14	1.00	0.06	01/20/08	01/26/08
Thorium 230	0.37	J	0.13	1.00	0.03	01/20/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 73**
Uranium 233/234	0.43	J	0.16	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.030	U	0.048	1.00	0.072	01/20/08	01/26/08
Uranium 238	0.30	J	0.13	1.00	0.04	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-355 DUP

Radiochemistry

Lab Sample ID: F8A080280-001X
Work Order: KE746
Matrix: SOLID

Date Collected: 12/10/07 0835
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 80**
Thorium 228	0.51	J	0.16	1.00	0.08	01/20/08	01/26/08
Thorium 230	0.33	J	0.13	1.00	0.06	01/20/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 78**
Uranium 233/234	0.29	J	0.12	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.030	U	0.042	1.00	0.040	01/20/08	01/26/08
Uranium 238	0.50	J	0.16	1.00	0.05	01/20/08	01/26/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.08	U	0.22		0.39	01/11/08	02/01/08
Americium 241	0.038	U	0.088		0.15	01/11/08	02/01/08
Cesium 137	-0.01	U	0.13	0.20	0.11	01/11/08	02/01/08
Cobalt 60	0.0	U	0.014		0.052	01/11/08	02/01/08
Europium 152	0.04	U	0.11		0.19	01/11/08	02/01/08
Europium 154	-0.007	U	0.42		0.80	01/11/08	02/01/08
Potassium 40	**10.7**		**1.8**		**0.5**	**01/11/08**	**02/01/08**
Radium (226)	**0.38**	J	**0.14**	1.00	**0.13**	**01/11/08**	**02/01/08**
Thorium 232	0.08	U	0.22		0.39	01/11/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-356

Radiochemistry

Lab Sample ID: F8A080280-002
Work Order: KE748
Matrix: SOLID

Date Collected: 12/10/07 0840
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8011310**	**Yld %**
Actinium 228	0.45		0.15		0.21	01/11/08	02/01/08
Americium 241	-0.11	U	0.29		0.50	01/11/08	02/01/08
Cesium 137	0.0	U	0.057	0.200	0.10	01/11/08	02/01/08
Cobalt 60	0.006	U	0.030		0.056	01/11/08	02/01/08
Europium 152	-0.04	U	0.11		0.19	01/11/08	02/01/08
Europium 154	0.01	U	0.31		0.56	01/11/08	02/01/08
Potassium 40	12.8		1.6		0.6	01/11/08	02/01/08
Radium (226)	0.57	J	0.12	1.00	0.12	01/11/08	02/01/08
Thorium 232	0.45		0.15		0.21	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020018**	**Yld % 74**
Thorium 228	0.53	J	0.16	1.00	0.08	01/20/08	01/26/08
Thorium 230	0.48	J	0.15	1.00	0.05	01/20/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020019**	**Yld % 68**
Uranium 233/234	0.35	J	0.14	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.045	U	0.060	1.00	0.084	01/20/08	01/26/08
Uranium 238	0.28	J	0.13	1.00	0.04	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-357

Radiochemistry

Lab Sample ID: F8A080280-003
Work Order: KE749
Matrix: WATER

Date Collected: 12/10/07 0855
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010308**		**Yld %**
Actinium 228	8	U	28		51	01/10/08	01/14/08
Americium 241	4.7	U	8.4		14	01/10/08	01/14/08
Cesium 137	1.5	U	7.3	20.0	14	01/10/08	01/14/08
Cobalt 60	0.0	U	2.3		8.6	01/10/08	01/14/08
Europium 152	-4	U	17		30	01/10/08	01/14/08
Europium 154	-10	U	55		100	01/10/08	01/14/08
Potassium 40	49	U	84		140	01/10/08	01/14/08
Thorium 232	8	U	28		51	01/10/08	01/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 85**
Thorium 228	**0.24**	**J**	**0.22**	**1.00**	**0.24**	**01/18/08**	**01/22/08**
Thorium 230	**0.40**	**J**	**0.27**	**1.00**	**0.12**	**01/18/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 86**
Uranium 233/234	-0.047	U	0.039	1.00	0.27	01/18/08	01/22/08
Uranium 235/236	-0.020	U	0.028	1.00	0.26	01/18/08	01/22/08
Uranium 238	0.08	U	0.12	1.00	0.18	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-359

Radiochemistry

Lab Sample ID: F8A080280-004
Work Order: KE75C
Matrix: SOLID

Date Collected: 12/10/07 0910
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.11	U	0.18		0.30	01/11/08	02/01/08
Americium 241	-0.035	U	0.094		0.16	01/11/08	02/01/08
Cesium 137	**0.150**	**J**	**0.061**	**0.200**	**0.076**	**01/11/08**	**02/01/08**
Cobalt 60	-0.016	U	0.049		0.089	01/11/08	02/01/08
Europium 152	-0.0006	U	0.089		0.16	01/11/08	02/01/08
Europium 154	-0.07	U	0.39		0.71	01/11/08	02/01/08
Potassium 40	**9.7**		**1.5**		**0.4**	**01/11/08**	**02/01/08**
Radium (226)	**0.41**	**J**	**0.12**	**1.00**	**0.12**	**01/11/08**	**02/01/08**
Thorium 232	0.11	U	0.18		0.30	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 88**
Thorium 228	**0.37**	**J**	**0.14**	**1.00**	**0.08**	**01/20/08**	**01/26/08**
Thorium 230	**0.63**	**J**	**0.18**	**1.00**	**0.05**	**01/20/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 85**
Uranium 233/234	**0.28**	**J**	**0.12**	**1.00**	**0.07**	**01/20/08**	**01/26/08**
Uranium 235/236	-0.0025	U	0.0051	1.00	0.058	01/20/08	01/26/08
Uranium 238	**0.172**	**J**	**0.088**	**1.00**	**0.046**	**01/20/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-360

Radiochemistry

Lab Sample ID: F8A080280-005
Work Order: KE75G
Matrix: SOLID

Date Collected: 12/10/07 0912
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.23	U	0.20		0.31	01/11/08	02/01/08
Americium 241	0.012	U	0.099		0.17	01/11/08	02/01/08
Cesium 137	0.0	U	0.066	0.200	0.12	01/11/08	02/01/08
Cobalt 60	0.011	U	0.041		0.078	01/11/08	02/01/08
Europium 152	0.050	U	0.094		0.16	01/11/08	02/01/08
Europium 154	-0.05	U	0.33		0.63	01/11/08	02/01/08
Potassium 40	**9.5**		**1.6**		**0.5**	**01/11/08**	**02/01/08**
Radium (226)	**0.37**	**J**	**0.12**	**1.00**	**0.11**	**01/11/08**	**02/01/08**
Thorium 232	0.23	U	0.20		0.31	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 80**
Thorium 228	**0.53**	**J**	**0.17**	**1.00**	**0.10**	**01/20/08**	**01/26/08**
Thorium 230	**0.27**	**J**	**0.11**	**1.00**	**0.06**	**01/20/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 87**
Uranium 233/234	**0.31**	**J**	**0.12**	**1.00**	**0.06**	**01/20/08**	**01/26/08**
Uranium 235/236	**0.063**	**J**	**0.059**	**1.00**	**0.055**	**01/20/08**	**01/26/08**
Uranium 238	**0.29**	**J**	**0.11**	**1.00**	**0.04**	**01/20/08**	**01/26/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009071**		**Yld % 41**
Strontium 90	0.26	U	0.54	3.00	0.91	01/09/08	01/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-361

Radiochemistry

Lab Sample ID: F8A080280-006
Work Order: KE75J
Matrix: SOLID

Date Collected: 12/10/07 0920
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.16	U	0.19		0.32	01/11/08	02/01/08
Americium 241	0.004	U	0.11		0.19	01/11/08	02/01/08
Cesium 137	-0.03	U	0.88	0.20	0.13	01/11/08	02/01/08
Cobalt 60	0.001	U	0.057		0.11	01/11/08	02/01/08
Europium 152	0.02	U	0.12		0.22	01/11/08	02/01/08
Europium 154	0.04	U	0.34		0.65	01/11/08	02/01/08
Potassium 40	**9.1**		**1.7**		**0.5**	**01/11/08**	**02/01/08**
Radium (226)	**0.54**	**J**	**0.14**	1.00	**0.1**	**01/11/08**	**02/01/08**
Thorium 232	0.16	U	0.19		0.32	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 87**
Thorium 228	**0.53**	**J**	**0.16**	1.00	**0.06**	**01/20/08**	**01/26/08**
Thorium 230	**0.50**	**J**	**0.15**	1.00	**0.06**	**01/20/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 88**
Uranium 233/234	**0.33**	**J**	**0.12**	1.00	**0.06**	**01/20/08**	**01/28/08**
Uranium 235/236	0.011	U	0.027	1.00	0.058	01/20/08	01/28/08
Uranium 238	**0.33**	**J**	**0.12**	1.00	**0.05**	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-362

Radiochemistry

Lab Sample ID: F8A080280-007
Work Order: KE75M
Matrix: SOLID

Date Collected: 12/10/07 0922
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.38		0.12		0.17	01/11/08	02/01/08
Americium 241	0.22	U	0.24		0.39	01/11/08	02/01/08
Cesium 137	0.0009	U	0.028	0.200	0.053	01/11/08	02/01/08
Cobalt 60	-0.004	U	0.037		0.068	01/11/08	02/01/08
Europium 152	0.013	U	0.067		0.12	01/11/08	02/01/08
Europium 154	-0.003	U	0.12		0.26	01/11/08	02/01/08
Potassium 40	9.4		1.3		0.5	01/11/08	02/01/08
Radium (226)	0.39	J	0.10	1.00	0.10	01/11/08	02/01/08
Thorium 232	0.38		0.12		0.17	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 86**
Thorium 228	0.46	J	0.15	1.00	0.08	01/20/08	01/26/08
Thorium 230	0.43	J	0.14	1.00	0.06	01/20/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 90**
Uranium 233/234	0.36	J	0.12	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	0.007	U	0.025	1.00	0.059	01/20/08	01/26/08
Uranium 238	0.26	J	0.10	1.00	0.04	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-363

Radiochemistry

Lab Sample ID: F8A080280-008
Work Order: KE75R
Matrix: SOLID

Date Collected: 12/10/07 0927
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8011310		Yld %
Actinium 228	0.35		0.14		0.24	01/11/08	02/01/08
Americium 241	-0.029	U	0.087		0.15	01/11/08	02/01/08
Cesium 137	0.192	J	0.068	0.200	0.079	01/11/08	02/01/08
Cobalt 60	-0.028	U	0.072		0.13	01/11/08	02/01/08
Europium 152	-0.02	U	0.10		0.18	01/11/08	02/01/08
Europium 154	-0.16	U	0.38		0.66	01/11/08	02/01/08
Potassium 40	9.5		1.6		0.4	01/11/08	02/01/08
Radium (226)	0.38	J	0.13	1.00	0.14	01/11/08	02/01/08
Thorium 232	0.35		0.14		0.24	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8020018		Yld % 75
Thorium 228	0.30	J	0.13	1.00	0.09	01/20/08	01/26/08
Thorium 230	0.28	J	0.12	1.00	0.06	01/20/08	01/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8020019		Yld % 89
Uranium 233/234	0.143	J	0.078	1.00	0.053	01/20/08	01/26/08
Uranium 235/236	0.018	U	0.036	1.00	0.066	01/20/08	01/26/08
Uranium 238	0.235	J	0.099	1.00	0.042	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-364

Radiochemistry

Lab Sample ID: F8A080280-009
Work Order: KE750
Matrix: SOLID

Date Collected: 12/10/07 0930
Date Received: 01/08/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8011310**		**Yld %**
Actinium 228	0.25	U	0.19		0.27	01/11/08	02/01/08
Americium 241	0.065	U	0.093		0.16	01/11/08	02/01/08
Cesium 137	0.034	U	0.055	0.200	0.093	01/11/08	02/01/08
Cobalt 60	0.0	U	0.094		0.17	01/11/08	02/01/08
Europium 152	-0.02	U	0.10		0.18	01/11/08	02/01/08
Europium 154	-0.09	U	0.42		0.77	01/11/08	02/01/08
Potassium 40	**11.2**		**1.8**		**0.5**	**01/11/08**	**02/01/08**
Radium (226)	**0.33**	**J**	**0.13**	**1.00**	**0.17**	**01/11/08**	**02/01/08**
Thorium 232	0.25	U	0.19		0.27	01/11/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020018**		**Yld % 77**
Thorium 228	**0.35**	**J**	**0.14**	**1.00**	**0.09**	**01/20/08**	**01/26/08**
Thorium 230	**0.45**	**J**	**0.15**	**1.00**	**0.06**	**01/20/08**	**01/26/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020019**		**Yld % 82**
Uranium 233/234	**0.97**	**J**	**0.22**	**1.00**	**0.05**	**01/20/08**	**01/26/08**
Uranium 235/236	**0.066**	**J**	**0.061**	**1.00**	**0.058**	**01/20/08**	**01/26/08**
Uranium 238	**0.42**	**J**	**0.14**	**1.00**	**0.05**	**01/20/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Dec-2007	15-355	F8A080280001	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-355	F8A080280001	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-355	F8A080280001	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-355DUP	F8A080280001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-355DUP	F8A080280001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-355DUP	F8A080280001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-356	F8A080280002	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-356	F8A080280002	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-356	F8A080280002	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-357	F8A080280003	EB	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-357	F8A080280003	EB	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-357	F8A080280003	EB	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-359	F8A080280004	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-359	F8A080280004	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-359	F8A080280004	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-360	F8A080280005	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-360	F8A080280005	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-360	F8A080280005	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-360	F8A080280005	N	Gen Prep	)OE SR-03-RC MOI	3
10-Dec-2007	15-361	F8A080280006	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-361	F8A080280006	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-361	F8A080280006	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-362	F8A080280007	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-362	F8A080280007	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-362	F8A080280007	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-363	F8A080280008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Dec-2007	15-363	F8A080280008	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-363	F8A080280008	N	Gen Prep	DOE GA-01-R MOD	3
10-Dec-2007	15-364	F8A080280009	N	Gen Prep	)OE A-01-R TH MOI	3
10-Dec-2007	15-364	F8A080280009	N	Gen Prep	DOE A-01-R U MOD	3
10-Dec-2007	15-364	F8A080280009	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A080280										
DOE A-01-R TH MOD	15-355	SO	N	THORIUM-230	1.00	0.37J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-356	SO	N	THORIUM-230	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-357	AQ	EB	THORIUM-230	1.00	0.40J	0.27	U	pCi/L	
DOE A-01-R TH MOD	15-360	SO	N	THORIUM-230	1.00	0.27J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-361	SO	N	THORIUM-230	1.00	0.50J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-362	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-363	SO	N	THORIUM-230	1.00	0.28J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-364	SO	N	THORIUM-230	1.00	0.45J	0.15	U	pCi/g	

N = Normal Sample TB = Trip Blank
FD = Field Duplicate FB = Field Blank

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A080280

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A080280	15-355	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-356	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-357	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-360	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-361	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-362	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-363	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A080280	15-364	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A080280	DOE A-01-R TH MOD	EB	AQ	12/10/2007 0:00	THORIUM-228	14274-82-9	0.24	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A080280

Method Blank Outlier Report

Lab Reporting Batch : F8A080280
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/23/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000117MB
Preparation Batch : 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.16**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-357	F8A080280003	1	0.40	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8A080280
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/26/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A200000018MB
Preparation Batch : 8020018

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.123**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-355	F8A080280001	1	0.37	J	pCi/g
15-356	F8A080280002	1	0.48	J	pCi/g
15-360	F8A080280005	1	0.27	J	pCi/g
15-361	F8A080280006	1	0.50	J	pCi/g
15-362	F8A080280007	1	0.43	J	pCi/g
15-363	F8A080280008	1	0.28	J	pCi/g
15-364	F8A080280009	1	0.45	J	pCi/g

LDC #: 18448S73
SDG #: F8A080280
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Rep
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	-	TB=3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All Soil except #3 AA

1	15-355	11 1	PBS	21		31	
2	15-356	12 2	PBW	22		32	
3 2	15-357 AA	13		23		33	
4	15-359	14		24		34	
5	15-360	15		25		35	
6	15-361	16		26		36	
7	15-362	17		27		37	
8	15-363	18		28		38	
9	15-364	19		29		39	
10	15-355DUP	20		30		40	

Notes:

LDC #: 18448S59
SDG #: F8A080280
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	NA	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	—	TB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All soil except #3 A2

1	15-355	11 [1]	PBS	21		31	
2	15-356	12 [2]	PBW	22		32	
3 [2]	15-357 A2	13		23		33	
4	15-359	14		24		34	
5	15-360	15		25		35	
6	15-361	16		26		36	
7	15-362	17		27		37	
8	15-363	18		28		38	
9	15-364	19		29		39	
10	15-355DUP	20		30		40	

Notes:

LDC #: 18448S61
SDG #: F8A080280
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	CN
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Soil

1	15-360	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448S35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A080280 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

gas

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-10-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	—	EB=3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-355	11 1	PBS	21		31	
2	15-356	12 2	PBW	22		32	
3 2	15-357 AQ	13		23		33	
4	15-359	14		24		34	
5	15-360	15		25		35	
6	15-361	16		26		36	
7	15-362	17		27		37	
8	15-363	18		28		38	
9	15-364	19		29		39	
10	15-355DUP	20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31662

ENTERED

PROJECT NAME: IR Sites 15, 19, 32	PURCHASE ORDER NO.: ~~2017341~~ 100-0029552	LABORATORY NAME: Testamerica STL
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 2210-028P	LABORATORY ID (FOR LABORATORY): FBA090153
SAMPLER NAME: V. Richards	AIRBILL NUMBER:	
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 714-756-7300	

Project Information Section — Do not submit to Laboratory

10 P

ANALYSES REQUIRED: [illegible] ; Thorium ; Uranium ; [illegible]

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	[illegible]	Thorium	Uranium	[illegible]	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-528	12-13-07	1017	2	X		S	21 Dy	X	X	X	X		B-1IR-19a	2'	2.6	Reg.
15-529	12-13-07	1020	1	X		S	21 Dy	X	X	X			B-1IR-19b	2.6'	3'	Reg
15-532	12-13-07	1025	1	X		S	21 Dy	X	X	X			1IR-19-02a	0"	6"	Reg
15-533	12-13-07	1030	1	X		S	21 Dy	X	X	X			1IR-19-02b	6"	1'	Reg
15-534	12-13-07	1042	1	X		S	21 Dy	X	X	X			1IR-19-03a	0"	6"	Reg
15-535	12-13-07	1044	1	X		S	21 Dy	X	X	X			1IR-19-03b	6"	1'	Reg
15-536	12-13-07	1048	1	X		S	21 Dy	X	X	X			1IR-19-04a	2'	2.6	Reg
15-537	12-13-07	1049	1	X		S	21 Dy	X	X	X			1IR-19-04b	2.6'	3'	Reg.
15-538	12-13-07	1055	2	X		S	21 Dy	X	X	X	X		1IR-19-05a	2'	2.6'	Reg
15-539	12-13-07	1102	1	X		S	21 Dy	X	X	X			1IR-19-05b	2.6'	3'	Reg

RELINQUISHED BY (Signature): [signature]	DATE: 1/8/08	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: * no 3 days 1-8-08 ~~3Dy~~ + 21 Dy INGROWTHS
COMPANY: TtEC / Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COMPANY:	TIME:	COMPANY:	COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605942

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31663

ENTERED

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR Sites 1, 7, 32	PURCHASE ORDER NO.: 106.0624552 DO 1734
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 3210 02 P
SAMPLER NAME: V. Eckards	AIRBILL NUMBER:
PROJECT CONTACT: LISA SIENKOWSKIE	PROJECT CONTACT PHONE NUMBER: 949 756 7560

ANALYSES REQUIRED

LABORATORY NAME: Testamerica

LABORATORY ID (FOR LABORATORY): FBA090153

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	# DAYS TAT	Perchlorate	Thorium	Uranium	Ra-226	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-540	12-13-07	1111	1	X		S	21 DY	X	X	X			IR-19-06a	0'	6'	Reg
15-541	12-13-07	1113	1	X		S	21 DY	X	X	X			IR-19-06b	6'	12'	Reg
15-542	12-13-07	1121	1	X		S	21 DY	X	X	X			IR-19-07a	2'	2.6'	Reg
15-543	12-13-07	1245	1	X		S	21 DY	X	X	X			IR-19-07b	2.6'	3'	Reg
15-544	12-13-07	1255	1	X		S	21 DY	X	X	X			IR-19-08a	2'	2.6'	Reg
15-545	12-13-07	1257	1	X		S	21 DY	X	X	X			IR-19-08b	2.6'	3'	Reg
15-546	12-13-07	1305	1	X		S	21 DY	X	X	X			IR-19-09a	2'	2.6'	Reg
15-547	12-13-07	1307	1	X		S	21 DY	X	X	X			IR-19-09b	2.6'	3'	Reg
15-548	12-13-07	1316	1	X		S	21 DY	X	X	X	X	#4	IR-19-10a	2'	2.6'	Reg
15-549	12-13-07	1319	1	X		S	21 DY	X	X	X			IR-19-10b	2.6'	3'	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: #10 3 days 1-8-08 SV
COMPANY TT&E Fielders	TIME	COMPANY	3 ~~DY~~ + 21 DY Ingrowths
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	#4 add SR. analysis per VK 1-8-08 SV
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059192

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31664

ENTERED

PROJECT NAME: IR sites 1,2 & 32	PURCHASE ORDER NO. KL-C429552 ~~T017341~~	LABORATORY NAME: Testamerica ~~STL~~	Project Information Section Do not submit to Laboratory
PROJECT LOCATION: Alameda, CA	PROJECT NO. 3210, 028D	LABORATORY ID (FOR LABORATORY): FBA090153	10
SAMPLER NAME: V Richards	AIRBILL NUMBER		
PROJECT CONTACT: LISA BienkowSkie	PROJECT CONTACT PHONE NUMBER: 949 756 7500		

ANALYSES REQUIRED: EPA 901.1/M gamma; Thorium; Uranium; 90 SR 011SR02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1/M gamma	Thorium	Uranium	90 SR 011SR02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-550	12 13 07	0834	1	X		S	30DAY	X	X	X			B-1IR-21a	2.0'	2.5'	Reg
15-551	12 13 07	0840	1	X		S	30DAY	X	X	X			B-2IR-21b	2.5'	3.0'	Reg
15-552	12 13 07	0832	2	X		W	30DAY	X	X	X		F8B120265	Equip. Rinse			ER
15-553	12 13 07	0855	1	X		S	30DAY	X	X	X			1IR-21-02a	2.0'	2.5'	Reg
15-554	12 13 07	0900	1	X		S	30DAY	X	X	X			1IR-21-02b	2.5'	3.0'	Reg
15-555	12 13 07	0905	1	X		S	30DAY	X	X	X			1IR-21-03a	2.0'	2.5'	Reg
15-556	12 13 07	0908	1	X		S	30DAY	X	X	X			1IR-21-03b	2.5'	3.0'	Reg
15-557	12 13 07	0913	1	X		S	30DAY	X	X	X			1IR-21-04a	2.0'	2.5'	Reg
15-558	12 13 07	0916	2	X		S	30DAY	X	X	X	X		1IR-21-04b	2.5'	3.0'	Reg
15-559	12 13 07	0924	1	X		S	30DAY	X	X	X			1IR-21-05a	0"	06"	Reg

RELINQUISHED BY (Signature): [signature]	DATE: 1/8/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: * 30 3-day 1-8-08 SC; 3 Dy + 21 Dy Ingrowth
COMPANY: TtSD / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: Ra-226 via 903.0 m 2-8-08 SC
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COMPANY	TIME	COMPANY	COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

16059142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31666

ENTERED

PROJECT NAME: IR sites 1, 2, 732	PURCHASE ORDER NO.: IC.C.629552 DG #017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210,0280
SAMPLER NAME: V, Richards	AIRBILL NUMBER:
PROJECT CONTACT: LISA BIENKOWSKIE	PROJECT CONTACT PHONE NUMBER: 949 756 7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): F8A090153

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-560	12 13 07	927	1	X		S	28DAY		IR-21-05b	.6'	12"	Reg
15-561	12 13 07	946	1	X		S	28DAY		B-IR-22a	2.0'	2.5'	Reg
15-562	12 13 07	949	1	X		S	28DAY		B IR-22b	2.5'	3.0'	Reg
15-563	12 13 07	1000	1	X		S	28DAY		IR-22-02a	2.0'	2.5'	Reg
15-564	12 13 07	1004	1	X		S	28DAY		IR-22-02b	2.5'	3.0'	Reg
15-565	12 13 07	1010	1	X		S	28DAY		IR-22-03a	0'	.5'	Reg
15-566	12 13 07	1015	1	X		S	28DAY		IR-22-03b	.5'	1'	Reg
15-567	12 13 07	1017	1	X		S	28DAY		IR-22-04a	0"	.5'	Reg
15-568	12 13 07	1021	2	X		S	28DAY		IR-22-04b	.5'	1'	Reg
15-569	12 13 07	1025	1	X		S	28DAY		IR-22-05a	0"	.5'	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY GTC / FedEx	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3 Dy~~ + 21 Dy Ingr Dwth * no 3 days 1-8-08 SV

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

16059142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31667

ENTERED

PROJECT NAME: IR Sites 1 2 & 32	PURCHASE ORDER NO.: TC6.067455 2 DG 701734 1
PROJECT LOCATION: Alameda	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: LISA BrenKowskie	PROJECT CONTACT PHONE NUMBER: 949 756 750

ANALYSES REQUIRED

LABORATORY NAME: STL Testamerica

LABORATORY ID (FOR LABORATORY): FBA090153

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TURNAROUND TIME	EDB 601.1m Gamma	Thorium	Uranium	90 SR01 SR02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15510	12 13 07	1028	1	/		S	30DAY	X	X	X	X		IIR-22-05b	.5'	1'	Reg
15-571	12 13 07	1038	1	/		S	30DAY	X	X	X	X		B IIR-23a	2.0'	2.5'	Reg
15-572	12 13 07	1042	1	/		S	30DAY	X	X	X	X		B-IIR-23b	2.5'	3.0'	Reg
15-573	12 13 07	1048	1	/		S	30DAY	X	X	X	X		IIR-23-02a	0'	.5'	Reg
15-574	12 13 07	1050	1	/		S	30DAY	X	X	X	X		IIR-23-02b	.5'	1'	Reg
15-575	12 13 07	1054	1	/		S	30DAY	X	X	X	X		IIR-23-03a	2.0'	2.5'	Reg
15-576	12 13	1058	1	/		S	30DAY	X	X	X	X		IIR-23-03b	2.5'	3.0'	Reg
15-577	12 13	1100	1	/		S	30DAY	X	X	X	X		IIR-23-04a	0'	.5'	Reg
15-578	12 13	1103	2	/		S	30DAY	X	X	X	X		IIR-23-04b	.5'	1'	Reg
15-579	12 13	1108	1	/		S	30DAY	X	X	X	X		IIR-23-05a	2.0'	2.5'	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY FFA/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * NO 3. days 1-8-08 & 30 Dy + 21 Dy Ingr Dkth

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

16058142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31661

ENTERED

130

PROJECT NAME: IR sites 1,2 & 32	PURCHASE ORDER NO. 106.0639553 / PO 7017341
PROJECT LOCATION: Alameda CA	PROJECT NO. 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED: EPA 901.0m Gamma; Thorium; Uranium; Ra DOE SR-01/02-02

LABORATORY NAME: TestAmerica STL

LABORATORY ID (FOR LABORATORY): [illegible]

Project Information Section
Do not submit to Laboratory

9

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.0m Gamma	Thorium	Uranium	Ra	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-581	12/13/07	10:17	1	X		S	2DY 21	X	X	X			B-1IR-24a	2'	2.5'	Reg
15-582	12/13/07	10:20	2	X		S	2DY 21	X	X	X	X		B-1IR-24b	2.5'	3'	Reg
15-583			VOID									VOID —	VOID			
15-584	12/13/07	10:25	1	X		S	2DY 21	X	X	X			1IR-24-02a	0"	6"	Reg
15-585	12/13/07	10:27	1	X		S	2DY 21	X	X	X			1IR-24-02b	6"	12"	Reg
15-586	12/13/07	10:52	1	X		S	2DY 21	X	X	X			B-1IR-25a	2'	2.5'	Reg
15-587	12/13/07	10:55	1	X		S	2DY 21	X	X	X			B-1IR-25b	2.5'	3'	Reg
15-588	12/13/07	11:07	1	X		S	2DY 21	X	X	X			1IR-25-02a	2'	2.5'	Reg
15-589	12/13/07	11:09	1	X		S	2DY 21	X	X	X		✓	1IR-25-02b	2.5'	3'	Reg
15-590	12/13/07	11:12	1	X		S	2DY 21	X	X	X			1IR-25-03a	2'	2.5'	Reg

RELINQUISHED BY (Signature): [signature]	DATE: 1/8/08	RECEIVED BY (Signature)
COMPANY: TtEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: * no 3 days 1-8-08 ~~3DY~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Restoration

16059/42

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31670

ENTERED

PROJECT NAME	IR sites 1,2 & 32
PURCHASE ORDER NO.	TCC.0429552 / BC 7017341
PROJECT LOCATION	Alameda CA
PROJECT NO.	3210.028D
SAMPLER NAME	V Richards
AIRBILL NUMBER	
PROJECT CONTACT	Lisa Bienkowskie
PROJECT CONTACT PHONE NUMBER	949-756-7500
LABORATORY NAME	TestAmerica STL
LABORATORY ID (FOR LABORATORY)	F8A090153

ANALYSES REQUIRED: EPA 901.1 gamma; Thorium; Uranium; 905.0 DOE: SR-01 / SR-02

Project Information Section — Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 gamma	Thorium	Uranium	905.0 DOE SR-01/SR-02	COMMENTS	ID	LOCATION	DEPTH START	DEPTH END	QC
15-591	12/13/07	11:14	1	X		S	3 DY 21	X	X	X				1IR-25-03b	2.5'	3'	Res
15-592	12/13/07	11:17	2	X		S	3 DY 21	X	X	X	X			1IR-25-04a	2'	2.5'	Res
15-593	12/13/07	11:20	1	X		S	3 DY 21	X	X	X				1IR-25-04b	2.5'	3'	Res
15-594	12/13/07	11:25	1	X		S	3 DY 21	X	X	X				1IR-25-05a	2'	2.5'	Res
15-595	12/13/07	11:27	1	X		S	3 DY 21	X	X	X				1IR-25-05b	2.5'	3'	Res
15-596	12/13/07	12:45	1	X		S	3 DY 21	X	X	X				B-1IR-26Ba	2'	2.5'	Res
15-597	12/13/07	12:47	1	X		S	3 DY 21	X	X	X				B-1IR-26Bb	2.5'	3'	Res
15-598	12/13/07	12:50	2	X		S	3 DY 21	X	X	X	X			1IR-26B-01a	0"	6"	Res
15-599	12/13/07	12:52	1	X		S	3 DY 21	X	X	X				1IR-26B-01b	6"	12"	Res
15-600	12/13/07	12:55	1	X		S	3 DY 21	X	X	X				1IR-26B-02a	0"	6"	Res

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
V Richards	1/8/08	
COMPANY: TtEC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: * no 3 day 1-8-08 — 3 DY + 21 DY Ingrowths SL

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

16059142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31671

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: JR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.CU7955 & 7017391
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowstie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Test America STL

LABORATORY ID (FOR LABORATORY): FBA090153

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	Thorium	URANIUM	9310 DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-601	12/13/07	12:57	1	X		S	3DY 21	X	X	X			IR-26B-02b	6"	12"	Res

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~3DY~~ + 21 DY INSRUNTHS
COMPANY TtEC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * no 3-days 1-8-08 SL
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

160591/92

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25719

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME	IR 15 Sites 1,2 & 32
PURCHASE ORDER NO.	TC6.0624552 DG ~~101 7341~~
PROJECT LOCATION	Alameda, CA
PROJECT NO.	3210.028D
SAMPLER NAME	V. Richards
AIRBILL NUMBER	
PROJECT CONTACT	Lisa Bienkowskie
PROJECT CONTACT PHONE NUMBER	949-756-7500
LABORATORY NAME	Testamerica ~~STL~~
LABORATORY ID (FOR LABORATORY)	F8A090153

Project Information Section
Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; ~~90Sr DOE SR-01/SR-02~~ Canceled **

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Thorium	Uranium	90Sr	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-612	12/13/07	13:38	1	/		S	21 DY	X	X	X	~~X~~		IR-A28-04b	6"	12"	Reg
15-613	12/13/07	13:40	1	/		S	21 DY	X	X	X	~~X~~		IR-A28-05a	0"	6"	Reg
15-614	12/13/07	13:42	1	/		S	21 DY	X	X	X	~~X~~		IR-A28-05b	6"	12"	Reg
15-615	12/10/07	14:28	1	/		S	21 DY	X	X	X	~~X~~		B-IIR-92a	2'	2½'	Reg
15-616	12/10/07	14:30	1	/		S	21 DY	X	X	X	~~X~~		B-IIR 92b	2½'	3'	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/8/08	
COMPANY: TtEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: * no 3 day 1-8-08 ~~3 DY~~ + 21 DY Ingrowths SL

COMPOSITE DESCRIPTION: ** cancelled Sr 90 analysis for samples 1-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

16059142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31665

ENTERED

PROJECT NAME: IR Sites 1, 2, & 32	PURCHASE ORDER NO.: 106.0624552 DO 1073441
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 5210.0281
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lia Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949 756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica SL

LABORATORY ID (FOR LABORATORY): FBA090153

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-637	12-13-07	1422	1	X		S	21		B-1IR-93a	3.5'	4'	Reg.
15-638	12-13-07	1425	2	X		S	21		B-1IR-93b	4'	4.5'	Reg.

RELINQUISHED BY (Signature)	DATE 12/18	RECEIVED BY (Signature)	
COMPANY TtEC/Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: # no -3days 1-8-08 3 DY 1 2 DY INGROWTHS SV

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR: Installation Restoration

16059142

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-581

Radiochemistry

Lab Sample ID: F8A090153-001
Work Order: KE8XA
Matrix: SOLID

Date Collected: 12/13/07 1017
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.20	U	0.19		0.29	01/12/08	02/02/08
Americium 241	-0.027	U	0.086		0.15	01/12/08	02/02/08
Cesium 137	0.003	U	0.041	0.200	0.075	01/12/08	02/02/08
Cobalt 60	0.0008	U	0.048		0.091	01/12/08	02/02/08
Europium 152	0.063	U	0.093		0.16	01/12/08	02/02/08
Europium 154	0.02	U	0.30		0.56	01/12/08	02/02/08
Potassium 40	**9.0**		**1.4**		**0.3**	**01/12/08**	**02/02/08**
Radium (226)	**0.32**	**J**	**0.13**	1.00	**0.19**	**01/12/08**	**02/02/08**
Thorium 232	0.20	U	0.19		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 81**
Thorium 228	**0.25**	**J**	**0.11**	1.00	**0.07**	**01/20/08**	**01/29/08**
Thorium 230	**0.21**	**J**	**0.10**	1.00	**0.07**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 78**
Uranium 233/234	**0.22**	**J**	**0.11**	1.00	**0.05**	**01/20/08**	**01/27/08**
Uranium 235/236	0.026	U	0.042	1.00	0.062	01/20/08	01/27/08
Uranium 238	**0.29**	**J**	**0.12**	1.00	**0.06**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-581 DUP

Radiochemistry

Lab Sample ID: F8A090153-001X
Work Order: KE8XA
Matrix: SOLID

Date Collected: 12/13/07 1017
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.29		0.18		0.24	01/12/08	02/02/08
Americium 241	-0.017	U	0.084		0.15	01/12/08	02/02/08
Cesium 137	0.017	U	0.043	0.200	0.076	01/12/08	02/02/08
Cobalt 60	0.0	U	0.065		0.12	01/12/08	02/02/08
Europium 152	0.0	U	0.14		0.25	01/12/08	02/02/08
Europium 154	-0.04	U	0.40		0.74	01/12/08	02/02/08
Potassium 40	9.3		1.6		0.5	01/12/08	02/02/08
Radium (226)	0.46	J	0.14	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.29		0.18		0.24	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 80**
Thorium 228	0.31	J	0.13	1.00	0.1	01/20/08	01/28/08
Thorium 230	0.30	J	0.12	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 82**
Uranium 233/234	0.28	J	0.12	1.00	0.08	01/20/08	01/27/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	01/20/08	01/27/08
Uranium 238	0.36	J	0.13	1.00	0.09	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-582

Radiochemistry

Lab Sample ID: F8A090153-002
Work Order: KE8XE
Matrix: SOLID

Date Collected: 12/13/07 1020
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.33		0.14		0.24	01/12/08	02/02/08
Americium 241	0.028	U	0.096		0.16	01/12/08	02/02/08
Cesium 137	0.059	U	0.050	0.200	0.077	01/12/08	02/02/08
Cobalt 60	0.018	U	0.052		0.093	01/12/08	02/02/08
Europium 152	0.045	U	0.098		0.17	01/12/08	02/02/08
Europium 154	0.04	U	0.35		0.64	01/12/08	02/02/08
Potassium 40	8.7		1.4		0.9	01/12/08	02/02/08
Radium (226)	0.23	J	0.10	1.00	0.15	01/12/08	02/02/08
Thorium 232	0.33		0.14		0.24	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 83**
Thorium 228	0.45	J	0.15	1.00	0.1	01/20/08	01/28/08
Thorium 230	0.44	J	0.15	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 72**
Uranium 233/234	0.34	J	0.14	1.00	0.07	01/20/08	01/27/08
Uranium 235/236	0.043	U	0.057	1.00	0.079	01/20/08	01/27/08
Uranium 238	0.40	J	0.15	1.00	0.09	01/20/08	01/27/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 61**
Strontium 90	-0.05	U	0.26	3.00	0.47	01/09/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-582 DUP

Radiochemistry

Lab Sample ID: F8A090153-002X
Work Order: KE8XE
Matrix: SOLID

Date Collected: 12/13/07 1020
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 70**
Strontium 90	0.05	U	0.22	3.00	0.38	01/09/08	01/23/08

NOTE(S)

[illegible] are incomplete without the case narrative.
MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-584

Radiochemistry

Lab Sample ID: F8A090153-003
Work Order: KE8XF
Matrix: SOLID

Date Collected: 12/13/07 1025
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.29	U	0.24		0.35	01/12/08	02/02/08
Americium 241	-0.006	U	0.087		0.16	01/12/08	02/02/08
Cesium 137	**0.163**	**J**	**0.078**	**0.200**	**0.098**	**01/12/08**	**02/02/08**
Cobalt 60	0.0	U	0.016		0.059	01/12/08	02/02/08
Europium 152	0.03	U	0.12		0.21	01/12/08	02/02/08
Europium 154	0.14	U	0.42		0.76	01/12/08	02/02/08
Potassium 40	**7.2**		**1.7**		**1.2**	**01/12/08**	**02/02/08**
Radium (226)	**0.35**	**J**	**0.14**	**1.00**	**0.14**	**01/12/08**	**02/02/08**
Thorium 232	0.29	U	0.24		0.35	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 75**
Thorium 228	**0.29**	**J**	**0.13**	**1.00**	**0.09**	**01/20/08**	**01/28/08**
Thorium 230	**0.55**	**J**	**0.17**	**1.00**	**0.06**	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 74**
Uranium 233/234	**0.21**	**J**	**0.10**	**1.00**	**0.06**	**01/20/08**	**01/27/08**
Uranium 235/236	0.028	U	0.044	1.00	0.065	01/20/08	01/27/08
Uranium 238	**0.29**	**J**	**0.12**	**1.00**	**0.05**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-585

Radiochemistry

Lab Sample ID: F8A090153-004
Work Order: KE8XG
Matrix: SOLID

Date Collected: 12/13/07 1027
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.24	U	0.20		0.29	01/12/08	02/02/08
Americium 241	0.031	U	0.096		0.17	01/12/08	02/02/08
Cesium 137	-0.03	U	0.52	0.20	0.12	01/12/08	02/02/08
Cobalt 60	-0.0002	U	0.049		0.10	01/12/08	02/02/08
Europium 152	-0.05	U	0.13		0.23	01/12/08	02/02/08
Europium 154	-0.02	U	0.48		0.91	01/12/08	02/02/08
Potassium 40	**9.6**		1.8		**0.6**	**01/12/08**	**02/02/08**
Radium (226)	**0.40**	**J**	0.15	1.00	**0.15**	**01/12/08**	**02/02/08**
Thorium 232	0.24	U	0.20		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 86**
Thorium 228	**0.50**	**J**	0.15	1.00	**0.08**	**01/20/08**	**01/28/08**
Thorium 230	**0.32**	**J**	0.12	1.00	**0.03**	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 76**
Uranium 233/234	**0.22**	**J**	0.10	1.00	**0.05**	**01/20/08**	**01/27/08**
Uranium 235/236	0.011	U	0.029	1.00	0.060	01/20/08	01/27/08
Uranium 238	**0.28**	**J**	0.11	1.00	**0.03**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-586

Radiochemistry

Lab Sample ID: F8A090153-005
Work Order: KE8XJ
Matrix: SOLID

Date Collected: 12/13/07 1052
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.50		0.15		0.22	01/12/08	02/02/08
Americium 241	-0.08	U	0.37		0.65	01/12/08	02/02/08
Cesium 137	0.0	U	0.041	0.200	0.075	01/12/08	02/02/08
Cobalt 60	-0.01	U	0.048		0.088	01/12/08	02/02/08
Europium 152	0.0004	U	0.092		0.17	01/12/08	02/02/08
Europium 154	0.0	U	0.25		0.47	01/12/08	02/02/08
Potassium 40	11.4		1.5		0.6	01/12/08	02/02/08
Radium (226)	0.54	J	0.13	1.00	0.13	01/12/08	02/02/08
Thorium 232	0.50		0.15		0.22	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 79**
Thorium 228	0.47	J	0.15	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.78	J	0.20	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 81**
Uranium 233/234	0.54	J	0.17	1.00	0.06	01/20/08	01/27/08
Uranium 235/236	-0.0028	U	0.0057	1.00	0.065	01/20/08	01/27/08
Uranium 238	0.57	J	0.17	1.00	0.03	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-587

Radiochemistry

Lab Sample ID: F8A090153-006
Work Order: KE8XK
Matrix: SOLID

Date Collected: 12/13/07 1055
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.45		0.19		0.34	01/12/08	02/02/08
Americium 241	-0.02	U	0.13		0.22	01/12/08	02/02/08
Cesium 137	-0.027	U	0.066	0.200	0.11	01/12/08	02/02/08
Cobalt 60	0.0	U	0.015		0.055	01/12/08	02/02/08
Europium 152	0.0	U	0.11		0.21	01/12/08	02/02/08
Europium 154	0.0	U	0.084		0.31	01/12/08	02/02/08
Potassium 40	13.8		2.2		0.6	01/12/08	02/02/08
Radium (226)	0.75	J	0.18	1.00	0.10	01/12/08	02/02/08
Thorium 232	0.45		0.19		0.34	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 84**
Thorium 228	0.54	J	0.16	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.54	J	0.16	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 89**
Uranium 233/234	0.51	J	0.16	1.00	0.07	01/20/08	01/27/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/20/08	01/27/08
Uranium 238	0.55	J	0.16	1.00	0.06	01/20/08	01/27/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-588

Radiochemistry

Lab Sample ID: F8A090153-007
Work Order: KE8XM
Matrix: SOLID

Date Collected: 12/13/07 1107
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.29	U	0.22		0.33	01/12/08	02/02/08
Americium 241	-0.034	U	0.093		0.16	01/12/08	02/02/08
Cesium 137	0.031	U	0.032	0.200	0.049	01/12/08	02/02/08
Cobalt 60	0.0	U	0.064		0.12	01/12/08	02/02/08
Europium 152	-0.0006	U	0.088		0.17	01/12/08	02/02/08
Europium 154	-0.07	U	0.35		0.64	01/12/08	02/02/08
Potassium 40	8.6		1.5		0.5	01/12/08	02/02/08
Radium (226)	0.33	J	0.12	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.29	U	0.22		0.33	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 77**
Thorium 228	0.50	J	0.16	1.00	0.08	01/20/08	01/28/08
Thorium 230	0.46	J	0.15	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 81**
Uranium 233/234	0.49	J	0.15	1.00	0.07	01/20/08	01/27/08
Uranium 235/236	0.054	J	0.054	1.00	0.037	01/20/08	01/27/08
Uranium 238	0.42	J	0.14	1.00	0.05	01/20/08	01/27/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-589

Radiochemistry

Lab Sample ID: F8A090153-008
Work Order: KE8XN
Matrix: SOLID

Date Collected: 12/13/07 1109
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.35		0.20		0.28	01/12/08	02/02/08
Americium 241	-0.027	U	0.094		0.16	01/12/08	02/02/08
Cesium 137	0.007	U	0.047	0.200	0.085	01/12/08	02/02/08
Cobalt 60	0.0	U	0.056		0.10	01/12/08	02/02/08
Europium 152	0.002	U	0.090		0.17	01/12/08	02/02/08
Europium 154	0.0	U	0.056		0.21	01/12/08	02/02/08
Potassium 40	9.7		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.32	J	0.12	1.00	0.17	01/12/08	02/02/08
Thorium 232	0.35		0.20		0.28	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 80**
Thorium 228	0.30	J	0.13	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.29	J	0.12	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 76**
Uranium 233/234	0.29	J	0.12	1.00	0.06	01/20/08	01/27/08
Uranium 235/236	0.042	U	0.056	1.00	0.078	01/20/08	01/27/08
Uranium 238	0.36	J	0.14	1.00	0.03	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-590

Radiochemistry

Lab Sample ID: F8A090153-009
Work Order: KE8XQ
Matrix: SOLID

Date Collected: 12/13/07 1112
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.22		0.15		0.22	01/12/08	02/02/08
Americium 241	-0.01	U	0.10		0.18	01/12/08	02/02/08
Cesium 137	0.0	U	0.053	0.200	0.095	01/12/08	02/02/08
Cobalt 60	-0.004	U	0.042		0.080	01/12/08	02/02/08
Europium 152	0.0	U	0.10		0.19	01/12/08	02/02/08
Europium 154	-0.12	U	0.38		0.67	01/12/08	02/02/08
Potassium 40	8.4		1.3		0.3	01/12/08	02/02/08
Radium (226)	0.33	J	0.11	1.00	0.15	01/12/08	02/02/08
Thorium 232	0.22		0.15		0.22	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 82**
Thorium 228	0.39	J	0.14	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.30	J	0.12	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 80**
Uranium 233/234	0.27	J	0.12	1.00	0.08	01/20/08	01/27/08
Uranium 235/236	-0.0027	U	0.0054	1.00	0.062	01/20/08	01/27/08
Uranium 238	0.30	J	0.12	1.00	0.05	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-560

Radiochemistry

Lab Sample ID: F8A090153-010
Work Order: KE8XT
Matrix: SOLID

Date Collected: 12/13/07 0927
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.16	U	0.25		0.42	01/12/08	02/02/08
Americium 241	0.005	U	0.10		0.18	01/12/08	02/02/08
Cesium 137	0.020	U	0.066	0.200	0.12	01/12/08	02/02/08
Cobalt 60	0.01	U	0.055		0.11	01/12/08	02/02/08
Europium 152	-0.001	U	0.12		0.22	01/12/08	02/02/08
Europium 154	0.14	U	0.38		0.68	01/12/08	02/02/08
Potassium 40	**9.3**		**1.8**		**0.9**	**01/12/08**	**02/02/08**
Radium (226)	**0.41**	**J**	**0.15**	**1.00**	**0.17**	**01/12/08**	**02/02/08**
Thorium 232	0.16	U	0.25		0.42	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 68**
Thorium 228	**0.26**	**J**	**0.13**	**1.00**	**0.11**	**01/20/08**	**01/28/08**
Thorium 230	**0.40**	**J**	**0.15**	**1.00**	**0.07**	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 91**
Uranium 233/234	**0.27**	**J**	**0.11**	**1.00**	**0.05**	**01/20/08**	**01/27/08**
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/20/08	01/27/08
Uranium 238	**0.27**	**J**	**0.11**	**1.00**	**0.04**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-561

Radiochemistry

Lab Sample ID: F8A090153-011
Work Order: KE8X0
Matrix: SOLID

Date Collected: 12/13/07 0946
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.28	U	0.21		0.31	01/12/08	02/02/08
Americium 241	0.01	U	0.083		0.15	01/12/08	02/02/08
Cesium 137	-0.05	U	0.35	0.20	0.12	01/12/08	02/02/08
Cobalt 60	0.030	U	0.064		0.11	01/12/08	02/02/08
Europium 152	0.0001	U	0.079		0.15	01/12/08	02/02/08
Europium 154	0.06	U	0.35		0.67	01/12/08	02/02/08
Potassium 40	**8.7**		**1.7**		**0.5**	**01/12/08**	**02/02/08**
Radium (226)	**0.44**	**J**	**0.13**	**1.00**	**0.10**	**01/12/08**	**02/02/08**
Thorium 232	0.28	U	0.21		0.31	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 68**
Thorium 228	**0.56**	**J**	**0.19**	**1.00**	**0.10**	**01/20/08**	**01/29/08**
Thorium 230	**0.48**	**J**	**0.17**	**1.00**	**0.07**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 91**
Uranium 233/234	**0.41**	**J**	**0.13**	**1.00**	**0.06**	**01/20/08**	**01/27/08**
Uranium 235/236	0.013	U	0.025	1.00	0.034	01/20/08	01/27/08
Uranium 238	**0.31**	**J**	**0.12**	**1.00**	**0.04**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-562

Radiochemistry

Lab Sample ID: F8A090153-012
Work Order: KE8X2
Matrix: SOLID

Date Collected: 12/13/07 0949
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.35		0.15		0.18	01/12/08	02/02/08
Americium 241	-0.07	U	0.32		0.55	01/12/08	02/02/08
Cesium 137	0.013	U	0.030	0.200	0.053	01/12/08	02/02/08
Cobalt 60	-0.0008	U	0.032		0.063	01/12/08	02/02/08
Europium 152	-0.007	U	0.075		0.14	01/12/08	02/02/08
Europium 154	-0.08	U	0.23		0.42	01/12/08	02/02/08
Potassium 40	9.0		1.3		0.6	01/12/08	02/02/08
Radium (226)	0.41	J	0.11	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.35		0.15		0.18	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 83**
Thorium 228	0.34	J	0.13	1.00	0.08	01/20/08	01/29/08
Thorium 230	0.48	J	0.15	1.00	0.06	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 95**
Uranium 233/234	0.39	J	0.13	1.00	0.06	01/20/08	01/27/08
Uranium 235/236	0.042	U	0.046	1.00	0.056	01/20/08	01/27/08
Uranium 238	0.36	J	0.12	1.00	0.04	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-563

Radiochemistry

Lab Sample ID: F8A090153-013
Work Order: KE8X3
Matrix: SOLID

Date Collected: 12/13/07 1000
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.36		0.18		0.20	01/12/08	02/02/08
Americium 241	0.038	U	0.083		0.14	01/12/08	02/02/08
Cesium 137	-0.016	U	0.045	0.200	0.079	01/12/08	02/02/08
Cobalt 60	0.024	U	0.046		0.080	01/12/08	02/02/08
Europium 152	-0.023	U	0.099		0.18	01/12/08	02/02/08
Europium 154	-0.11	U	0.40		0.72	01/12/08	02/02/08
Potassium 40	9.8		1.6		0.4	01/12/08	02/02/08
Radium (226)	0.27	J	0.11	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.36		0.18		0.20	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 82**
Thorium 228	0.52	J	0.16	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.46	J	0.15	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 88**
Uranium 233/234	0.35	J	0.12	1.00	0.06	01/20/08	01/27/08
Uranium 235/236	0.006	U	0.027	1.00	0.070	01/20/08	01/27/08
Uranium 238	0.32	J	0.12	1.00	0.04	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-564

Radiochemistry

Lab Sample ID: F8A090153-014
Work Order: KE8X7
Matrix: SOLID

Date Collected: 12/13/07 1004
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.42		0.23		0.32	01/12/08	02/02/08
Americium 241	0.060	U	0.076		0.12	01/12/08	02/02/08
Cesium 137	-0.007	U	0.049	0.200	0.088	01/12/08	02/02/08
Cobalt 60	-0.013	U	0.064		0.11	01/12/08	02/02/08
Europium 152	0.03	U	0.11		0.19	01/12/08	02/02/08
Europium 154	0.13	U	0.33		0.58	01/12/08	02/02/08
Potassium 40	10.7		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.41	J	0.14	1.00	0.19	01/12/08	02/02/08
Thorium 232	0.42		0.23		0.32	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 86**
Thorium 228	0.46	J	0.15	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.39	J	0.13	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 88**
Uranium 233/234	0.39	J	0.13	1.00	0.04	01/20/08	01/27/08
Uranium 235/236	0.085	J	0.067	1.00	0.053	01/20/08	01/27/08
Uranium 238	0.47	J	0.14	1.00	0.05	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-565

Radiochemistry

Lab Sample ID: F8A090153-015
Work Order: KE8X9
Matrix: SOLID

Date Collected: 12/13/07 1010
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.44		0.18		0.21	01/12/08	02/02/08
Americium 241	-0.004	U	0.098		0.17	01/12/08	02/02/08
Cesium 137	0.012	U	0.038	0.200	0.068	01/12/08	02/02/08
Cobalt 60	-0.005	U	0.053		0.098	01/12/08	02/02/08
Europium 152	0.0	U	0.12		0.21	01/12/08	02/02/08
Europium 154	-0.08	U	0.37		0.66	01/12/08	02/02/08
Potassium 40	9.5		1.4		0.3	01/12/08	02/02/08
Radium (226)	0.53	J	0.14	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.44		0.18		0.21	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 83**
Thorium 228	0.31	J	0.12	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.31	J	0.12	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 86**
Uranium 233/234	0.178	J	0.090	1.00	0.052	01/20/08	01/27/08
Uranium 235/236	-0.0075	U	0.0087	1.00	0.072	01/20/08	01/27/08
Uranium 238	0.209	J	0.097	1.00	0.052	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-566

Radiochemistry

Lab Sample ID: F8A090153-016
Work Order: KE80D
Matrix: SOLID

Date Collected: 12/13/07 1015
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.39		0.24		0.33	01/12/08	02/02/08
Americium 241	0.001	U	0.078		0.14	01/12/08	02/02/08
Cesium 137	0.0	U	0.0099	0.200	0.036	01/12/08	02/02/08
Cobalt 60	0.011	U	0.052		0.10	01/12/08	02/02/08
Europium 152	0.03	U	0.12		0.21	01/12/08	02/02/08
Europium 154	-0.03	U	0.29		0.58	01/12/08	02/02/08
Potassium 40	8.2		1.7		0.6	01/12/08	02/02/08
Radium (226)	0.42	J	0.17	1.00	0.22	01/12/08	02/02/08
Thorium 232	0.39		0.24		0.33	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 88**
Thorium 228	0.39	J	0.13	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.36	J	0.12	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 86**
Uranium 233/234	0.214	J	0.097	1.00	0.051	01/20/08	01/27/08
Uranium 235/236	0.065	J	0.058	1.00	0.035	01/20/08	01/27/08
Uranium 238	0.28	J	0.11	1.00	0.04	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-567

Radiochemistry

Lab Sample ID: F8A090153-017
Work Order: KE80G
Matrix: SOLID

Date Collected: 12/13/07 1017
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.16	U	0.21		0.35	01/12/08	02/02/08
Americium 241	0.060	U	0.092		0.15	01/12/08	02/02/08
Cesium 137	0.030	U	0.062	0.200	0.12	01/12/08	02/02/08
Cobalt 60	0.011	U	0.059		0.11	01/12/08	02/02/08
Europium 152	0.12	U	0.12		0.19	01/12/08	02/02/08
Europium 154	-0.19	U	0.54		0.96	01/12/08	02/02/08
Potassium 40	7.7		1.7		1.2	**01/12/08**	**02/02/08**
Radium (226)	0.51	J	0.16	1.00	0.14	**01/12/08**	**02/02/08**
Thorium 232	0.16	U	0.21		0.35	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 84**
Thorium 228	1.20		0.25	1.00	0.07	**01/20/08**	**01/28/08**
Thorium 230	0.55	J	0.16	1.00	0.05	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 84**
Uranium 233/234	0.55	J	0.16	1.00	0.06	**01/20/08**	**01/27/08**
Uranium 235/236	0.027	U	0.038	1.00	0.036	01/20/08	01/27/08
Uranium 238	0.35	J	0.13	1.00	0.05	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-568

Radiochemistry

Lab Sample ID: F8A090153-018
Work Order: KE80L
Matrix: SOLID

Date Collected: 12/13/07 1021
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012117**	**Yld %**
Actinium 228	0.41		0.14		0.18	01/12/08	02/02/08
Americium 241	-0.12	U	0.30		0.50	01/12/08	02/02/08
Cesium 137	0.01	U	0.024	0.200	0.042	01/12/08	02/02/08
Cobalt 60	-0.011	U	0.032		0.058	01/12/08	02/02/08
Europium 152	0.008	U	0.081		0.15	01/12/08	02/02/08
Europium 154	-0.0008	U	0.22		0.42	01/12/08	02/02/08
Potassium 40	8.6		1.2		0.5	01/12/08	02/02/08
Radium (226)	0.274	J	0.091	1.00	0.11	01/12/08	02/02/08
Thorium 232	0.41		0.14		0.18	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020026**	**Yld % 81**
Thorium 228	0.30	J	0.12	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.46	J	0.15	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020027**	**Yld % 83**
Uranium 233/234	0.36	J	0.13	1.00	0.05	01/20/08	01/27/08
Uranium 235/236	0.041	J	0.048	1.00	0.037	01/20/08	01/27/08
Uranium 238	0.35	J	0.13	1.00	0.05	01/20/08	01/27/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 62**
Strontium 90	-0.08	U	0.22	3.00	0.40	01/09/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-569

Radiochemistry

Lab Sample ID: F8A090153-019
Work Order: KE80N
Matrix: SOLID

Date Collected: 12/13/07 1025
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.19	U	0.19		0.30	01/12/08	02/02/08
Americium 241	-0.012	U	0.093		0.16	01/12/08	02/02/08
Cesium 137	0.068	U	0.051	0.200	0.075	01/12/08	02/02/08
Cobalt 60	0.009	U	0.048		0.091	01/12/08	02/02/08
Europium 152	-0.02	U	0.11		0.20	01/12/08	02/02/08
Europium 154	-0.07	U	0.39		0.71	01/12/08	02/02/08
Potassium 40	**10.7**		**1.7**		**0.4**	**01/12/08**	**02/02/08**
Radium (226)	**0.40**	**J**	**0.11**	**1.00**	**0.07**	**01/12/08**	**02/02/08**
Thorium 232	0.19	U	0.19		0.30	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 77**
Thorium 228	**0.50**	**J**	**0.16**	**1.00**	**0.08**	**01/20/08**	**01/29/08**
Thorium 230	**0.52**	**J**	**0.16**	**1.00**	**0.06**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 78**
Uranium 233/234	**0.54**	**J**	**0.16**	**1.00**	**0.07**	**01/20/08**	**01/27/08**
Uranium 235/236	0.051	U	0.057	1.00	0.070	01/20/08	01/27/08
Uranium 238	**0.22**	**J**	**0.10**	**1.00**	**0.06**	**01/20/08**	**01/27/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-570

Radiochemistry

Lab Sample ID: F8A090153-020
Work Order: KE80R
Matrix: SOLID

Date Collected: 12/13/07 1028
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012117**		**Yld %**
Actinium 228	0.24		0.17		0.23	01/12/08	02/02/08
Americium 241	0.005	U	0.075		0.13	01/12/08	02/02/08
Cesium 137	-0.013	U	0.052	0.200	0.094	01/12/08	02/02/08
Cobalt 60	-0.012	U	0.062		0.12	01/12/08	02/02/08
Europium 152	-0.005	U	0.11		0.20	01/12/08	02/02/08
Europium 154	0.0	U	0.45		0.84	01/12/08	02/02/08
Potassium 40	10.1		1.7		0.5	01/12/08	02/02/08
Radium (226)	0.38	J	0.16	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.24		0.17		0.23	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020026**		**Yld % 83**
Thorium 228	0.38	J	0.14	1.00	0.08	01/20/08	01/29/08
Thorium 230	0.41	J	0.14	1.00	0.03	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020027**		**Yld % 80**
Uranium 233/234	0.31	J	0.13	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	0.009	U	0.031	1.00	0.073	01/20/08	01/28/08
Uranium 238	0.31	J	0.13	1.00	0.07	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-571

Radiochemistry

Lab Sample ID: F8A090153-021
Work Order: KE80T
Matrix: SOLID

Date Collected: 12/13/07 1038
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.15	U	0.22		0.38	01/12/08	02/02/08
Americium 241	0.046	U	0.089		0.15	01/12/08	02/02/08
Cesium 137	-0.020	U	0.063	0.200	0.11	01/12/08	02/02/08
Cobalt 60	0.0006	U	0.041		0.088	01/12/08	02/02/08
Europium 152	0.0	U	0.18		0.31	01/12/08	02/02/08
Europium 154	0.09	U	0.35		0.67	01/12/08	02/02/08
Potassium 40	**9.0**		1.8		0.6	01/12/08	02/02/08
Radium (226)	**0.39**	J	0.15	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.15	U	0.22		0.38	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 76**
Thorium 228	**0.36**	J	0.15	1.00	0.12	01/20/08	01/28/08
Thorium 230	**0.35**	J	0.14	1.00	0.09	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 70**
Uranium 233/234	**0.28**	J	0.13	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.034	U	0.049	1.00	0.046	01/20/08	01/26/08
Uranium 238	**0.28**	J	0.12	1.00	0.06	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-571 DUP

Radiochemistry

Lab Sample ID: F8A090153-021X
Work Order: KE80T
Matrix: SOLID

Date Collected: 12/13/07 1038
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8012112		Yld %
Actinium 228	**0.48**		0.16		0.25	01/12/08	02/02/08
Americium 241	0.02	U	0.10		0.17	01/12/08	02/02/08
Cesium 137	0.039	U	0.049	0.200	0.080	01/12/08	02/02/08
Cobalt 60	0.002	U	0.045		0.086	01/12/08	02/02/08
Europium 152	0.004	U	0.11		0.19	01/12/08	02/02/08
Europium 154	-0.05	U	0.34		0.62	01/12/08	02/02/08
Potassium 40	**10.4**		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.16	U	0.12	1.00	0.19	01/12/08	02/02/08
Thorium 232	**0.48**		0.16		0.25	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8020031		Yld % 73
Uranium 233/234	**0.31**	J	0.13	1.00	0.05	01/20/08	01/26/08
Uranium 235/236	0.012	U	0.031	1.00	0.065	01/20/08	01/26/08
Uranium 238	**0.36**	J	0.14	1.00	0.06	01/20/08	01/26/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8020032		Yld % 77
Thorium 228	**0.52**	J	0.17	1.00	0.09	01/20/08	01/28/08
Thorium 230	**0.54**	J	0.17	1.00	0.06	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-572

Radiochemistry

Lab Sample ID: F8A090153-022
Work Order: KE80X
Matrix: SOLID

Date Collected: 12/13/07 1042
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.22	U	0.21		0.34	01/12/08	02/02/08
Americium 241	-0.04	U	0.11		0.18	01/12/08	02/02/08
Cesium 137	-0.01	U	0.11	0.20	0.12	01/12/08	02/02/08
Cobalt 60	0.0008	U	0.047		0.096	01/12/08	02/02/08
Europium 152	-0.02	U	0.12		0.21	01/12/08	02/02/08
Europium 154	0.0	U	0.079		0.29	01/12/08	02/02/08
Potassium 40	7.8		1.5		0.5	01/12/08	02/02/08
Radium (226)	0.55	J	0.16	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.22	U	0.21		0.34	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 72**
Thorium 228	0.81	J	0.22	1.00	0.1	01/20/08	01/28/08
Thorium 230	0.58	J	0.18	1.00	0.07	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 77**
Uranium 233/234	0.39	J	0.14	1.00	0.09	01/20/08	01/26/08
Uranium 235/236	0.025	U	0.040	1.00	0.059	01/20/08	01/26/08
Uranium 238	0.37	J	0.14	1.00	0.09	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-573

Radiochemistry

Lab Sample ID: F8A090153-023
Work Order: KE800
Matrix: SOLID

Date Collected: 12/13/07 1048
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012112**	**Yld %**
Actinium 228	0.46		0.12		0.18	01/12/08	02/02/08
Americium 241	0.07	U	0.25		0.43	01/12/08	02/02/08
Cesium 137	0.026	U	0.031	0.200	0.050	01/12/08	02/02/08
Cobalt 60	0.0	U	0.0069		0.025	01/12/08	02/02/08
Europium 152	-0.008	U	0.070		0.13	01/12/08	02/02/08
Europium 154	0.05	U	0.22		0.40	01/12/08	02/02/08
Potassium 40	9.8		1.3		0.5	01/12/08	02/02/08
Radium (226)	0.519	J	0.0996	1.00	0.032	01/12/08	02/02/08
Thorium 232	0.46		0.12		0.18	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020032**	**Yld % 69**
Thorium 228	1.20		0.28	1.00	0.11	01/20/08	01/28/08
Thorium 230	0.61	J	0.19	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020031**	**Yld % 79**
Uranium 233/234	0.36	J	0.14	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	0.024	U	0.042	1.00	0.072	01/20/08	01/26/08
Uranium 238	0.56	J	0.17	1.00	0.08	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-574

Radiochemistry

Lab Sample ID: F8A090153-024
Work Order: KE801
Matrix: SOLID

Date Collected: 12/13/07 1050
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.30		0.19		0.25	01/12/08	02/02/08
Americium 241	-0.033	U	0.098		0.17	01/12/08	02/02/08
Cesium 137	0.009	U	0.044	0.200	0.080	01/12/08	02/02/08
Cobalt 60	0.006	U	0.062		0.12	01/12/08	02/02/08
Europium 152	0.0	U	0.11		0.21	01/12/08	02/02/08
Europium 154	-0.16	U	0.42		0.74	01/12/08	02/02/08
Potassium 40	9.0		1.6		0.8	01/12/08	02/02/08
Radium (226)	0.59	J	0.15	1.00	0.09	01/12/08	02/02/08
Thorium 232	0.30		0.19		0.25	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 71**
Thorium 228	0.73	J	0.21	1.00	0.11	01/20/08	01/28/08
Thorium 230	0.57	J	0.18	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 71**
Uranium 233/234	0.35	J	0.14	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	0.044	U	0.055	1.00	0.067	01/20/08	01/26/08
Uranium 238	0.47	J	0.16	1.00	0.05	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-575

Radiochemistry

Lab Sample ID: F8A090153-025
Work Order: KE802
Matrix: SOLID

Date Collected: 12/13/07 1054
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.45		0.17		0.18	01/12/08	02/02/08
Americium 241	-0.06	U	0.12		0.21	01/12/08	02/02/08
Cesium 137	0.001	U	0.055	0.200	0.10	01/12/08	02/02/08
Cobalt 60	0.014	U	0.060		0.11	01/12/08	02/02/08
Europium 152	0.008	U	0.10		0.19	01/12/08	02/02/08
Europium 154	0.0	U	0.34		0.67	01/12/08	02/02/08
Potassium 40	11.3		1.9		0.5	01/12/08	02/02/08
Radium (226)	0.27	J	0.13	1.00	0.17	01/12/08	02/02/08
Thorium 232	0.45		0.17		0.18	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 67**
Thorium 228	0.24	J	0.12	1.00	0.10	01/20/08	01/28/08
Thorium 230	0.18	J	0.10	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 65**
Uranium 233/234	0.27	J	0.12	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	-0.0031	U	0.0061	1.00	0.070	01/20/08	01/26/08
Uranium 238	0.21	J	0.11	1.00	0.04	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-576

Radiochemistry

Lab Sample ID: F8A090153-026
Work Order: KE804
Matrix: SOLID

Date Collected: 12/13/07 1058
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.19	U	0.19		0.30	01/12/08	02/02/08
Americium 241	0.044	U	0.099		0.17	01/12/08	02/02/08
Cesium 137	0.013	U	0.045	0.200	0.080	01/12/08	02/02/08
Cobalt 60	-0.016	U	0.062		0.11	01/12/08	02/02/08
Europium 152	-0.04	U	0.13		0.22	01/12/08	02/02/08
Europium 154	-0.07	U	0.40		0.73	01/12/08	02/02/08
Potassium 40	**9.7**		**1.5**		**0.4**	**01/12/08**	**02/02/08**
Radium (226)	**0.35**	**J**	**0.14**	**1.00**	**0.20**	**01/12/08**	**02/02/08**
Thorium 232	0.19	U	0.19		0.30	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 97**
Thorium 228	**0.30**	**J**	**0.11**	**1.00**	**0.08**	**01/20/08**	**01/28/08**
Thorium 230	**0.28**	**J**	**0.11**	**1.00**	**0.05**	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 80**
Uranium 233/234	**0.40**	**J**	**0.15**	**1.00**	**0.06**	**01/20/08**	**01/26/08**
Uranium 235/236	0.012	U	0.031	1.00	0.065	01/20/08	01/26/08
Uranium 238	**0.26**	**J**	**0.11**	**1.00**	**0.03**	**01/20/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-577

Radiochemistry

Lab Sample ID: F8A090153-027
Work Order: KE805
Matrix: SOLID

Date Collected: 12/13/07 1100
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.19	U	0.23		0.38	01/12/08	02/02/08
Americium 241	0.006	U	0.098		0.17	01/12/08	02/02/08
Cesium 137	0.027	U	0.055	0.200	0.095	01/12/08	02/02/08
Cobalt 60	0.0	U	0.087		0.16	01/12/08	02/02/08
Europium 152	-0.04	U	0.11		0.19	01/12/08	02/02/08
Europium 154	0.003	U	0.46		0.87	01/12/08	02/02/08
Potassium 40	6.2		1.5		0.6	01/12/08	02/02/08
Radium (226)	0.30	J	0.13	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.19	U	0.23		0.38	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 72**
Thorium 228	0.90	J	0.23	1.00	0.11	01/20/08	01/28/08
Thorium 230	0.59	J	0.18	1.00	0.06	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 78**
Uranium 233/234	0.41	J	0.14	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.015	U	0.029	1.00	0.039	01/20/08	01/26/08
Uranium 238	0.44	J	0.15	1.00	0.05	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-578

Radiochemistry

Lab Sample ID: F8A090153-028
Work Order: KE806
Matrix: SOLID

Date Collected: 12/13/07 1103
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.33		0.22		0.31	01/12/08	02/02/08
Americium 241	0.061	U	0.091		0.15	01/12/08	02/02/08
Cesium 137	0.152	J	0.060	0.200	0.072	01/12/08	02/02/08
Cobalt 60	-0.012	U	0.060		0.11	01/12/08	02/02/08
Europium 152	-0.01	U	0.12		0.22	01/12/08	02/02/08
Europium 154	-0.03	U	0.40		0.76	01/12/08	02/02/08
Potassium 40	8.6		1.7		0.5	01/12/08	02/02/08
Radium (226)	0.45	J	0.14	1.00	0.13	01/12/08	02/02/08
Thorium 232	0.33		0.22		0.31	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 64**
Thorium 228	0.52	J	0.18	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.16	J	0.10	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 79**
Uranium 233/234	0.36	J	0.14	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	-0.0057	U	0.0080	1.00	0.074	01/20/08	01/26/08
Uranium 238	0.35	J	0.13	1.00	0.03	01/20/08	01/26/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 65**
Strontium 90	0.16	U	0.26	3.00	0.43	01/09/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-579

Radiochemistry

Lab Sample ID: F8A090153-029
Work Order: KE809
Matrix: SOLID

Date Collected: 12/13/07 1108
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.40		0.14		0.18	01/12/08	02/02/08
Americium 241	-0.08	U	0.26		0.45	01/12/08	02/02/08
Cesium 137	0.003	U	0.031	0.200	0.057	01/12/08	02/02/08
Cobalt 60	0.001	U	0.028		0.056	01/12/08	02/02/08
Europium 152	0.0	U	0.11		0.19	01/12/08	02/02/08
Europium 154	-0.12	U	0.27		0.48	01/12/08	02/02/08
Potassium 40	9.2		1.3		0.5	01/12/08	02/02/08
Radium (226)	0.44	J	0.10	1.00	0.1	01/12/08	02/02/08
Thorium 232	0.40		0.14		0.18	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 83**
Uranium 233/234	0.24	J	0.11	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.011	U	0.029	1.00	0.060	01/20/08	01/26/08
Uranium 238	0.36	J	0.13	1.00	0.05	01/20/08	01/26/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8030125**		**Yld % 85**
Thorium 228	0.43	J	0.15	1.00	0.11	01/30/08	02/04/08
Thorium 230	0.43	J	0.14	1.00	0.08	01/30/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-579 DUP

Radiochemistry

Lab Sample ID: F8A090153-029X
Work Order: KE809
Matrix: SOLID

Date Collected: 12/13/07 1108
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8030125	Yld % 94
Thorium 228	0.31	J	0.12	1.00	0.06	01/30/08	02/04/08
Thorium 230	0.49	J	0.15	1.00	0.03	01/30/08	02/04/08

NOTE(S)

[illegible] are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-591

Radiochemistry

Lab Sample ID: F8A090153-030
Work Order: KE81A
Matrix: SOLID

Date Collected: 12/13/07 1114
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.34		0.16		0.29	01/12/08	02/02/08
Americium 241	-0.028	U	0.092		0.16	01/12/08	02/02/08
Cesium 137	0.031	U	0.053	0.200	0.091	01/12/08	02/02/08
Cobalt 60	0.0	U	0.012		0.045	01/12/08	02/02/08
Europium 152	-0.02	U	0.11		0.19	01/12/08	02/02/08
Europium 154	0.0	U	0.28		0.55	01/12/08	02/02/08
Potassium 40	8.6		1.6		0.7	01/12/08	02/02/08
Radium (226)	0.28	J	0.12	1.00	0.15	01/12/08	02/02/08
Thorium 232	0.34		0.16		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 79**
Thorium 228	0.21	J	0.10	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.34	J	0.13	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 78**
Uranium 233/234	0.074	J	0.062	1.00	0.062	01/20/08	01/26/08
Uranium 235/236	-0.0027	U	0.0054	1.00	0.061	01/20/08	01/26/08
Uranium 238	0.31	J	0.12	1.00	0.05	01/20/08	01/26/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-592

Radiochemistry

Lab Sample ID: F8A090153-031
Work Order: KE81G
Matrix: SOLID

Date Collected: 12/13/07 1117
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.31		0.20		0.27	01/12/08	02/02/08
Americium 241	0.027	U	0.099		0.17	01/12/08	02/02/08
Cesium 137	0.011	U	0.037	0.200	0.070	01/12/08	02/02/08
Cobalt 60	-0.0006	U	0.038		0.082	01/12/08	02/02/08
Europium 152	-0.03	U	0.12		0.21	01/12/08	02/02/08
Europium 154	0.0	U	0.54		1.0	01/12/08	02/02/08
Potassium 40	11.6		1.9		0.5	01/12/08	02/02/08
Radium (226)	0.35	J	0.13	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.31		0.20		0.27	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 76**
Thorium 228	0.27	J	0.12	1.00	0.07	01/20/08	01/28/08
Thorium 230	0.39	J	0.14	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 83**
Uranium 233/234	0.30	J	0.12	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	01/20/08	01/26/08
Uranium 238	0.22	J	0.10	1.00	0.05	01/20/08	01/26/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 67**
Strontium 90	-0.22	U	0.30	3.00	0.56	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-593

Radiochemistry

Lab Sample ID: F8A090153-032
Work Order: KE81H
Matrix: SOLID

Date Collected: 12/13/07 1120
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.36		0.16		0.27	01/12/08	02/02/08
Americium 241	0.0	U	0.11		0.19	01/12/08	02/02/08
Cesium 137	0.0003	U	0.051	0.200	0.093	01/12/08	02/02/08
Cobalt 60	0.002	U	0.048		0.091	01/12/08	02/02/08
Europium 152	0.03	U	0.10		0.18	01/12/08	02/02/08
Europium 154	-0.08	U	0.35		0.64	01/12/08	02/02/08
Potassium 40	8.3		1.4		0.7	01/12/08	02/02/08
Radium (226)	0.39	J	0.14	1.00	0.20	01/12/08	02/02/08
Thorium 232	0.36		0.16		0.27	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 81**
Thorium 228	0.27	J	0.11	1.00	0.06	01/20/08	01/28/08
Thorium 230	0.30	J	0.12	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 78**
Uranium 233/234	0.24	J	0.11	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	-0.0053	U	0.0075	1.00	0.070	01/20/08	01/26/08
Uranium 238	0.26	J	0.11	1.00	0.05	01/20/08	01/26/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-594

Radiochemistry

Lab Sample ID: F8A090153-033
Work Order: KE81J
Matrix: SOLID

Date Collected: 12/13/07 1125
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.57		0.24		0.28	01/12/08	02/02/08
Americium 241	0.008	U	0.12		0.21	01/12/08	02/02/08
Cesium 137	0.012	U	0.061	0.200	0.11	01/12/08	02/02/08
Cobalt 60	0.0	U	0.070		0.13	01/12/08	02/02/08
Europium 152	-0.03	U	0.14		0.25	01/12/08	02/02/08
Europium 154	-0.01	U	0.38		0.71	01/12/08	02/02/08
Potassium 40	12.6		1.9		0.4	01/12/08	02/02/08
Radium (226)	0.45	J	0.15	1.00	0.19	01/12/08	02/02/08
Thorium 232	0.57		0.24		0.28	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 41**
Thorium 228	0.64	J	0.25	1.00	0.14	01/20/08	01/28/08
Thorium 230	0.71	J	0.26	1.00	0.14	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 54**
Uranium 233/234	0.40	J	0.17	1.00	0.09	01/20/08	01/26/08
Uranium 235/236	0.050	U	0.073	1.00	0.11	01/20/08	01/26/08
Uranium 238	0.53	J	0.19	1.00	0.07	01/20/08	01/26/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-595

Radiochemistry

Lab Sample ID: F8A090153-034
Work Order: KE81L
Matrix: SOLID

Date Collected: 12/13/07 1127
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.49	U	0.40		0.60	01/12/08	02/02/08
Americium 241	-0.05	U	0.16		0.27	01/12/08	02/02/08
Cesium 137	0.0	U	0.13	0.20	0.24	01/12/08	02/02/08
Cobalt 60	-0.03	U	0.11		0.20	01/12/08	02/02/08
Europium 152	0.05	U	0.17		0.31	01/12/08	02/02/08
Europium 154	0.30	U	0.60		1.1	01/12/08	02/02/08
Potassium 40	12.5		2.7		0.9	01/12/08	02/02/08
Radium (226)	0.95	J	0.24	1.00	0.10	01/12/08	02/02/08
Thorium 232	0.49	U	0.40		0.60	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 79**
Thorium 228	0.59	J	0.18	1.00	0.08	01/20/08	01/28/08
Thorium 230	0.65	J	0.18	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 90**
Uranium 233/234	0.54	J	0.15	1.00	0.04	01/20/08	01/26/08
Uranium 235/236	0.047	U	0.050	1.00	0.053	01/20/08	01/26/08
Uranium 238	0.60	J	0.16	1.00	0.05	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-596

Radiochemistry

Lab Sample ID: F8A090153-035
Work Order: KE81M
Matrix: SOLID

Date Collected: 12/13/07 1245
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.29	U	0.23		0.34	01/12/08	02/02/08
Americium 241	0.021	U	0.085		0.15	01/12/08	02/02/08
Cesium 137	**0.111**	**J**	**0.064**	**0.200**	**0.083**	**01/12/08**	**02/02/08**
Cobalt 60	0.016	U	0.059		0.11	01/12/08	02/02/08
Europium 152	0.00009	U	0.065		0.13	01/12/08	02/02/08
Europium 154	-0.08	U	0.35		0.65	01/12/08	02/02/08
Potassium 40	**8.4**		**1.6**		**0.5**	**01/12/08**	**02/02/08**
Radium (226)	**0.47**	**J**	**0.13**	**1.00**	**0.1**	**01/12/08**	**02/02/08**
Thorium 232	0.29	U	0.23		0.34	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 70**
Thorium 228	**0.28**	**J**	**0.12**	**1.00**	**0.09**	**01/20/08**	**01/28/08**
Thorium 230	**0.29**	**J**	**0.12**	**1.00**	**0.03**	**01/20/08**	**01/28/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 74**
Uranium 233/234	**0.112**	**J**	**0.079**	**1.00**	**0.063**	**01/20/08**	**01/26/08**
Uranium 235/236	-0.009	U	0.010	1.00	0.087	01/20/08	01/26/08
Uranium 238	**0.31**	**J**	**0.13**	**1.00**	**0.06**	**01/20/08**	**01/26/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-597

Radiochemistry

Lab Sample ID: F8A090153-036
Work Order: KE81N
Matrix: SOLID

Date Collected: 12/13/07 1247
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.40		0.13		0.21	01/12/08	02/02/08
Americium 241	-0.08	U	0.24		0.42	01/12/08	02/02/08
Cesium 137	0.062	J	0.033	0.200	0.043	01/12/08	02/02/08
Cobalt 60	0.0	U	0.0070		0.026	01/12/08	02/02/08
Europium 152	-0.016	U	0.083		0.15	01/12/08	02/02/08
Europium 154	0.06	U	0.20		0.36	01/12/08	02/02/08
Potassium 40	9.5		1.3		0.6	01/12/08	02/02/08
Radium (226)	0.43	J	0.11	1.00	0.1	01/12/08	02/02/08
Thorium 232	0.40		0.13		0.21	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 73**
Thorium 228	0.50	J	0.17	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.29	J	0.13	1.00	0.09	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 73**
Uranium 233/234	0.30	J	0.13	1.00	0.06	01/20/08	01/26/08
Uranium 235/236	0.046	J	0.053	1.00	0.041	01/20/08	01/26/08
Uranium 238	0.31	J	0.13	1.00	0.05	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-598

Radiochemistry

Lab Sample ID: F8A090153-037
Work Order: KE81P
Matrix: SOLID

Date Collected: 12/13/07 1250
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012112**	**Yld %**
Actinium 228	0.32		0.14		0.23	01/12/08	02/02/08
Americium 241	0.038	U	0.096		0.16	01/12/08	02/02/08
Cesium 137	0.086	J	0.053	0.200	0.076	01/12/08	02/02/08
Cobalt 60	-0.007	U	0.053		0.099	01/12/08	02/02/08
Europium 152	0.009	U	0.092		0.17	01/12/08	02/02/08
Europium 154	0.04	U	0.31		0.57	01/12/08	02/02/08
Potassium 40	9.6		1.5		0.4	01/12/08	02/02/08
Radium (226)	0.60	J	0.12	1.00	0.04	01/12/08	02/02/08
Thorium 232	0.32		0.14		0.23	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020031**	**Yld % 74**
Uranium 233/234	0.27	J	0.12	1.00	0.07	01/20/08	01/26/08
Uranium 235/236	0.046	J	0.053	1.00	0.041	01/20/08	01/26/08
Uranium 238	0.20	J	0.10	1.00	0.06	01/20/08	01/26/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 56**
Strontium 90	0.02	U	0.35	3.00	0.61	01/09/08	01/24/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8030125**	**Yld % 81**
Thorium 228	0.26	J	0.12	1.00	0.09	01/30/08	02/04/08
Thorium 230	0.35	J	0.13	1.00	0.06	01/30/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-599

Radiochemistry

Lab Sample ID: F8A090153-038
Work Order: KE81R
Matrix: SOLID

Date Collected: 12/13/07 1252
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.34		0.19		0.25	01/12/08	02/02/08
Americium 241	0.002	U	0.093		0.16	01/12/08	02/02/08
Cesium 137	0.025	U	0.041	0.200	0.071	01/12/08	02/02/08
Cobalt 60	-0.001	U	0.057		0.11	01/12/08	02/02/08
Europium 152	0.0	U	0.14		0.25	01/12/08	02/02/08
Europium 154	-0.10	U	0.48		0.87	01/12/08	02/02/08
Potassium 40	9.0		1.6		0.5	01/12/08	02/02/08
Radium (226)	0.45	J	0.14	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.34		0.19		0.25	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 71**
Thorium 228	0.50	J	0.16	1.00	0.09	01/20/08	01/28/08
Thorium 230	0.61	J	0.18	1.00	0.03	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 84**
Uranium 233/234	0.37	J	0.13	1.00	0.05	01/20/08	01/26/08
Uranium 235/236	0.0	U	0.012	1.00	0.037	01/20/08	01/26/08
Uranium 238	0.28	J	0.11	1.00	0.05	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-600

Radiochemistry

Lab Sample ID: F8A090153-039
Work Order: KE81V
Matrix: SOLID

Date Collected: 12/13/07 1255
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012112**		**Yld %**
Actinium 228	0.42		0.24		0.35	01/12/08	02/02/08
Americium 241	0.024	U	0.083		0.14	01/12/08	02/02/08
Cesium 137	0.043	U	0.059	0.200	0.098	01/12/08	02/02/08
Cobalt 60	0.009	U	0.050		0.093	01/12/08	02/02/08
Europium 152	0.0	U	0.15		0.27	01/12/08	02/02/08
Europium 154	-0.08	U	0.40		0.73	01/12/08	02/02/08
Potassium 40	11.3		1.7		0.4	01/12/08	02/02/08
Radium (226)	0.34	J	0.13	1.00	0.19	01/12/08	02/02/08
Thorium 232	0.42		0.24		0.35	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020032**		**Yld % 81**
Thorium 228	0.32	J	0.13	1.00	0.08	01/20/08	01/28/08
Thorium 230	0.26	J	0.11	1.00	0.05	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020031**		**Yld % 81**
Uranium 233/234	0.206	J	0.099	1.00	0.067	01/20/08	01/26/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	01/20/08	01/26/08
Uranium 238	0.22	J	0.10	1.00	0.06	01/20/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-601

Radiochemistry

Lab Sample ID: F8A090153-040
Work Order: KE81X
Matrix: SOLID

Date Collected: 12/13/07 1257
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012112**	**Yld %**
Actinium 228	0.47		0.19		0.23	01/12/08	02/02/08
Americium 241	-0.010	U	0.088		0.15	01/12/08	02/02/08
Cesium 137	0.015	U	0.045	0.200	0.080	01/12/08	02/02/08
Cobalt 60	0.0001	U	0.048		0.091	01/12/08	02/02/08
Europium 152	-0.0003	U	0.11		0.20	01/12/08	02/02/08
Europium 154	-0.02	U	0.30		0.56	01/12/08	02/02/08
Potassium 40	10.1		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.31	J	0.12	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.47		0.19		0.23	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020032**	**Yld % 81**
Thorium 228	0.22	J	0.11	1.00	0.11	01/20/08	01/28/08
Thorium 230	0.38	J	0.14	1.00	0.08	01/20/08	01/28/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020031**	**Yld % 82**
Uranium 233/234	0.28	J	0.12	1.00	0.06	01/20/08	01/27/08
Uranium 235/236	0.014	U	0.029	1.00	0.039	01/20/08	01/27/08
Uranium 238	0.26	J	0.11	1.00	0.05	01/20/08	01/27/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-612

Radiochemistry

Lab Sample ID: F8A090153-041
Work Order: KE813
Matrix: SOLID

Date Collected: 12/13/07 1338
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.36		0.11		0.12	01/12/08	02/02/08
Americium 241	-0.04	U	0.24		0.42	01/12/08	02/02/08
Cesium 137	-0.0009	U	0.024	0.200	0.045	01/12/08	02/02/08
Cobalt 60	0.0	U	0.056		0.10	01/12/08	02/02/08
Europium 152	0.006	U	0.055		0.10	01/12/08	02/02/08
Europium 154	0.0	U	0.24		0.44	01/12/08	02/02/08
Potassium 40	7.2		1.0		0.5	01/12/08	02/02/08
Radium (226)	0.381	J	0.095	1.00	0.096	01/12/08	02/02/08
Thorium 232	0.36		0.11		0.12	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 67**
Thorium 228	0.44	J	0.17	1.00	0.11	01/20/08	01/29/08
Thorium 230	0.37	J	0.15	1.00	0.07	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 92**
Uranium 233/234	0.24	J	0.10	1.00	0.05	01/20/08	01/28/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	01/20/08	01/28/08
Uranium 238	0.37	J	0.13	1.00	0.04	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-612 DUP

Radiochemistry

Lab Sample ID: F8A090153-041X
Work Order: KE813
Matrix: SOLID

Date Collected: 12/13/07 1338
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.22	U	0.16		0.24	01/12/08	02/02/08
Americium 241	0.031	U	0.094		0.16	01/12/08	02/02/08
Cesium 137	-0.002	U	0.037	0.200	0.068	01/12/08	02/02/08
Cobalt 60	-0.007	U	0.055		0.10	01/12/08	02/02/08
Europium 152	0.020	U	0.085		0.15	01/12/08	02/02/08
Europium 154	-0.13	U	0.35		0.60	01/12/08	02/02/08
Potassium 40	7.7		1.2		0.3	01/12/08	02/02/08
Radium (226)	0.21	J	0.10	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.22	U	0.16		0.24	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 62**
Thorium 228	0.45	J	0.17	1.00	0.12	01/20/08	01/29/08
Thorium 230	0.28	J	0.13	1.00	0.06	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 97**
Uranium 233/234	0.231	J	0.0996	1.00	0.058	01/20/08	01/28/08
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/20/08	01/28/08
Uranium 238	0.24	J	0.10	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-613

Radiochemistry

Lab Sample ID: F8A090153-042
Work Order: KE82A
Matrix: SOLID

Date Collected: 12/13/07 1340
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.28		0.13		0.25	01/12/08	02/02/08
Americium 241	-0.006	U	0.069		0.12	01/12/08	02/02/08
Cesium 137	0.031	U	0.043	0.200	0.072	01/12/08	02/02/08
Cobalt 60	0.007	U	0.057		0.11	01/12/08	02/02/08
Europium 152	-0.041	U	0.092		0.16	01/12/08	02/02/08
Europium 154	-0.006	U	0.33		0.63	01/12/08	02/02/08
Potassium 40	8.5		1.5		0.4	01/12/08	02/02/08
Radium (226)	0.187	J	0.097	1.00	0.13	01/12/08	02/02/08
Thorium 232	0.28		0.13		0.25	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 64**
Thorium 228	0.45	J	0.17	1.00	0.11	01/20/08	01/29/08
Thorium 230	0.44	J	0.16	1.00	0.08	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 88**
Uranium 233/234	0.28	J	0.11	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	-0.0025	U	0.0049	1.00	0.056	01/20/08	01/28/08
Uranium 238	0.27	J	0.11	1.00	0.03	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-614

Radiochemistry

Lab Sample ID: F8A090153-043
Work Order: KE82E
Matrix: SOLID

Date Collected: 12/13/07 1342
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.27		0.17		0.23	01/12/08	02/02/08
Americium 241	0.029	U	0.079		0.14	01/12/08	02/02/08
Cesium 137	0.007	U	0.038	0.200	0.071	01/12/08	02/02/08
Cobalt 60	-0.011	U	0.045		0.084	01/12/08	02/02/08
Europium 152	0.022	U	0.073		0.13	01/12/08	02/02/08
Europium 154	0.0	U	0.39		0.73	01/12/08	02/02/08
Potassium 40	8.4		1.5		0.4	01/12/08	02/02/08
Radium (226)	0.18	J	0.11	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.27		0.17		0.23	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 82**
Thorium 228	0.37	J	0.14	1.00	0.09	01/20/08	01/29/08
Thorium 230	0.35	J	0.13	1.00	0.05	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 90**
Uranium 233/234	0.140	J	0.077	1.00	0.057	01/20/08	01/28/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	01/20/08	01/28/08
Uranium 238	0.29	J	0.11	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-615

Radiochemistry

Lab Sample ID: F8A090153-044
Work Order: KE82G
Matrix: SOLID

Date Collected: 12/13/07 1428
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.44		0.16		0.24	01/12/08	02/02/08
Americium 241	0.04	U	0.11		0.18	01/12/08	02/02/08
Cesium 137	-0.002	U	0.047	0.200	0.086	01/12/08	02/02/08
Cobalt 60	-0.006	U	0.044		0.083	01/12/08	02/02/08
Europium 152	0.01	U	0.11		0.19	01/12/08	02/02/08
Europium 154	0.04	U	0.39		0.71	01/12/08	02/02/08
Potassium 40	11.4		1.6		0.3	01/12/08	02/02/08
Radium (226)	0.37	J	0.13	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.44		0.16		0.24	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 73**
Thorium 228	0.56	J	0.17	1.00	0.09	01/20/08	01/29/08
Thorium 230	0.58	J	0.18	1.00	0.05	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 83**
Uranium 233/234	0.45	J	0.15	1.00	0.05	01/20/08	01/28/08
Uranium 235/236	0.024	U	0.038	1.00	0.057	01/20/08	01/28/08
Uranium 238	0.48	J	0.15	1.00	0.06	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-616

Radiochemistry

Lab Sample ID: F8A090153-045
Work Order: KE82H
Matrix: SOLID

Date Collected: 12/13/07 1430
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.32	U	0.27		0.40	01/12/08	02/02/08
Americium 241	0.063	U	0.095		0.16	01/12/08	02/02/08
Cesium 137	0.002	U	0.054	0.200	0.10	01/12/08	02/02/08
Cobalt 60	0.0	U	0.017		0.062	01/12/08	02/02/08
Europium 152	-0.04	U	0.14		0.24	01/12/08	02/02/08
Europium 154	-0.06	U	0.53		0.99	01/12/08	02/02/08
Potassium 40	**11.2**		**2.1**		**0.6**	**01/12/08**	**02/02/08**
Radium (226)	**0.66**	**J**	0.16	1.00	**0.07**	**01/12/08**	**02/02/08**
Thorium 232	0.32	U	0.27		0.40	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 49**
Thorium 228	**0.73**	**J**	0.24	1.00	**0.13**	**01/20/08**	**01/29/08**
Thorium 230	**0.39**	**J**	0.17	1.00	**0.05**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 89**
Uranium 233/234	**0.36**	**J**	0.12	1.00	**0.05**	**01/20/08**	**01/28/08**
Uranium 235/236	0.032	U	0.043	1.00	0.060	01/20/08	01/28/08
Uranium 238	**0.42**	**J**	0.13	1.00	**0.05**	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-550

Radiochemistry

Lab Sample ID: F8A090153-046
Work Order: KE82K
Matrix: SOLID

Date Collected: 12/13/07 0834
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.44		0.26		0.35	01/12/08	02/02/08
Americium 241	-0.04	U	0.11		0.19	01/12/08	02/02/08
Cesium 137	-0.04	U	1.4	0.2	0.2	01/12/08	02/02/08
Cobalt 60	-0.005	U	0.069		0.13	01/12/08	02/02/08
Europium 152	-0.0006	U	0.11		0.21	01/12/08	02/02/08
Europium 154	0.14	U	0.43		0.78	01/12/08	02/02/08
Potassium 40	10.0		1.8		0.5	01/12/08	02/02/08
Radium (226)	0.43	J	0.15	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.44		0.26		0.35	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 84**
Thorium 228	0.51	J	0.16	1.00	0.07	01/20/08	01/29/08
Thorium 230	0.52	J	0.16	1.00	0.05	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 92**
Uranium 233/234	0.57	J	0.16	1.00	0.03	01/20/08	01/28/08
Uranium 235/236	0.038	J	0.044	1.00	0.034	01/20/08	01/28/08
Uranium 238	0.48	J	0.15	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-551

Radiochemistry

Lab Sample ID: F8A090153-047
Work Order: KE82N
Matrix: SOLID

Date Collected: 12/13/07 0840
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.32		0.15		0.20	01/12/08	02/02/08
Americium 241	0.0	U	0.28		0.50	01/12/08	02/02/08
Cesium 137	-0.001	U	0.029	0.200	0.054	01/12/08	02/02/08
Cobalt 60	0.006	U	0.033		0.062	01/12/08	02/02/08
Europium 152	0.003	U	0.080		0.15	01/12/08	02/02/08
Europium 154	0.1	U	0.27		0.48	01/12/08	02/02/08
Potassium 40	10.3		1.4		0.6	01/12/08	02/02/08
Radium (226)	0.68	J	0.14	1.00	0.1	01/12/08	02/02/08
Thorium 232	0.32		0.15		0.20	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 72**
Thorium 228	0.63	J	0.19	1.00	0.09	01/20/08	01/30/08
Thorium 230	0.80	J	0.21	1.00	0.06	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 90**
Uranium 233/234	0.53	J	0.15	1.00	0.05	01/20/08	01/28/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/20/08	01/28/08
Uranium 238	0.56	J	0.16	1.00	0.03	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-552

Radiochemistry

Lab Sample ID: F8A090153-048
Work Order: KE82Q
Matrix: WATER

Date Collected: 12/13/07 0852
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8010310**		**Yld %**
Actinium 228	5	U	26		48	01/10/08	01/11/08
Americium 241	-0.08	U	8.9		16	01/10/08	01/11/08
Cesium 137	-1.5	U	7.4	20.0	14	01/10/08	01/11/08
Cobalt 60	0.0	U	13		24	01/10/08	01/11/08
Europium 152	0.0	U	15		28	01/10/08	01/11/08
Europium 154	0.0	U	13		48	01/10/08	01/11/08
Potassium 40	0.0	U	140		260	01/10/08	01/11/08
Thorium 232	5	U	26		48	01/10/08	01/11/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018117**		**Yld % 77**
Thorium 228	-0.008	U	0.054	1.00	0.17	01/18/08	01/22/08
Thorium 230	**0.21**	*J*	**0.15**	1.00	**0.12**	**01/18/08**	**01/22/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8018118**		**Yld % 86**
Uranium 233/234	0.031	U	0.062	1.00	0.12	01/18/08	01/22/08
Uranium 235/236	-0.015	U	0.017	1.00	0.14	01/18/08	01/22/08
Uranium 238	0.039	U	0.061	1.00	0.091	01/18/08	01/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-552 DUP

Radiochemistry

Lab Sample ID: F8A090153-048X
Work Order: KE82Q
Matrix: WATER

Date Collected: 12/13/07 0852
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			**pCi/L**		**Batch # 8010310**		**Yld %**
Actinium 228	2	U	20		37	01/10/08	01/11/08
Americium 241	3.8	U	8.1		14	01/10/08	01/11/08
Cesium 137	-8	U	85	20	16	01/10/08	01/11/08
Cobalt 60	0.0	U	1.5		5.7	01/10/08	01/11/08
Europium 152	0.0	U	15		27	01/10/08	01/11/08
Europium 154	21	U	44		76	01/10/08	01/11/08
Potassium 40	7	U	77		150	01/10/08	01/11/08
Thorium 232	2	U	20		37	01/10/08	01/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-553

Radiochemistry

Lab Sample ID: F8A090153-049
Work Order: KE820
Matrix: SOLID

Date Collected: 12/13/07 0855
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.28	U	0.13		0.34	01/12/08	02/02/08
Americium 241	0.065	U	0.092		0.15	01/12/08	02/02/08
Cesium 137	0.023	U	0.045	0.200	0.077	01/12/08	02/02/08
Cobalt 60	0.014	U	0.048		0.089	01/12/08	02/02/08
Europium 152	0.0	U	0.10		0.19	01/12/08	02/02/08
Europium 154	-0.09	U	0.39		0.71	01/12/08	02/02/08
Potassium 40	**8.7**		1.6		**0.8**	**01/12/08**	**02/02/08**
Radium (226)	0.57	J	0.13	1.00	0.07	**01/12/08**	**02/02/08**
Thorium 232	0.28	U	0.13		0.34	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 83**
Thorium 228	0.38	J	0.13	1.00	0.08	**01/20/08**	**01/30/08**
Thorium 230	0.39	J	0.13	1.00	0.03	**01/20/08**	**01/30/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 101**
Uranium 233/234	0.35	J	0.11	1.00	0.04	**01/20/08**	**01/28/08**
Uranium 235/236	0.019	U	0.031	1.00	0.045	01/20/08	01/28/08
Uranium 238	0.33	J	0.11	1.00	0.04	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-554

Radiochemistry

Lab Sample ID: F8A090153-050
Work Order: KE821
Matrix: SOLID

Date Collected: 12/13/07 0900
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.25	U	0.20		0.29	01/12/08	02/02/08
Americium 241	-0.0307	U	0.0996		0.17	01/12/08	02/02/08
Cesium 137	0.0	U	0.032	0.200	0.065	01/12/08	02/02/08
Cobalt 60	0.0	U	0.070		0.13	01/12/08	02/02/08
Europium 152	-0.03	U	0.12		0.21	01/12/08	02/02/08
Europium 154	0.05	U	0.28		0.55	01/12/08	02/02/08
Potassium 40	**10**		**1.7**		**0.5**	**01/12/08**	**02/02/08**
Radium (226)	**0.43**	**J**	**0.15**	**1.00**	**0.14**	**01/12/08**	**02/02/08**
Thorium 232	0.25	U	0.20		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 73**
Thorium 228	**0.45**	**J**	**0.16**	**1.00**	**0.08**	**01/20/08**	**01/30/08**
Thorium 230	**0.57**	**J**	**0.18**	**1.00**	**0.05**	**01/20/08**	**01/30/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 88**
Uranium 233/234	**0.60**	**J**	**0.17**	**1.00**	**0.03**	**01/20/08**	**01/28/08**
Uranium 235/236	0.036	U	0.045	1.00	0.055	01/20/08	01/28/08
Uranium 238	**0.54**	**J**	**0.16**	**1.00**	**0.03**	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-555

Radiochemistry

Lab Sample ID: F8A090153-051
Work Order: KE824
Matrix: SOLID

Date Collected: 12/13/07 0905
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8012114		Yld %
Actinium 228	0.39		0.22		0.32	01/12/08	02/02/08
Americium 241	0.070	U	0.076		0.12	01/12/08	02/02/08
Cesium 137	-0.004	U	0.039	0.200	0.072	01/12/08	02/02/08
Cobalt 60	0.0	U	0.0094		0.035	01/12/08	02/02/08
Europium 152	-0.06	U	0.13		0.22	01/12/08	02/02/08
Europium 154	-0.08	U	0.36		0.66	01/12/08	02/02/08
Potassium 40	9.5		1.4		0.3	01/12/08	02/02/08
Radium (226)	0.43	J	0.14	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.39		0.22		0.32	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8020036		Yld % 77
Thorium 228	0.39	J	0.14	1.00	0.08	01/20/08	01/30/08
Thorium 230	0.39	J	0.14	1.00	0.06	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8020037		Yld % 91
Uranium 233/234	0.38	J	0.13	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	0.025	U	0.035	1.00	0.033	01/20/08	01/28/08
Uranium 238	0.27	J	0.11	1.00	0.07	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-556

Radiochemistry

Lab Sample ID: F8A090153-052
Work Order: KE825
Matrix: SOLID

Date Collected: 12/13/07 0908
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.31	U	0.21		0.32	01/12/08	02/02/08
Americium 241	0.073	U	0.091		0.15	01/12/08	02/02/08
Cesium 137	0.017	U	0.049	0.200	0.086	01/12/08	02/02/08
Cobalt 60	-0.011	U	0.051		0.092	01/12/08	02/02/08
Europium 152	-0.02	U	0.10		0.18	01/12/08	02/02/08
Europium 154	-0.008	U	0.30		0.56	01/12/08	02/02/08
Potassium 40	**11.3**		1.6		**0.3**	**01/12/08**	**02/02/08**
Radium (226)	**0.39**	**J**	0.13	1.00	**0.17**	**01/12/08**	**02/02/08**
Thorium 232	0.31	U	0.21		0.32	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 69**
Thorium 228	**0.43**	**J**	0.16	1.00	0.08	**01/20/08**	**01/30/08**
Thorium 230	**0.71**	**J**	0.20	1.00	0.1	**01/20/08**	**01/30/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 93**
Uranium 233/234	**0.53**	**J**	0.15	1.00	0.05	**01/20/08**	**01/28/08**
Uranium 235/236	0.032	U	0.043	1.00	0.061	01/20/08	01/28/08
Uranium 238	**0.38**	**J**	0.13	1.00	0.06	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-557

Radiochemistry

Lab Sample ID: F8A090153-053
Work Order: KE826
Matrix: SOLID

Date Collected: 12/13/07 0913
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.60		0.28		0.34	01/12/08	02/02/08
Americium 241	0.04	U	0.13		0.22	01/12/08	02/02/08
Cesium 137	0.01	U	0.053	0.200	0.098	01/12/08	02/02/08
Cobalt 60	0.0	U	0.016		0.059	01/12/08	02/02/08
Europium 152	0.001	U	0.16		0.28	01/12/08	02/02/08
Europium 154	0.0	U	0.091		0.33	01/12/08	02/02/08
Potassium 40	8.2		1.7		0.6	01/12/08	02/02/08
Radium (226)	0.76	J	0.18	1.00	0.07	01/12/08	02/02/08
Thorium 232	0.60		0.28		0.34	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 64**
Thorium 228	0.62	J	0.20	1.00	0.09	01/20/08	01/30/08
Thorium 230	0.53	J	0.18	1.00	0.09	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 89**
Uranium 233/234	0.53	J	0.15	1.00	0.05	01/20/08	01/28/08
Uranium 235/236	0.021	U	0.034	1.00	0.050	01/20/08	01/28/08
Uranium 238	0.39	J	0.13	1.00	0.04	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-558

Radiochemistry

Lab Sample ID: F8A090153-054
Work Order: KE827
Matrix: SOLID

Date Collected: 12/13/07 0916
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.50		0.18		0.30	01/12/08	02/02/08
Americium 241	0.03	U	0.10		0.17	01/12/08	02/02/08
Cesium 137	-0.04	U	0.51	0.20	0.09	01/12/08	02/02/08
Cobalt 60	0.023	U	0.066		0.12	01/12/08	02/02/08
Europium 152	0.03	U	0.10		0.19	01/12/08	02/02/08
Europium 154	-0.09	U	0.39		0.73	01/12/08	02/02/08
Potassium 40	8.4		1.8		1.3	01/12/08	02/02/08
Radium (226)	0.60	J	0.16	1.00	0.13	01/12/08	02/02/08
Thorium 232	0.50		0.18		0.30	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 76**
Thorium 228	0.40	J	0.15	1.00	0.09	01/20/08	01/30/08
Thorium 230	0.39	J	0.14	1.00	0.07	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 94**
Uranium 233/234	0.48	J	0.15	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/20/08	01/28/08
Uranium 238	0.45	J	0.14	1.00	0.04	01/20/08	01/28/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 51**
Strontium 90	-0.12	U	0.32	3.00	0.59	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-559

Radiochemistry

Lab Sample ID: F8A090153-055
Work Order: KE829
Matrix: SOLID

Date Collected: 12/13/07 0924
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.39		0.13		0.19	01/12/08	02/02/08
Americium 241	-0.11	U	0.34		0.57	01/12/08	02/02/08
Cesium 137	0.046	U	0.040	0.200	0.062	01/12/08	02/02/08
Cobalt 60	0.0	U	0.055		0.10	01/12/08	02/02/08
Europium 152	-0.019	U	0.090		0.16	01/12/08	02/02/08
Europium 154	0.03	U	0.26		0.47	01/12/08	02/02/08
Potassium 40	9.2		1.3		0.6	01/12/08	02/02/08
Radium (226)	0.47	J	0.12	1.00	0.13	01/12/08	02/02/08
Thorium 232	0.39		0.13		0.19	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 95**
Uranium 233/234	0.37	J	0.13	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	-0.0022	U	0.0045	1.00	0.051	01/20/08	01/28/08
Uranium 238	0.44	J	0.14	1.00	0.07	01/20/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8031235**		**Yld % 75**
Thorium 228	0.75	J	0.21	1.00	0.09	01/31/08	02/04/08
Thorium 230	0.50	J	0.17	1.00	0.09	01/31/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-559 DUP

Radiochemistry

Lab Sample ID: F8A090153-055X
Work Order: KE829
Matrix: SOLID

Date Collected: 12/13/07 0924
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8031235	Yld % 77
Thorium 228	0.29	J	0.12	1.00	0.08	01/31/08	02/04/08
Thorium 230	0.57	J	0.17	1.00	0.06	01/31/08	02/04/08

NOTE(S)

are incomplete without the case narrative.
MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-528

Radiochemistry

Lab Sample ID: F8A090153-056
Work Order: KE83A
Matrix: SOLID

Date Collected: 12/13/07 1017
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.39		0.16		0.31	01/12/08	02/02/08
Americium 241	0.015	U	0.089		0.15	01/12/08	02/02/08
Cesium 137	0.020	U	0.047	0.200	0.082	01/12/08	02/02/08
Cobalt 60	0.011	U	0.044		0.082	01/12/08	02/02/08
Europium 152	-0.02	U	0.12		0.21	01/12/08	02/02/08
Europium 154	-0.13	U	0.39		0.70	01/12/08	02/02/08
Potassium 40	8.0		1.5		0.7	01/12/08	02/02/08
Radium (226)	0.76	J	0.15	1.00	0.07	01/12/08	02/02/08
Thorium 232	0.39		0.16		0.31	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 88**
Uranium 233/234	0.44	J	0.14	1.00	0.05	01/20/08	01/28/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/20/08	01/28/08
Uranium 238	0.51	J	0.15	1.00	0.04	01/20/08	01/28/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 58**
Strontium 90	-0.05	U	0.30	3.00	0.54	01/09/08	01/24/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8031235**		**Yld % 78**
Thorium 228	0.43	J	0.15	1.00	0.08	01/31/08	02/04/08
Thorium 230	0.56	J	0.17	1.00	0.03	01/31/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-529

Radiochemistry

Lab Sample ID: F8A090153-057
Work Order: KE83E
Matrix: SOLID

Date Collected: 12/13/07 1020
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.44		0.20		0.21	01/12/08	02/02/08
Americium 241	0.0	U	0.093		0.16	01/12/08	02/02/08
Cesium 137	0.0	U	0.043	0.200	0.081	01/12/08	02/02/08
Cobalt 60	-0.006	U	0.052		0.099	01/12/08	02/02/08
Europium 152	0.059	U	0.097		0.17	01/12/08	02/02/08
Europium 154	0.00007	U	0.36		0.69	01/12/08	02/02/08
Potassium 40	8.7		1.6		0.5	01/12/08	02/02/08
Radium (226)	0.50	J	0.14	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.44		0.20		0.21	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 95**
Uranium 233/234	0.47	J	0.14	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	-0.0047	U	0.0067	1.00	0.062	01/20/08	01/28/08
Uranium 238	0.35	J	0.12	1.00	0.05	01/20/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8031235**		**Yld % 67**
Thorium 228	0.38	J	0.16	1.00	0.11	01/31/08	02/05/08
Thorium 230	0.31	J	0.14	1.00	0.07	01/31/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-532

Radiochemistry

Lab Sample ID: F8A090153-058
Work Order: KE83G
Matrix: SOLID

Date Collected: 12/13/07 1028
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.34		0.22		0.33	01/12/08	02/02/08
Americium 241	0.029	U	0.096		0.16	01/12/08	02/02/08
Cesium 137	0.062	U	0.056	0.200	0.087	01/12/08	02/02/08
Cobalt 60	0.022	U	0.051		0.089	01/12/08	02/02/08
Europium 152	0.01	U	0.10		0.19	01/12/08	02/02/08
Europium 154	0.0	U	0.45		0.82	01/12/08	02/02/08
Potassium 40	10.3		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.45	J	0.15	1.00	0.20	01/12/08	02/02/08
Thorium 232	0.34		0.22		0.33	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020036**	**Yld % 61**
Thorium 228	0.34	J	0.15	1.00	0.10	01/20/08	01/30/08
Thorium 230	0.55	J	0.18	1.00	0.04	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020037**	**Yld % 88**
Uranium 233/234	0.34	J	0.13	1.00	0.08	01/20/08	01/28/08
Uranium 235/236	0.079	J	0.065	1.00	0.035	01/20/08	01/28/08
Uranium 238	0.42	J	0.14	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-533

Radiochemistry

Lab Sample ID: F8A090153-059
Work Order: KE83H
Matrix: SOLID

Date Collected: 12/13/07 1030
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.39		0.16		0.26	01/12/08	02/02/08
Americium 241	-0.026	U	0.092		0.16	01/12/08	02/02/08
Cesium 137	0.0	U	0.053	0.200	0.096	01/12/08	02/02/08
Cobalt 60	0.0	U	0.053		0.10	01/12/08	02/02/08
Europium 152	0.0	U	0.11		0.19	01/12/08	02/02/08
Europium 154	0.0	U	0.72		1.2	01/12/08	02/02/08
Potassium 40	9.4		1.4		0.3	01/12/08	02/02/08
Radium (226)	0.57	J	0.15	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.39		0.16		0.26	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 81**
Thorium 228	1.34		0.28	1.00	0.08	01/20/08	01/30/08
Thorium 230	0.76	J	0.20	1.00	0.05	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 88**
Uranium 233/234	0.85	J	0.20	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	0.063	J	0.059	1.00	0.055	01/20/08	01/28/08
Uranium 238	0.65	J	0.17	1.00	0.03	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-534

Radiochemistry

Lab Sample ID: F8A090153-060
Work Order: KE83M
Matrix: SOLID

Date Collected: 12/13/07 1042
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012114**		**Yld %**
Actinium 228	0.50		0.25		0.28	01/12/08	02/02/08
Americium 241	-0.01	U	0.14		0.24	01/12/08	02/02/08
Cesium 137	0.200		0.092	0.200	0.12	01/12/08	02/02/08
Cobalt 60	0.017	U	0.073		0.14	01/12/08	02/02/08
Europium 152	0.01	U	0.12		0.21	01/12/08	02/02/08
Europium 154	0.0	U	0.60		1.1	01/12/08	02/02/08
Potassium 40	9.3		1.8		0.6	01/12/08	02/02/08
Radium (226)	0.90	J	0.19	1.00	0.07	01/12/08	02/02/08
Thorium 232	0.50		0.25		0.28	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020036**		**Yld % 56**
Thorium 228	0.31	J	0.16	1.00	0.16	01/20/08	01/30/08
Thorium 230	0.44	J	0.18	1.00	0.12	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020037**		**Yld % 88**
Uranium 233/234	0.51	J	0.15	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	01/20/08	01/28/08
Uranium 238	0.41	J	0.13	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-535

Radiochemistry

Lab Sample ID: F8A090153-061
Work Order: KE83Q
Matrix: SOLID

Date Collected: 12/13/07 1044
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012114**	**Yld %**
Actinium 228	0.44		0.19		0.36	01/12/08	02/02/08
Americium 241	-0.03	U	0.12		0.20	01/12/08	02/02/08
Cesium 137	-0.01	U	0.11	0.20	0.12	01/12/08	02/02/08
Cobalt 60	0.036	U	0.074		0.13	01/12/08	02/02/08
Europium 152	-0.03	U	0.14		0.25	01/12/08	02/02/08
Europium 154	0.0	U	0.50		0.94	01/12/08	02/02/08
Potassium 40	8.7		1.8		1.1	01/12/08	02/02/08
Radium (226)	0.87	J	0.18	1.00	0.11	01/12/08	02/02/08
Thorium 232	0.44		0.19		0.36	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020041**	**Yld % 49**
Thorium 228	0.61	J	0.23	1.00	0.15	01/20/08	01/29/08
Thorium 230	0.43	J	0.19	1.00	0.1	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 68**
Uranium 233/234	0.33	J	0.14	1.00	0.08	01/20/08	01/28/08
Uranium 235/236	0.011	U	0.036	1.00	0.086	01/20/08	01/28/08
Uranium 238	0.35	J	0.14	1.00	0.07	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-535 DUP

Radiochemistry

Lab Sample ID: F8A090153-061X
Work Order: KE83Q
Matrix: SOLID

Date Collected: 12/13/07 1044
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 64**
Uranium 233/234	**0.35**	**J**	**0.15**	1.00	**0.11**	**01/20/08**	01/28/08
Uranium 235/236	0.035	U	0.050	1.00	0.047	01/20/08	01/28/08
Uranium 238	**0.49**	**J**	**0.17**	1.00	**0.07**	**01/20/08**	**01/28/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 37**
Thorium 228	**0.47**	**J**	**0.23**	1.00	**0.19**	**01/20/08**	**01/29/08**
Thorium 230	**0.43**	**J**	**0.21**	1.00	**0.13**	**01/20/08**	**01/29/08**

NOTE(S)

a are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-536

Radiochemistry

Lab Sample ID: F8A090153-062
Work Order: KE83T
Matrix: SOLID

Date Collected: 12/13/07 1048
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.35		0.21		0.29	01/12/08	02/02/08
Americium 241	-0.003	U	0.10		0.18	01/12/08	02/02/08
Cesium 137	-0.002	U	0.039	0.200	0.076	01/12/08	02/02/08
Cobalt 60	0.0	U	0.066		0.13	01/12/08	02/02/08
Europium 152	-0.01	U	0.11		0.20	01/12/08	02/02/08
Europium 154	0.08	U	0.37		0.68	01/12/08	02/02/08
Potassium 40	9.1		1.6		0.5	01/12/08	02/02/08
Radium (226)	0.40	J	0.14	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.35		0.21		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 48**
Thorium 228	0.37	J	0.18	1.00	0.15	01/20/08	01/29/08
Thorium 230	0.48	J	0.19	1.00	0.08	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 68**
Uranium 233/234	0.35	J	0.14	1.00	0.08	01/20/08	01/28/08
Uranium 235/236	0.013	U	0.033	1.00	0.069	01/20/08	01/28/08
Uranium 238	0.42	J	0.15	1.00	0.04	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-536 DUP

Radiochemistry

Lab Sample ID: F8A090153-062X
Work Order: KE83T
Matrix: SOLID

Date Collected: 12/13/07 1048
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8012115		Yld %
Actinium 228	0.30		0.17		0.23	01/12/08	02/02/08
Americium 241	0.038	U	0.079		0.13	01/12/08	02/02/08
Cesium 137	0.0	U	0.063	0.200	0.11	01/12/08	02/02/08
Cobalt 60	0.0	U	0.078		0.14	01/12/08	02/02/08
Europium 152	-0.03	U	0.11		0.20	01/12/08	02/02/08
Europium 154	0.02	U	0.35		0.65	01/12/08	02/02/08
Potassium 40	7.3		1.3		0.8	01/12/08	02/02/08
Radium (226)	0.40	J	0.13	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.30		0.17		0.23	01/12/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-537

Radiochemistry

Lab Sample ID: F8A090153-063
Work Order: KE83V
Matrix: SOLID

Date Collected: 12/13/07 1049
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012115**	**Yld %**
Actinium 228	0.29		0.19		0.28	01/12/08	02/02/08
Americium 241	0.023	U	0.099		0.17	01/12/08	02/02/08
Cesium 137	-0.005	U	0.048	0.200	0.087	01/12/08	02/02/08
Cobalt 60	0.0	U	0.0098		0.036	01/12/08	02/02/08
Europium 152	0.025	U	0.097		0.17	01/12/08	02/02/08
Europium 154	-0.01	U	0.42		0.76	01/12/08	02/02/08
Potassium 40	9.2		1.5		1	01/12/08	02/02/08
Radium (226)	0.31	J	0.13	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.29		0.19		0.28	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020041**	**Yld % 63**
Thorium 228	0.64	J	0.20	1.00	0.11	01/20/08	01/29/08
Thorium 230	0.46	J	0.17	1.00	0.08	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 60**
Uranium 233/234	0.41	J	0.16	1.00	0.04	01/20/08	01/28/08
Uranium 235/236	0.016	U	0.040	1.00	0.083	01/20/08	01/28/08
Uranium 238	0.45	J	0.17	1.00	0.07	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-538

Radiochemistry

Lab Sample ID: F8A090153-064
Work Order: KE83X
Matrix: SOLID

Date Collected: 12/13/07 1058
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.43		0.29		0.41	01/12/08	02/02/08
Americium 241	-0.03	U	0.12		0.20	01/12/08	02/02/08
Cesium 137	0.0	U	0.044	0.200	0.087	01/12/08	02/02/08
Cobalt 60	0.0	U	0.096		0.18	01/12/08	02/02/08
Europium 152	0.04	U	0.11		0.20	01/12/08	02/02/08
Europium 154	0.0	U	0.43		0.84	01/12/08	02/02/08
Potassium 40	7.5		1.7		1	01/12/08	02/02/08
Radium (226)	0.29	J	0.14	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.43		0.29		0.41	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 43**
Thorium 228	0.43	J	0.20	1.00	0.14	01/20/08	01/30/08
Thorium 230	0.28	J	0.16	1.00	0.13	01/20/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 55**
Uranium 233/234	0.25	J	0.13	1.00	0.09	01/20/08	01/28/08
Uranium 235/236	0.016	U	0.041	1.00	0.086	01/20/08	01/28/08
Uranium 238	0.33	J	0.15	1.00	0.08	01/20/08	01/28/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 66**
Strontium 90	-0.18	U	0.24	3.00	0.45	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-539

Radiochemistry

Lab Sample ID: F8A090153-065
Work Order: KE830
Matrix: SOLID

Date Collected: 12/13/07 1102
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012115**	**Yld %**
Actinium 228	0.0	U	0.23		0.43	01/12/08	02/02/08
Americium 241	0.019	U	0.068		0.12	01/12/08	02/02/08
Cesium 137	0.015	U	0.048	0.200	0.10	01/12/08	02/02/08
Cobalt 60	0.0	U	0.084		0.16	01/12/08	02/02/08
Europium 152	0.002	U	0.12		0.22	01/12/08	02/02/08
Europium 154	0.0	U	0.37		0.73	01/12/08	02/02/08
Potassium 40	**10.1**		**1.9**		**0.6**	**01/12/08**	**02/02/08**
Radium (226)	0.18	U	0.13	1.00	0.21	01/12/08	02/02/08
Thorium 232	0.0	U	0.23		0.43	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 82**
Uranium 233/234	**0.37**	**J**	0.13	1.00	0.05	**01/20/08**	**01/28/08**
Uranium 235/236	-0.0026	U	0.0051	1.00	0.058	01/20/08	01/28/08
Uranium 238	**0.43**	**J**	0.14	1.00	0.06	**01/20/08**	**01/28/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8030125**	**Yld % 87**
Thorium 228	**0.29**	**J**	0.12	1.00	0.08	**01/30/08**	**02/04/08**
Thorium 230	**0.44**	**J**	0.15	1.00	0.06	**01/30/08**	**02/04/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-540

Radiochemistry

Lab Sample ID: F8A090153-066
Work Order: KE833
Matrix: SOLID

Date Collected: 12/13/07 1111
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.36		0.12		0.17	01/12/08	02/02/08
Americium 241	0.08	U	0.25		0.43	01/12/08	02/02/08
Cesium 137	0.094	J	0.031	0.200	0.018	01/12/08	02/02/08
Cobalt 60	0.0	U	0.0069		0.025	01/12/08	02/02/08
Europium 152	0.015	U	0.081		0.14	01/12/08	02/02/08
Europium 154	-0.08	U	0.30		0.53	01/12/08	02/02/08
Potassium 40	9.4		1.3		0.5	01/12/08	02/02/08
Radium (226)	0.55	J	0.12	1.00	0.11	01/12/08	02/02/08
Thorium 232	0.36		0.12		0.17	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 64**
Thorium 228	0.72	J	0.22	1.00	0.13	01/20/08	01/29/08
Thorium 230	0.61	J	0.20	1.00	0.04	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 61**
Uranium 233/234	0.46	J	0.17	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	-0.0069	U	0.0098	1.00	0.090	01/20/08	01/28/08
Uranium 238	0.37	J	0.15	1.00	0.04	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-541

Radiochemistry

Lab Sample ID: F8A090153-067
Work Order: KE837
Matrix: SOLID

Date Collected: 12/13/07 1113
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.36		0.14		0.25	01/12/08	02/02/08
Americium 241	0.027	U	0.081		0.14	01/12/08	02/02/08
Cesium 137	0.0007	U	0.046	0.200	0.085	01/12/08	02/02/08
Cobalt 60	-0.0005	U	0.047		0.093	01/12/08	02/02/08
Europium 152	0.015	U	0.088		0.16	01/12/08	02/02/08
Europium 154	-0.008	U	0.34		0.64	01/12/08	02/02/08
Potassium 40	7.6		1.4		0.8	01/12/08	02/02/08
Radium (226)	0.42	J	0.13	1.00	0.14	01/12/08	02/02/08
Thorium 232	0.36		0.14		0.25	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 40**
Thorium 228	0.25	J	0.16	1.00	0.16	01/20/08	01/29/08
Thorium 230	0.44	J	0.20	1.00	0.1	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 65**
Uranium 233/234	0.42	J	0.16	1.00	0.04	01/20/08	01/28/08
Uranium 235/236	0.054	J	0.062	1.00	0.048	01/20/08	01/28/08
Uranium 238	0.31	J	0.14	1.00	0.07	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-542

Radiochemistry

Lab Sample ID: F8A090153-068
Work Order: KE839
Matrix: SOLID

Date Collected: 12/13/07 1121
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.49		0.22		0.25	01/12/08	02/02/08
Americium 241	0.006	U	0.090		0.16	01/12/08	02/02/08
Cesium 137	-0.013	U	0.050	0.200	0.090	01/12/08	02/02/08
Cobalt 60	0.006	U	0.025		0.054	01/12/08	02/02/08
Europium 152	0.015	U	0.093		0.17	01/12/08	02/02/08
Europium 154	-0.009	U	0.38		0.73	01/12/08	02/02/08
Potassium 40	8.2		1.6		0.7	01/12/08	02/02/08
Radium (226)	0.38	J	0.13	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.49		0.22		0.25	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 70**
Uranium 233/234	0.39	J	0.15	1.00	0.06	01/20/08	01/28/08
Uranium 235/236	0.060	U	0.064	1.00	0.067	01/20/08	01/28/08
Uranium 238	0.44	J	0.15	1.00	0.03	01/20/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8030125**		**Yld % 90**
Thorium 228	0.41	J	0.14	1.00	0.09	01/30/08	02/04/08
Thorium 230	0.35	J	0.12	1.00	0.04	01/30/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-543

Radiochemistry

Lab Sample ID: F8A090153-069
Work Order: KE84C
Matrix: SOLID

Date Collected: 12/13/07 1248
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.42		0.16		0.23	01/12/08	02/02/08
Americium 241	-0.006	U	0.092		0.16	01/12/08	02/02/08
Cesium 137	-0.005	U	0.050	0.200	0.091	01/12/08	02/02/08
Cobalt 60	-0.008	U	0.057		0.10	01/12/08	02/02/08
Europium 152	-0.05	U	0.13		0.22	01/12/08	02/02/08
Europium 154	0.02	U	0.31		0.58	01/12/08	02/02/08
Potassium 40	10		1.5		0.3	01/12/08	02/02/08
Radium (226)	0.50	J	0.14	1.00	0.16	01/12/08	02/02/08
Thorium 232	0.42		0.16		0.23	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 71**
Uranium 233/234	0.31	J	0.13	1.00	0.04	01/20/08	01/28/08
Uranium 235/236	0.029	U	0.046	1.00	0.069	01/20/08	01/28/08
Uranium 238	0.35	J	0.14	1.00	0.04	01/20/08	01/28/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8030125**		**Yld % 87**
Thorium 228	0.34	J	0.12	1.00	0.08	01/30/08	02/04/08
Thorium 230	0.47	J	0.14	1.00	0.06	01/30/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-544

Radiochemistry

Lab Sample ID: F8A090153-070
Work Order: KE84D
Matrix: SOLID

Date Collected: 12/13/07 1255
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.26	U	0.16		0.30	01/12/08	02/02/08
Americium 241	-0.005	U	0.094		0.16	01/12/08	02/02/08
Cesium 137	0.014	U	0.039	0.200	0.069	01/12/08	02/02/08
Cobalt 60	0.0	U	0.056		0.10	01/12/08	02/02/08
Europium 152	0.0	U	0.14		0.24	01/12/08	02/02/08
Europium 154	0.02	U	0.28		0.52	01/12/08	02/02/08
Potassium 40	**10.4**		**1.5**		**0.3**	**01/12/08**	**02/02/08**
Radium (226)	**0.30**	**J**	**0.12**	**1.00**	**0.18**	**01/12/08**	**02/02/08**
Thorium 232	0.26	U	0.16		0.30	01/12/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 63**
Uranium 233/234	**0.55**	**J**	**0.19**	**1.00**	**0.1**	**01/20/08**	**01/28/08**
Uranium 235/236	0.035	U	0.049	1.00	0.047	01/20/08	01/28/08
Uranium 238	**0.33**	**J**	**0.14**	**1.00**	**0.1**	**01/20/08**	**01/28/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8030125**		**Yld % 86**
Thorium 228	**0.53**	**J**	**0.16**	**1.00**	**0.09**	**01/30/08**	**02/04/08**
Thorium 230	**0.51**	**J**	**0.15**	**1.00**	**0.05**	**01/30/08**	**02/04/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-545

Radiochemistry

Lab Sample ID: F8A090153-071
Work Order: KE84F
Matrix: SOLID

Date Collected: 12/13/07 1257
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.31	U	0.22		0.31	01/12/08	02/02/08
Americium 241	-0.04	U	0.11		0.19	01/12/08	02/02/08
Cesium 137	-0.020	U	0.063	0.200	0.11	01/12/08	02/02/08
Cobalt 60	-0.020	U	0.074		0.14	01/12/08	02/02/08
Europium 152	-0.004	U	0.12		0.21	01/12/08	02/02/08
Europium 154	-0.001	U	0.39		0.77	01/12/08	02/02/08
Potassium 40	**7.8**		**1.8**		**1.3**	**01/12/08**	**02/02/08**
Radium (226)	**0.71**	**J**	**0.16**	**1.00**	**0.07**	**01/12/08**	**02/02/08**
Thorium 232	0.31	U	0.22		0.31	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 85**
Thorium 228	**0.35**	**J**	**0.13**	**1.00**	**0.07**	**01/20/08**	**01/29/08**
Thorium 230	**0.36**	**J**	**0.13**	**1.00**	**0.05**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 79**
Uranium 233/234	**0.38**	**J**	**0.14**	**1.00**	**0.03**	**01/20/08**	**01/28/08**
Uranium 235/236	0.040	U	0.049	1.00	0.060	01/20/08	01/28/08
Uranium 238	**0.43**	**J**	**0.15**	**1.00**	**0.07**	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-546

Radiochemistry

Lab Sample ID: F8A090153-072
Work Order: KE84G
Matrix: SOLID

Date Collected: 12/13/07 1305
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.24	U	0.21		0.32	01/12/08	02/02/08
Americium 241	0.033	U	0.094		0.16	01/12/08	02/02/08
Cesium 137	-0.03	U	0.28	0.20	0.1	01/12/08	02/02/08
Cobalt 60	0.032	U	0.064		0.11	01/12/08	02/02/08
Europium 152	-0.02	U	0.12		0.22	01/12/08	02/02/08
Europium 154	-0.09	U	0.38		0.70	01/12/08	02/02/08
Potassium 40	**6.6**		**1.6**		**1.4**	**01/12/08**	**02/02/08**
Radium (226)	**0.66**	**J**	**0.15**	**1.00**	**0.1**	**01/12/08**	**02/02/08**
Thorium 232	0.24	U	0.21		0.32	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 76**
Thorium 228	**0.42**	**J**	**0.15**	**1.00**	**0.09**	**01/20/08**	**01/29/08**
Thorium 230	**0.58**	**J**	**0.18**	**1.00**	**0.06**	**01/20/08**	**01/29/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 77**
Uranium 233/234	**0.50**	**J**	**0.16**	**1.00**	**0.07**	**01/20/08**	**01/28/08**
Uranium 235/236	0.01	U	0.031	1.00	0.075	01/20/08	01/28/08
Uranium 238	**0.47**	**J**	**0.16**	**1.00**	**0.07**	**01/20/08**	**01/28/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-547

Radiochemistry

Lab Sample ID: F8A090153-073
Work Order: KE84H
Matrix: SOLID

Date Collected: 12/13/07 1307
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.33		0.12		0.20	01/12/08	02/02/08
Americium 241	0.0	U	0.28		0.49	01/12/08	02/02/08
Cesium 137	0.008	U	0.028	0.200	0.051	01/12/08	02/02/08
Cobalt 60	-0.0007	U	0.031		0.061	01/12/08	02/02/08
Europium 152	-0.043	U	0.099		0.17	01/12/08	02/02/08
Europium 154	0.004	U	0.23		0.44	01/12/08	02/02/08
Potassium 40	8.4		1.2		0.6	01/12/08	02/02/08
Radium (226)	0.359	J	0.098	1.00	0.099	01/12/08	02/02/08
Thorium 232	0.33		0.12		0.20	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 61**
Thorium 228	0.55	J	0.19	1.00	0.11	01/20/08	01/29/08
Thorium 230	0.37	J	0.15	1.00	0.08	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 68**
Uranium 233/234	0.28	J	0.13	1.00	0.09	01/20/08	01/28/08
Uranium 235/236	0.10	J	0.082	1.00	0.045	01/20/08	01/28/08
Uranium 238	0.42	J	0.16	1.00	0.08	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-548

Radiochemistry

Lab Sample ID: F8A090153-074
Work Order: KE84L
Matrix: SOLID

Date Collected: 12/13/07 1316
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012115**	**Yld %**
Actinium 228	0.47		0.21		0.24	01/12/08	02/02/08
Americium 241	0.014	U	0.090		0.15	01/12/08	02/02/08
Cesium 137	-0.006	U	0.045	0.200	0.083	01/12/08	02/02/08
Cobalt 60	-0.004	U	0.053		0.10	01/12/08	02/02/08
Europium 152	0.025	U	0.099		0.18	01/12/08	02/02/08
Europium 154	0.22	U	0.25		0.39	01/12/08	02/02/08
Potassium 40	8.1		1.4		0.4	01/12/08	02/02/08
Radium (226)	0.49	J	0.14	1.00	0.1	01/12/08	02/02/08
Thorium 232	0.47		0.21		0.24	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020041**	**Yld % 44**
Thorium 228	0.62	J	0.25	1.00	0.20	01/20/08	01/29/08
Thorium 230	0.56	J	0.23	1.00	0.16	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 63**
Uranium 233/234	0.35	J	0.15	1.00	0.08	01/20/08	01/28/08
Uranium 235/236	0.011	U	0.037	1.00	0.088	01/20/08	01/28/08
Uranium 238	0.38	J	0.15	1.00	0.08	01/20/08	01/28/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8011375**	**Yld % 70**
Strontium 90	0.15	U	0.23	3.00	0.38	01/11/08	01/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-548 DUP

Radiochemistry

Lab Sample ID: F8A090153-074X
Work Order: KE84L
Matrix: SOLID

Date Collected: 12/13/07 1316
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-02-RC MOD				**pCi/g**	**Batch # 8011375**		**Yld % 69**
Strontium 90	0.17	U	0.23	3.00	0.38	01/11/08	01/23/08

NOTE(S)

[illegible] are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-549

Radiochemistry

Lab Sample ID: F8A090153-075
Work Order: KE84M
Matrix: SOLID

Date Collected: 12/13/07 1319
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012115**	**Yld %**
Actinium 228	0.33		0.20		0.26	01/12/08	02/02/08
Americium 241	0.04	U	0.11		0.18	01/12/08	02/02/08
Cesium 137	-0.018	U	0.055	0.200	0.098	01/12/08	02/02/08
Cobalt 60	0.026	U	0.041		0.069	01/12/08	02/02/08
Europium 152	-0.05	U	0.14		0.24	01/12/08	02/02/08
Europium 154	-0.18	U	0.53		0.93	01/12/08	02/02/08
Potassium 40	9.9		1.8		0.9	01/12/08	02/02/08
Radium (226)	0.48	J	0.14	1.00	0.12	01/12/08	02/02/08
Thorium 232	0.33		0.20		0.26	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020041**	**Yld % 65**
Thorium 228	0.41	J	0.16	1.00	0.10	01/20/08	01/29/08
Thorium 230	0.59	J	0.19	1.00	0.04	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 65**
Uranium 233/234	0.48	J	0.17	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	-0.0031	U	0.0061	1.00	0.070	01/20/08	01/28/08
Uranium 238	0.55	J	0.18	1.00	0.06	01/20/08	01/28/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-637

Radiochemistry

Lab Sample ID: F8A090153-076
Work Order: KE84N
Matrix: SOLID

Date Collected: 12/13/07 1422
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8012115**	**Yld %**
Actinium 228	0.62		0.19		0.29	01/12/08	02/02/08
Americium 241	0.012	U	0.095		0.16	01/12/08	02/02/08
Cesium 137	0.011	U	0.043	0.200	0.076	01/12/08	02/02/08
Cobalt 60	0.002	U	0.049		0.093	01/12/08	02/02/08
Europium 152	0.05	U	0.11		0.19	01/12/08	02/02/08
Europium 154	-0.004	U	0.31		0.59	01/12/08	02/02/08
Potassium 40	12.0		1.7		0.3	01/12/08	02/02/08
Radium (226)	0.46	J	0.15	1.00	0.19	01/12/08	02/02/08
Thorium 232	0.62		0.19		0.29	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020041**	**Yld % 67**
Thorium 228	0.74	J	0.21	1.00	0.08	01/20/08	01/29/08
Thorium 230	0.62	J	0.19	1.00	0.06	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8020040**	**Yld % 76**
Uranium 233/234	0.28	J	0.12	1.00	0.07	01/20/08	01/28/08
Uranium 235/236	-0.0030	U	0.0060	1.00	0.068	01/20/08	01/28/08
Uranium 238	0.40	J	0.15	1.00	0.05	01/20/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-638

Radiochemistry

Lab Sample ID: F8A090153-077
Work Order: KE84R
Matrix: SOLID

Date Collected: 12/13/07 1425
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8012115**		**Yld %**
Actinium 228	0.42		0.14		0.26	01/12/08	02/02/08
Americium 241	0.027	U	0.096		0.16	01/12/08	02/02/08
Cesium 137	-0.007	U	0.049	0.200	0.089	01/12/08	02/02/08
Cobalt 60	-0.009	U	0.062		0.11	01/12/08	02/02/08
Europium 152	0.01	U	0.11		0.20	01/12/08	02/02/08
Europium 154	-0.05	U	0.37		0.67	01/12/08	02/02/08
Potassium 40	9.3		1.5		0.8	01/12/08	02/02/08
Radium (226)	0.40	J	0.13	1.00	0.18	01/12/08	02/02/08
Thorium 232	0.42		0.14		0.26	01/12/08	02/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020041**		**Yld % 61**
Thorium 228	0.37	J	0.16	1.00	0.12	01/20/08	01/29/08
Thorium 230	0.50	J	0.18	1.00	0.08	01/20/08	01/29/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8020040**		**Yld % 64**
Uranium 233/234	0.22	J	0.12	1.00	0.11	01/20/08	01/28/08
Uranium 235/236	0.014	U	0.035	1.00	0.073	01/20/08	01/28/08
Uranium 238	0.17	J	0.11	1.00	0.1	01/20/08	01/28/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 63**
Strontium 90	-0.14	U	0.29	3.00	0.54	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-581	F8A090153001	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-581	F8A090153001	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-581	F8A090153001	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-581DUP	F8A090153001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-581DUP	F8A090153001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-581DUP	F8A090153001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-582	F8A090153002	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-582	F8A090153002	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-582	F8A090153002	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-582	F8A090153002	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-582DUP	F8A090153002DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-584	F8A090153003	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-584	F8A090153003	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-584	F8A090153003	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-585	F8A090153004	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-585	F8A090153004	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-585	F8A090153004	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-586	F8A090153005	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-586	F8A090153005	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-586	F8A090153005	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-587	F8A090153006	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-587	F8A090153006	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-587	F8A090153006	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-588	F8A090153007	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-588	F8A090153007	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-588	F8A090153007	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-589	F8A090153008	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-589	F8A090153008	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-589	F8A090153008	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-590	F8A090153009	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-590	F8A090153009	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-590	F8A090153009	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-560	F8A090153010	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-560	F8A090153010	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-560	F8A090153010	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-561	F8A090153011	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-561	F8A090153011	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-561	F8A090153011	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-562	F8A090153012	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-562	F8A090153012	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-562	F8A090153012	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-563	F8A090153013	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-563	F8A090153013	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-563	F8A090153013	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-564	F8A090153014	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-564	F8A090153014	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-564	F8A090153014	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-565	F8A090153015	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-565	F8A090153015	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-565	F8A090153015	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-566	F8A090153016	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-566	F8A090153016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-566	F8A090153016	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-567	F8A090153017	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-567	F8A090153017	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-567	F8A090153017	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-568	F8A090153018	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-568	F8A090153018	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-568	F8A090153018	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-568	F8A090153018	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-569	F8A090153019	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-569	F8A090153019	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-569	F8A090153019	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-570	F8A090153020	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-570	F8A090153020	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-570	F8A090153020	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-571	F8A090153021	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-571	F8A090153021	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-571	F8A090153021	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-571DUP	F8A090153021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-571DUP	F8A090153021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-571DUP	F8A090153021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-572	F8A090153022	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-572	F8A090153022	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-572	F8A090153022	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-573	F8A090153023	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-573	F8A090153023	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-573	F8A090153023	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-574	F8A090153024	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-574	F8A090153024	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-574	F8A090153024	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-575	F8A090153025	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-575	F8A090153025	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-575	F8A090153025	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-576	F8A090153026	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-576	F8A090153026	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-576	F8A090153026	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-577	F8A090153027	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-577	F8A090153027	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-577	F8A090153027	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-578	F8A090153028	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-578	F8A090153028	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-578	F8A090153028	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-578	F8A090153028	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-579	F8A090153029	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-579	F8A090153029	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-579	F8A090153029	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-579DUP	F8A090153029DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-591	F8A090153030	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-591	F8A090153030	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-591	F8A090153030	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-592	F8A090153031	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-592	F8A090153031	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-592	F8A090153031	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-592	F8A090153031	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-593	F8A090153032	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-593	F8A090153032	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-593	F8A090153032	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-594	F8A090153033	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-594	F8A090153033	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-594	F8A090153033	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-595	F8A090153034	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-595	F8A090153034	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-595	F8A090153034	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-596	F8A090153035	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-596	F8A090153035	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-596	F8A090153035	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-597	F8A090153036	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-597	F8A090153036	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-597	F8A090153036	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-598	F8A090153037	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-598	F8A090153037	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-598	F8A090153037	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-598	F8A090153037	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-599	F8A090153038	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-599	F8A090153038	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-599	F8A090153038	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-600	F8A090153039	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-600	F8A090153039	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-600	F8A090153039	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-601	F8A090153040	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-601	F8A090153040	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-601	F8A090153040	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-612	F8A090153041	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-612	F8A090153041	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-612	F8A090153041	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-612DUP	F8A090153041DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-612DUP	F8A090153041DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-612DUP	F8A090153041DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-613	F8A090153042	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-613	F8A090153042	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-613	F8A090153042	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-614	F8A090153043	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-614	F8A090153043	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-614	F8A090153043	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-615	F8A090153044	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-615	F8A090153044	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-615	F8A090153044	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-616	F8A090153045	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-616	F8A090153045	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-616	F8A090153045	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-550	F8A090153046	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-550	F8A090153046	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-550	F8A090153046	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-551	F8A090153047	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-551	F8A090153047	N	Gen Prep	DOE A-01-R U MOD	3

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-551	F8A090153047	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-552	F8A090153048	EB	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-552	F8A090153048	EB	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-552	F8A090153048	EB	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-552DUP	F8A090153048DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-553	F8A090153049	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-553	F8A090153049	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-553	F8A090153049	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-554	F8A090153050	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-554	F8A090153050	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-554	F8A090153050	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-555	F8A090153051	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-555	F8A090153051	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-555	F8A090153051	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-556	F8A090153052	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-556	F8A090153052	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-556	F8A090153052	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-557	F8A090153053	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-557	F8A090153053	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-557	F8A090153053	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-558	F8A090153054	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-558	F8A090153054	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-558	F8A090153054	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-558	F8A090153054	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-559	F8A090153055	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-559	F8A090153055	N	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-559	F8A090153055	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-559DUP	F8A090153055DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-528	F8A090153056	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-528	F8A090153056	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-528	F8A090153056	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-528	F8A090153056	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-529	F8A090153057	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-529	F8A090153057	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-529	F8A090153057	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-532	F8A090153058	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-532	F8A090153058	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-532	F8A090153058	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-533	F8A090153059	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-533	F8A090153059	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-533	F8A090153059	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-534	F8A090153060	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-534	F8A090153060	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-534	F8A090153060	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-535	F8A090153061	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-535	F8A090153061	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-535	F8A090153061	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-535DUP	F8A090153061DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-535DUP	F8A090153061DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-536	F8A090153062	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-536	F8A090153062	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-536	F8A090153062	N	Gen Prep	DOE GA-01-R MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-536DUP	F8A090153062DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-537	F8A090153063	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-537	F8A090153063	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-537	F8A090153063	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-538	F8A090153064	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-538	F8A090153064	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-538	F8A090153064	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-538	F8A090153064	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-539	F8A090153065	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-539	F8A090153065	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-539	F8A090153065	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-540	F8A090153066	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-540	F8A090153066	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-540	F8A090153066	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-541	F8A090153067	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-541	F8A090153067	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-541	F8A090153067	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-542	F8A090153068	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-542	F8A090153068	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-542	F8A090153068	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-543	F8A090153069	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-543	F8A090153069	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-543	F8A090153069	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-544	F8A090153070	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-544	F8A090153070	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-544	F8A090153070	N	Gen Prep	DOE GA-01-R MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-545	F8A090153071	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-545	F8A090153071	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-545	F8A090153071	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-546	F8A090153072	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-546	F8A090153072	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-546	F8A090153072	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-547	F8A090153073	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-547	F8A090153073	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-547	F8A090153073	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-548	F8A090153074	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-548	F8A090153074	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-548	F8A090153074	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-548	F8A090153074	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-548DUP	F8A090153074DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-549	F8A090153075	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-549	F8A090153075	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-549	F8A090153075	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-637	F8A090153076	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-637	F8A090153076	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-637	F8A090153076	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-638	F8A090153077	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-638	F8A090153077	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-638	F8A090153077	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-638	F8A090153077	N	Gen Prep	)OE SR-03-RC MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
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FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090153										
DOE A-01-R TH MOD	15-528	SO	N	THORIUM-230	1.00	0.56J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-529	SO	N	THORIUM-230	1.00	0.31J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-552	AQ	EB	THORIUM-230	1.00	0.21J	0.15	U	pCi/L	
DOE A-01-R TH MOD	15-559	SO	N	THORIUM-230	1.00	0.50J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-571	SO	N	THORIUM-230	1.00	0.35J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-575	SO	N	THORIUM-230	1.00	0.18J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-576	SO	N	THORIUM-230	1.00	0.28J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-578	SO	N	THORIUM-230	1.00	0.16J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-581	SO	N	THORIUM-230	1.00	0.21J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-591	SO	N	THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-592	SO	N	THORIUM-230	1.00	0.39J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-593	SO	N	THORIUM-230	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-596	SO	N	THORIUM-230	1.00	0.29J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-597	SO	N	THORIUM-230	1.00	0.29J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090153										
DOE A-01-R TH MOD	15-600	SO	N							
				THORIUM-230	1.00	0.26J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-601	SO	N							
				THORIUM-230	1.00	0.38J	0.14	U	pCi/g	
DOE A-01-R U MOD	15-591	SO	N							
				URANIUM-233/234	1.00	0.074J	0.062	U	pCi/g	
DOE A-01-R U MOD	15-596	SO	N							
				URANIUM-233/234	1.00	0.112J	0.079	U	pCi/g	
DOE A-01-R U MOD	15-600	SO	N							
				URANIUM-233/234	1.00	0.206J	0.099	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A090153

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A090153	15-528	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-529	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-552	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-559	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-571	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-575	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-576	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-578	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-581	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-591	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-591	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090153	15-592	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-593	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-596	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-596	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090153	15-597	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-600	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090153	15-600	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090153	15-601	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC De Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A090153	DOE A-01-R TH MOD	EB	AQ	12/13/2007 0:00	THORIUM-230	14269-63-7	0.21	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A090153

Method Blank Outlier Report

Lab Reporting Batch : F8A090153 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 01/23/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A180000117MB **Preparation Batch :** 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.16**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-552	F8A090153048	1	0.21	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8A090153 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 01/28/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A200000026MB **Preparation Batch :** 8020026

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.057**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-581	F8A090153001	1	0.21	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090153 **Lab ID:** TestAme

Analysis Method : DOE A-01-R U MOD **Analysis Date :** 01/26/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A200000031MB **Preparation Batch :** 8020031

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.044**	**1.00**	**pCi/g**	**J**	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-591	F8A090153030	1	0.074	J	pCi/g
15-596	F8A090153035	1	0.112	J	pCi/g
15-600	F8A090153039	1	0.206	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090153
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/28/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A200000032MB
Preparation Batch : 8020032

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.078**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-571	F8A090153021	1	0.35	J	pCi/g
15-575	F8A090153025	1	0.18	J	pCi/g
15-576	F8A090153026	1	0.28	J	pCi/g
15-578	F8A090153028	1	0.16	J	pCi/g
15-591	F8A090153030	1	0.34	J	pCi/g
15-592	F8A090153031	1	0.39	J	pCi/g
15-593	F8A090153032	1	0.30	J	pCi/g
15-596	F8A090153035	1	0.29	J	pCi/g
15-597	F8A090153036	1	0.29	J	pCi/g
15-600	F8A090153039	1	0.26	J	pCi/g
15-601	F8A090153040	1	0.38	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090153
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/04/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A310000235MB
Preparation Batch : 8031235

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.125**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-528	F8A090153056	1	0.56	J	pCi/g
15-529	F8A090153057	1	0.31	J	pCi/g
15-559	F8A090153055	1	0.50	J	pCi/g

LDC #: 18448T35
SDG #: F8A090153
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

9M4

DOE GA-01-R

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	~~N~~	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	MP
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	—	ER=48

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	4	15-581	S	11	4	15-561	S	21	1	15-571	S
2	4	15-582		12	4	15-562		22	1	15-572	
3	4	15-584		13	4	15-563		23	1	15-573	
4	4	15-585		14	4	15-564		24	1	15-574	
5	4	15-586		15	4	15-565		25	1	15-575	
6	4	15-587		16	4	15-566		26	1	15-576	
7	4	15-588		17	4	15-567		27	1	15-577	
8	4	15-589		18	4	15-568		28	1	15-578	
9	4	15-590		19	4	15-569		29	1	15-579	
10	4	15-560		20	4	15-570		30	1	15-591	

31	1	15-592	S
32	1	15-593	
33	1	15-594	
34	1	15-595	
35	1	15-596	
36	1	15-597	
37	1	15-598	
38	1	15-599	
39	1	15-600	
40	1	15-601	

Notes:

LDC #: 18448T35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A090153 ADR Page: 2 of 2
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DOE GA-01-R

METHOD: Gamma Spectroscopy (~~EPA Method 901~~.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	See page 1
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates		
IX.	Field blanks		

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41	2	15-612	S	51	2	15-555	S	61	2	15-535	S
42	2	15-613		52	2	15-556		62	3	15-536	
43	2	15-614		53	2	15-557		63	3	15-537	
44	2	15-615		54	2	15-558		64	3	15-538	
45	2	15-616		55	2	15-559		65	3	15-539	
46	2	15-550		56	2	15-528		66	3	15-540	
47	2	15-551		57	2	15-529		67	3	15-541	
48	5	15-552	A2	58	2	15-532		68	3	15-542	
49	2	15-553	S	59	2	15-533		69	3	15-543	
50	2	15-554		60	2	15-534		70	3	15-544	

71	3	15-545	S
72	3	15-546	
73	3	15-547	
74	3	15-548	
75	3	15-549	
76	3	15-637	
77	3	15-638	
78	4	15-581DUP	
79	1	15-571DUP	
80	2	15-612DUP	
81	5	15-552DUP	W
82	3	15-536DUP	S

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBS4
5 PBW

LDC #: 18448T59
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 2
Reviewer: MC
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	—	ER = 48

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All Soil except 48 A2

1 1	15-581	11 1	15-561	21 2	15-571	31 2	15-592
2 1	15-582	12 1	15-562	22 2	15-572	32 2	15-593
3 1	15-584	13 1	15-563	23 2	15-573	33 2	15-594
4 1	15-585	14 1	15-564	24 2	15-574	34 2	15-595
5 1	15-586	15 1	15-565	25 2	15-575	35 2	15-596
6 1	15-587	16 1	15-566	26 2	15-576	36 2	15-597
7 1	15-588	17 1	15-567	27 2	15-577	37 2	15-598
8 1	15-589	18 1	15-568	28 2	15-578	38 2	15-599
9 1	15-590	19 1	15-569	29 2	15-579	39 2	15-600
10 1	15-560	20 1	15-570	30 2	15-591	40 2	15-601

Notes:

LDC #: 18448T59
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08

Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	See Page 1
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		~~ER=4~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

41 3	15-612	51 3	15-555	61 4	15-535	71 4	15-545
42 3	15-613	52 3	15-556	62 4	15-536	72 4	15-546
43 3	15-614	53 3	15-557	63 4	15-537	73 4	15-547
44 3	15-615	54 3	15-558	64 4	15-538	74 4	15-548
45 3	15-616	55 3	15-559	65 4	15-539	75 4	15-549
46 3	15-550	56 3	15-528	66 4	15-540	76 4	15-637
47 3	15-551	57 3	15-529	67 4	15-541	77 4	15-638
48 5	15-552 A2	58 3	15-532	68 4	15-542	78 1	15-581DUP
49 3	15-553	59 3	15-533	69 4	15-543	79 2	15-571DUP
50 3	15-554	60 3	15-534	70 4	15-544	80	~~15-579DUP~~ MG
						81 3	15-612DUP
						82	~~15-559DUP~~ MG
						83 4	15-535DUP

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBS4
5 PBW

LDC #: 18448T73
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup ~~<RL~~ <RL, difference <RL.
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	—	ER = 48

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All Soil except 48 A2

1 [1]	15-581	11 [1]	15-561	21 [2]	15-571	31 [2]	15-592
2 [1]	15-582	12 [1]	15-562	22 [2]	15-572	32 [2]	15-593
3 [1]	15-584	13 [1]	15-563	23 [2]	15-573	33 [2]	15-594
4 [1]	15-585	14 [1]	15-564	24 [2]	15-574	34 [2]	15-595
5 [1]	15-586	15 [1]	15-565	25 [2]	15-575	35 [2]	15-596
6 [1]	15-587	16 [1]	15-566	26 [2]	15-576	36 [2]	15-597
7 [1]	15-588	17 [1]	15-567	27 [2]	15-577	37 [5]	15-598
8 [1]	15-589	18 [1]	15-568	28 [2]	15-578	38 [2]	15-599
9 [1]	15-590	19 [1]	15-569	29 [5]	15-579	39 [2]	15-600
10 [1]	15-560	20 [1]	15-570	30 [2]	15-591	40 [2]	15-601

Notes:

LDC #: 18448T73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A090153 ADR Page: 2 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	See page 1
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

41 3	15-612	51 3	15-555	61 4	15-535	71 4	15-545
42 3	15-613	52 3	15-556	62 4	15-536	72 4	15-546
43 3	15-614	53 3	15-557	63 4	15-537	73 4	15-547
44 3	15-615	54 3	15-558	64 4	15-538	74 4	15-548
45 3	15-616	55 6	15-559	65 5	15-539	75 4	15-549
46 3	15-550	56 6	15-528	66 4	15-540	76 4	15-637
47 3	15-551	57 6	15-529	67 4	15-541	77 4	15-638
48 7	15-552 · W	58 3	15-532	68 5	15-542	78 1	15-581DUP
49 3	15-553	59 3	15-533	69 5	15-543	79 2	15-571DUP
50 3	15-554	60 3	15-534	70 5	15-544	80 3	15-612DUP
						81 4	15-535DUP

Notes:

1) PBS1 (5) 15-579 DUP
2) PBS2 (6) 15-559 DUP
3) PBS3
4) PBS4
5) PBS5
6) PBS6
7) PBW

LDC #: 18448T61
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~N~~ A	Dup
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	ce
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Soil

1 1	15-582	11 1	15-582DUP	21		31	
2 1	15-568	12 2	15-548DUP	22		32	
3 1	15-578	13 1	PBS1	23		33	
4 1	15-592	14 2	PBS2	24		34	
5 1	15-598	15		25		35	
6 1	15-558	16		26		36	
7 1	15-528	17		27		37	
8 1	15-538	18		28		38	
9 2	15-548	19		29		39	
10 1	15-638	20		30		40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37193

ENTERED

1-30

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: SG 1017341 CC6.0639552
PROJECT LOCATION: Alameda	PROJECT NO.: 3210.0280
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949 756 7500

ANALYSES REQUIRED: EPA 901.1m Gamma; Thorium; Uranium; 226/228 Dot SRa/Ra

LABORATORY NAME: STL Testamerica

LABORATORY ID (FOR LABORATORY): F8A090168

Project Information Section Do not submit to Laboratory

10 ✓

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-627	12 1407	1011	1	X		S	30 DAY		1IR-92-06A	0	6"	Reg
IS-628	12 1407	1013	2	X		S	30 DAY		1IR-92-06B	6"	12"	Reg
IS-629	12 1407	1017	1	X		S	30 DAY		1IR-92-07A	0	6"	Reg
IS-630	12 1407	1019	1	X		S	30 DAY		1IR-92-07B	6"	12"	Reg
IS-631	12 1407	1023	1	X		S	30 DAY		1IR-92-08A	0	6"	Reg
IS-632	12 1407	1025	1	X		S	30 DAY		1IR-92-08B	6"	12"	Reg
IS-633	12 1407	1028	1	X		S	30 DAY		1IR-92-09A	0	6"	Reg
IS-634	12 1407	1029	1	X		S	30 DAY		1IR-92-09B	6"	12"	Reg
IS-635	12 1407	1032	1	X		S	30 DAY		1IR-92-10A	0	6"	Reg
IS-636	12 1407	1034	1	X		S	30 DAY		1IR-92-10B	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TT / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * NO3 day 1-8-08 SL

3 DY + 21 DY Ingrowth

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = INSTALATION Restoration

160591/44

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37190

PROJECT NAME: IR SITES 1, 2 + 32	PURCHASE ORDER NO.: 106.0629552 DO 161-7344
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3710.078P
SAMPLER NAME: V. RICHARDS	AIRBILL NUMBER:
PROJECT CONTACT: LISA BIENKOWSKIE	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): F8A090168

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	T/T	EPA 901.1M Gamma	TH Thorium	U URANIUM	90/Sr DOE Sr-01 Rev.02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-760	12/14/07	1352	1	X		S	2/4/7	X	X	X			2IR230-01B	6"	12"	Reg
IS-761	12/14/07	1354	1	X		S	2/4/7	X	X	X			2IR230-02A	0	6"	Reg
IS-762	12/14/07	1358	1	X		S	2/4/7	X	X	X			2IR230-02B	6"	12"	Reg
IS-763	12/14/07	1402	1	X		S	2/4/7	X	X	X			2IR230-03A	0	6"	Reg
IS-764	12/14/07	1404	1	X		S	2/4/7	X	X	X			2IR230-03B	6"	12"	Reg
IS-765	12/14/07	1410	1	X		S	2/4/7	X	X	X			2IR230-04A	0	6"	Reg
IS-766	12/14/07	1417	1	X		S	2/4/7	X	X	X			2IR230-04B	6"	12"	Reg
IS-767	12/14/07	1413	1	X		S	2/4/7	X	X	X			2IR230-05A	0	6"	Reg
IS-768	12/14/07	1414	2	X		S	2/4/7	X	X	X	X		2IR230-05B	6"	12"	Reg
IS-769	12/14/07	1422	1	X		S	2/4/7	X	X	X			2IR230-06A	0	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TT EC/Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: # 110 3-day 1-8-08 30d + 21 dy Isotopics S2

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

1605814A

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 37191

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME	IR SITES 1, 2 + 32
PURCHASE ORDER NO.	106.06295S2 ~~1017341~~
PROJECT LOCATION	ALAMEDA, CA.
PROJECT NO.	3710.078P
SAMPLER NAME	V. RICHARDS
AIRBILL NUMBER	
PROJECT CONTACT	LISA BIENKOWSKIE
PROJECT CONTACT PHONE NUMBER	949.756.7500
LABORATORY NAME	TestAmerica STL
LABORATORY ID (FOR LABORATORY)	F8A090168

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; 90/SR DOE SR-01/SR-02

Project Information Section — Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Thorium	Uranium	90/SR DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IS-770	12/14/07	1424	1	X		S	3dy	X	X	X			2IR230-06B	6"	12"	Reg
IS-771	12/14/07	1426	1	X		S	3dy	X	X	X			2IR230-07A	0	6"	Reg
IS-772	12/14/07	1428	1	X		S	3dy	X	X	X			2IR230-07B	6"	12"	Reg
IS-773	12/14/07	1429	1	X		S	3dy	X	X	X			2IR230-08A	0	6"	Reg
IS-774	12/14/07	1431	1	X		S	3dy	X	X	X			2IR230-08B	6"	12"	Reg
IS-775	12/14/07	1433	1	X		S	3dy	X	X	X			2IR230-09A	0	6"	Reg
IS-776	12/14/07	1435	1	X		S	3dy	X	X	X			2IR230-09D	6"	12"	Reg
IS-777	12/14/07	1440	1	X		S	3dy	X	X	X			2IR230-10A	0	6"	Reg
IS-778	12/14/07	1442	2	X		S	3dy	X	X	X	X		2IR230-10B	6"	12"	Reg

RELINQUISHED BY (Signature) [signature]	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TtEC / [illegible]	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 3dy + 21dy ingrowths *NO 3day Sr

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = INSTALATION Restoration
16059144

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31685

ENTERED

PROJECT NAME: IR [illegible] 1/32	PURCHASE ORDER NO.: 106.0629552 DO #1734
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028P
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Sienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: ~~Testamerica~~ STL

LABORATORY ID (FOR LABORATORY): F8A090168

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT*	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-791	12-14-07	1321	1	X		S	21		21R-278-04b	6"	1'	Reg.
15-792	12-14-07	1304	1	X		S	21		21R-278-05a	0"	6"	Reg.
15-793	12-14-07	1304	1	X		S	21		21R-278-05b	6"	1'	Reg.
15-794	12-14-07	1311	1	X		S	21		21R-278-06a	0"	6"	Reg.
15-795	12-14-07	1314	1	X		S	21		21R-278-06b	6"	1'	Reg.
15-796	12-14-07	1322	1	X		S	21		21R-278-07a	0"	6"	Reg.
15-797	12-14-07	1325	1	X		S	21		21R-278-07b	6"	1'	Reg.
15-798	12-14-07	1331	2	X		S	21		21R-278-08a	0"	6"	Reg.
15-799	12-14-07	1335	1	X		S	21		21R-278-08b	6"	1'	Reg.
15-800	12-14-07	1356	1	X		S	21		21R-278-09a	0"	6"	Reg.

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TtC/Katy	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: * no 3-days 1-8-08 SL
3 Dy + 21 Dy Inorganics

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

160591/44

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31686

ENTERED

PROJECT NAME: IR Sites 1, 2, & 52	PURCHASE ORDER NO.: 106.0679552 / 101734
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028P
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949.756.7500

ANALYSES REQUIRED

LABORATORY NAME: ~~TestAmerica~~ T

LABORATORY ID (FOR LABORATORY): F8A090168

Project Information Section Do not submit to Laboratory

3

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
IR-101	12-14-07	1358	1	X		S	21 DY		21R-278-09b	6"	1'	Reg.
IR-102	12-14-07	1401	1	X		S	21 DY		21R-278-10a	0'	6"	Reg.
IR-103	12-14-07	1406	1	X		S	21 DY		21R-278-10b	6	1'	Reg.

RELINQUISHED BY (Signature)	DATE 1/3/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: * no 3-day 1-8-08
COMPANY TTEC/Tetra	TIME	COMPANY	~~TSL~~ + 21 DY INGROWTHS SV
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

16059164

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-627

Radiochemistry

Lab Sample ID: F8A090168-001
Work Order: KE856
Matrix: SOLID

Date Collected: 12/14/07 1011
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.60		0.16		0.16	01/13/08	02/03/08
Americium 241	0.17	U	0.22		0.37	01/13/08	02/03/08
Cesium 137	0.011	U	0.027	0.200	0.048	01/13/08	02/03/08
Cobalt 60	-0.009	U	0.037		0.066	01/13/08	02/03/08
Europium 152	-0.007	U	0.074		0.13	01/13/08	02/03/08
Europium 154	0.004	U	0.21		0.39	01/13/08	02/03/08
Potassium 40	11.2		1.3		0.4	01/13/08	02/03/08
Radium (226)	0.505	J	0.099	1.00	0.072	01/13/08	02/03/08
Thorium 232	0.60		0.16		0.16	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 93
Thorium 228	0.44	J	0.14	1.00	0.06	01/21/08	01/30/08
Thorium 230	0.36	J	0.12	1.00	0.03	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 86
Uranium 233/234	0.40	J	0.14	1.00	0.08	01/21/08	01/30/08
Uranium 235/236	0.0	U	0.012	1.00	0.037	01/21/08	01/30/08
Uranium 238	0.31	J	0.12	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-627 DUP

Radiochemistry

Lab Sample ID: F8A090168-001X
Work Order: KE856
Matrix: SOLID

Date Collected: 12/14/07 1011
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.54		0.21		0.27	01/13/08	02/03/08
Americium 241	0.038	U	0.086		0.15	01/13/08	02/03/08
Cesium 137	0.026	U	0.044	0.200	0.073	01/13/08	02/03/08
Cobalt 60	0.0	U	0.043		0.081	01/13/08	02/03/08
Europium 152	-0.011	U	0.088		0.16	01/13/08	02/03/08
Europium 154	0.0	U	0.15		0.30	01/13/08	02/03/08
Potassium 40	11.4		1.4		0.3	01/13/08	02/03/08
Radium (226)	0.51	J	0.13	1.00	0.15	01/13/08	02/03/08
Thorium 232	0.54		0.21		0.27	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 97
Thorium 228	0.49	J	0.15	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.47	J	0.14	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 95
Uranium 233/234	0.31	J	0.12	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	0.046	U	0.049	1.00	0.052	01/21/08	01/30/08
Uranium 238	0.37	J	0.12	1.00	0.03	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-628

Radiochemistry

Lab Sample ID: F8A090168-002
Work Order: KE86G
Matrix: SOLID

Date Collected: 12/14/07 1013
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013024**		**Yld %**
Actinium 228	0.36		0.13		0.23	01/13/08	02/03/08
Americium 241	-0.003	U	0.082		0.14	01/13/08	02/03/08
Cesium 137	0.025	U	0.040	0.200	0.067	01/13/08	02/03/08
Cobalt 60	0.011	U	0.039		0.071	01/13/08	02/03/08
Europium 152	-0.009	U	0.086		0.15	01/13/08	02/03/08
Europium 154	0.13	U	0.22		0.38	01/13/08	02/03/08
Potassium 40	8.9		1.4		0.6	01/13/08	02/03/08
Radium (226)	0.262	J	0.095	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.36		0.13		0.23	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021083**		**Yld % 87**
Thorium 228	0.78	J	0.20	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.59	J	0.17	1.00	0.06	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021085**		**Yld % 93**
Uranium 233/234	0.52	J	0.15	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	0.034	U	0.042	1.00	0.051	01/21/08	01/30/08
Uranium 238	0.44	J	0.13	1.00	0.05	01/21/08	01/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8009213**		**Yld % 57**
Strontium 90	0.06	U	0.34	3.00	0.59	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-629

Radiochemistry

Lab Sample ID: F8A090168-003
Work Order: KE86J
Matrix: SOLID

Date Collected: 12/14/07 1017
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.32		0.18		0.24	01/13/08	02/03/08
Americium 241	0.031	U	0.076		0.13	01/13/08	02/03/08
Cesium 137	0.201		0.064	0.200	0.067	01/13/08	02/03/08
Cobalt 60	0.0	U	0.010		0.037	01/13/08	02/03/08
Europium 152	0.013	U	0.087		0.16	01/13/08	02/03/08
Europium 154	-0.08	U	0.33		0.61	01/13/08	02/03/08
Potassium 40	7.7		1.3		0.4	01/13/08	02/03/08
Radium (226)	0.41	J	0.12	1.00	0.10	01/13/08	02/03/08
Thorium 232	0.32		0.18		0.24	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 92
Thorium 228	0.33	J	0.12	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.41	J	0.14	1.00	0.07	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 97
Uranium 233/234	0.128	J	0.071	1.00	0.046	01/21/08	01/30/08
Uranium 235/236	0.021	U	0.033	1.00	0.050	01/21/08	01/30/08
Uranium 238	0.218	J	0.094	1.00	0.055	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-630

Radiochemistry

Lab Sample ID: F8A090168-004
Work Order: KE86Q
Matrix: SOLID

Date Collected: 12/14/07 1019
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.28		0.15		0.21	01/13/08	02/03/08
Americium 241	0.047	U	0.077		0.13	01/13/08	02/03/08
Cesium 137	0.071	J	0.042	0.200	0.061	01/13/08	02/03/08
Cobalt 60	0.000002	U	0.035		0.068	01/13/08	02/03/08
Europium 152	0.029	U	0.059		0.10	01/13/08	02/03/08
Europium 154	-0.06	U	0.27		0.49	01/13/08	02/03/08
Potassium 40	7.6		1.2		0.7	01/13/08	02/03/08
Radium (226)	0.256	J	0.097	1.00	0.13	01/13/08	02/03/08
Thorium 232	0.28		0.15		0.21	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 89
Thorium 228	0.66	J	0.18	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.51	J	0.15	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 97
Uranium 233/234	0.228	J	0.095	1.00	0.045	01/21/08	01/30/08
Uranium 235/236	0.019	U	0.033	1.00	0.057	01/21/08	01/30/08
Uranium 238	0.42	J	0.13	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-631

Radiochemistry

Lab Sample ID: F8A090168-005
Work Order: KE86T
Matrix: SOLID

Date Collected: 12/14/07 1023
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.37		0.18		0.19	01/13/08	02/03/08
Americium 241	0.012	U	0.088		0.15	01/13/08	02/03/08
Cesium 137	0.017	U	0.057	0.200	0.10	01/13/08	02/03/08
Cobalt 60	-0.008	U	0.055		0.10	01/13/08	02/03/08
Europium 152	0.00001	U	0.11		0.19	01/13/08	02/03/08
Europium 154	0.04	U	0.29		0.56	01/13/08	02/03/08
Potassium 40	6.9		1.4		0.6	01/13/08	02/03/08
Radium (226)	0.58	J	0.13	1.00	0.05	01/13/08	02/03/08
Thorium 232	0.37		0.18		0.19	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 85
Thorium 228	0.58	J	0.17	1.00	0.09	01/21/08	01/30/08
Thorium 230	0.54	J	0.16	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 96
Uranium 233/234	0.40	J	0.13	1.00	0.03	01/21/08	01/30/08
Uranium 235/236	0.0	U	0.011	1.00	0.034	01/21/08	01/30/08
Uranium 238	0.25	J	0.10	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-632

Radiochemistry

Lab Sample ID: F8A090168-006
Work Order: KE86V
Matrix: SOLID

Date Collected: 12/14/07 1025
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013024**		**Yld %**
Actinium 228	0.19	U	0.17		0.25	01/13/08	02/03/08
Americium 241	0.044	U	0.075		0.13	01/13/08	02/03/08
Cesium 137	-0.009	U	0.079	0.200	0.090	01/13/08	02/03/08
Cobalt 60	0.031	U	0.044		0.073	01/13/08	02/03/08
Europium 152	-0.032	U	0.096		0.17	01/13/08	02/03/08
Europium 154	0.0	U	0.068		0.25	01/13/08	02/03/08
Potassium 40	8.0		1.5		0.4	01/13/08	02/03/08
Radium (226)	0.39	J	0.12	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.19	U	0.17		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021083**		**Yld % 97**
Thorium 228	0.62	J	0.16	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.48	J	0.14	1.00	0.04	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021085**		**Yld % 93**
Uranium 233/234	0.41	J	0.13	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/21/08	01/30/08
Uranium 238	0.34	J	0.12	1.00	0.03	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-633

Radiochemistry

Lab Sample ID: F8A090168-007
Work Order: KE86X
Matrix: SOLID

Date Collected: 12/14/07 1028
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.51		0.11		0.05	01/13/08	02/03/08
Americium 241	0.08	U	0.20		0.35	01/13/08	02/03/08
Cesium 137	0.013	U	0.027	0.200	0.046	01/13/08	02/03/08
Cobalt 60	-0.014	U	0.036		0.062	01/13/08	02/03/08
Europium 152	-0.005	U	0.070		0.13	01/13/08	02/03/08
Europium 154	0.05	U	0.20		0.36	01/13/08	02/03/08
Potassium 40	8.0		1.1		0.4	01/13/08	02/03/08
Radium (226)	0.356	J	0.084	1.00	0.080	01/13/08	02/03/08
Thorium 232	0.51		0.11		0.05	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 85
Thorium 228	0.39	J	0.14	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.72	J	0.19	1.00	0.06	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 101
Uranium 233/234	0.247	J	0.097	1.00	0.044	01/21/08	01/30/08
Uranium 235/236	0.020	U	0.032	1.00	0.047	01/21/08	01/30/08
Uranium 238	0.33	J	0.11	1.00	0.04	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-634

Radiochemistry

Lab Sample ID: F8A090168-008
Work Order: KE860
Matrix: SOLID

Date Collected: 12/14/07 1029
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.27		0.16		0.21	01/13/08	02/03/08
Americium 241	0.026	U	0.080		0.14	01/13/08	02/03/08
Cesium 137	0.008	U	0.037	0.200	0.067	01/13/08	02/03/08
Cobalt 60	0.004	U	0.052		0.098	01/13/08	02/03/08
Europium 152	-0.0004	U	0.087		0.16	01/13/08	02/03/08
Europium 154	0.18	U	0.31		0.52	01/13/08	02/03/08
Potassium 40	7.9		1.3		0.7	01/13/08	02/03/08
Radium (226)	0.46	J	0.12	1.00	0.08	01/13/08	02/03/08
Thorium 232	0.27		0.16		0.21	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 93
Thorium 228	0.62	J	0.17	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.50	J	0.15	1.00	0.04	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 95
Uranium 233/234	0.31	J	0.11	1.00	0.03	01/21/08	01/30/08
Uranium 235/236	-0.0023	U	0.0045	1.00	0.051	01/21/08	01/30/08
Uranium 238	0.35	J	0.12	1.00	0.03	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-635

Radiochemistry

Lab Sample ID: F8A090168-009
Work Order: KE861
Matrix: SOLID

Date Collected: 12/14/07 1032
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.66		0.18		0.22	01/13/08	02/03/08
Americium 241	-0.012	U	0.091		0.16	01/13/08	02/03/08
Cesium 137	0.010	U	0.040	0.200	0.071	01/13/08	02/03/08
Cobalt 60	0.0006	U	0.037		0.074	01/13/08	02/03/08
Europium 152	-0.021	U	0.096		0.17	01/13/08	02/03/08
Europium 154	-0.0007	U	0.30		0.57	01/13/08	02/03/08
Potassium 40	10.6		1.6		0.4	01/13/08	02/03/08
Radium (226)	0.35	J	0.11	1.00	0.13	01/13/08	02/03/08
Thorium 232	0.66		0.18		0.22	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 83
Thorium 228	0.79	J	0.20	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.43	J	0.14	1.00	0.03	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 90
Uranium 233/234	0.48	J	0.15	1.00	0.07	01/21/08	01/30/08
Uranium 235/236	0.037	J	0.043	1.00	0.034	01/21/08	01/30/08
Uranium 238	0.38	J	0.13	1.00	0.07	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-636

Radiochemistry

Lab Sample ID: F8A090168-010
Work Order: KE865
Matrix: SOLID

Date Collected: 12/14/07 1034
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.55		0.20		0.24	01/13/08	02/03/08
Americium 241	0.008	U	0.098		0.17	01/13/08	02/03/08
Cesium 137	0.016	U	0.042	0.200	0.073	01/13/08	02/03/08
Cobalt 60	-0.0008	U	0.046		0.085	01/13/08	02/03/08
Europium 152	-0.01	U	0.11		0.19	01/13/08	02/03/08
Europium 154	-0.004	U	0.30		0.56	01/13/08	02/03/08
Potassium 40	12.0		1.5		0.3	01/13/08	02/03/08
Radium (226)	0.50	J	0.13	1.00	0.16	01/13/08	02/03/08
Thorium 232	0.55		0.20		0.24	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 85
Thorium 228	0.68	J	0.18	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.56	J	0.16	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 90
Uranium 233/234	0.35	J	0.13	1.00	0.07	01/21/08	01/30/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	01/21/08	01/30/08
Uranium 238	0.37	J	0.13	1.00	0.06	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-770

Radiochemistry

Lab Sample ID: F8A090168-011
Work Order: KE867
Matrix: SOLID

Date Collected: 12/14/07 1424
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.38		0.18		0.24	01/13/08	02/03/08
Americium 241	0.030	U	0.086		0.15	01/13/08	02/03/08
Cesium 137	-0.001	U	0.035	0.200	0.065	01/13/08	02/03/08
Cobalt 60	0.002	U	0.037		0.070	01/13/08	02/03/08
Europium 152	-0.009	U	0.094		0.17	01/13/08	02/03/08
Europium 154	-0.06	U	0.30		0.54	01/13/08	02/03/08
Potassium 40	8.8		1.2		0.3	01/13/08	02/03/08
Radium (226)	0.44	J	0.12	1.00	0.14	01/13/08	02/03/08
Thorium 232	0.38		0.18		0.24	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 86
Thorium 228	0.58	J	0.17	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.46	J	0.15	1.00	0.08	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 89
Uranium 233/234	0.41	J	0.13	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.053	01/21/08	01/30/08
Uranium 238	0.232	J	0.099	1.00	0.053	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-771

Radiochemistry

Lab Sample ID: F8A090168-012
Work Order: KE87D
Matrix: SOLID

Date Collected: 12/14/07 1426
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8013024		Yld %
Actinium 228	0.26	U	0.18		0.26	01/13/08	02/03/08
Americium 241	0.026	U	0.089		0.15	01/13/08	02/03/08
Cesium 137	0.038	U	0.054	0.200	0.090	01/13/08	02/03/08
Cobalt 60	0.0007	U	0.054		0.11	01/13/08	02/03/08
Europium 152	-0.003	U	0.088		0.17	01/13/08	02/03/08
Europium 154	0.01	U	0.32		0.63	01/13/08	02/03/08
Potassium 40	7.7		1.6		0.9	01/13/08	02/03/08
Radium (226)	0.43	J	0.11	1.00	0.05	01/13/08	02/03/08
Thorium 232	0.26	U	0.18		0.26	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8021083		Yld % 88
Thorium 228	0.34	J	0.13	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.52	J	0.15	1.00	0.06	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8021085		Yld % 85
Uranium 233/234	0.31	J	0.12	1.00	0.06	01/21/08	02/03/08
Uranium 235/236	0.008	U	0.028	1.00	0.066	01/21/08	02/03/08
Uranium 238	0.38	J	0.13	1.00	0.06	01/21/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-772

Radiochemistry

Lab Sample ID: F8A090168-013
Work Order: KE87F
Matrix: SOLID

Date Collected: 12/14/07 1428
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013024**		**Yld %**
Actinium 228	0.1	U	0.16		0.28	01/13/08	02/03/08
Americium 241	0.032	U	0.063		0.11	01/13/08	02/03/08
Cesium 137	-0.03	U	0.64	0.20	0.09	01/13/08	02/03/08
Cobalt 60	0.008	U	0.056		0.11	01/13/08	02/03/08
Europium 152	-0.03	U	0.11		0.19	01/13/08	02/03/08
Europium 154	-0.05	U	0.34		0.63	01/13/08	02/03/08
Potassium 40	8.6		1.5		0.5	01/13/08	02/03/08
Radium (226)	0.44	J	0.12	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.1	U	0.16		0.28	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021083**		**Yld % 87**
Thorium 228	0.53	J	0.16	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.40	J	0.14	1.00	0.06	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021085**		**Yld % 86**
Uranium 233/234	0.41	J	0.14	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	-0.0050	U	0.0070	1.00	0.065	01/21/08	01/30/08
Uranium 238	0.42	J	0.14	1.00	0.06	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-773

Radiochemistry

Lab Sample ID: F8A090168-014
Work Order: KE87G
Matrix: SOLID

Date Collected: 12/14/07 1429
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.37		0.12		0.16	01/13/08	02/03/08
Americium 241	-0.13	U	0.32		0.54	01/13/08	02/03/08
Cesium 137	0.092	J	0.046	0.200	0.063	01/13/08	02/03/08
Cobalt 60	-0.003	U	0.035		0.066	01/13/08	02/03/08
Europium 152	-0.006	U	0.085		0.15	01/13/08	02/03/08
Europium 154	-0.02	U	0.27		0.50	01/13/08	02/03/08
Potassium 40	10.5		1.4		0.5	01/13/08	02/03/08
Radium (226)	0.75	J	0.14	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.37		0.12		0.16	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 89
Thorium 228	0.24	J	0.10	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.54	J	0.15	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 89
Uranium 233/234	0.28	J	0.11	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	-0.0022	U	0.0045	1.00	0.051	01/21/08	01/30/08
Uranium 238	0.42	J	0.13	1.00	0.04	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-774

Radiochemistry

Lab Sample ID: F8A090168-015
Work Order: KE87H
Matrix: SOLID

Date Collected: 12/14/07 1431
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.17	U	0.21		0.34	01/13/08	02/03/08
Americium 241	0.0002	U	0.10		0.18	01/13/08	02/03/08
Cesium 137	0.0	U	0.038	0.200	0.074	01/13/08	02/03/08
Cobalt 60	0.0	U	0.013		0.047	01/13/08	02/03/08
Europium 152	0.05	U	0.10		0.17	01/13/08	02/03/08
Europium 154	-0.07	U	0.35		0.65	01/13/08	02/03/08
Potassium 40	9.9		1.7		0.5	01/13/08	02/03/08
Radium (226)	0.59	J	0.15	1.00	0.13	01/13/08	02/03/08
Thorium 232	0.17	U	0.21		0.34	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 85
Thorium 228	1.03		0.23	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.64	J	0.18	1.00	0.08	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 92
Uranium 233/234	0.54	J	0.16	1.00	0.08	01/21/08	01/30/08
Uranium 235/236	0.047	U	0.050	1.00	0.052	01/21/08	01/30/08
Uranium 238	0.42	J	0.14	1.00	0.07	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-775

Radiochemistry

Lab Sample ID: F8A090168-016
Work Order: KE87K
Matrix: SOLID

Date Collected: 12/14/07 1433
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.28		0.18		0.26	01/13/08	02/03/08
Americium 241	-0.006	U	0.088		0.15	01/13/08	02/03/08
Cesium 137	0.0	U	0.026	0.200	0.053	01/13/08	02/03/08
Cobalt 60	0.0	U	0.056		0.11	01/13/08	02/03/08
Europium 152	0.0	U	0.093		0.17	01/13/08	02/03/08
Europium 154	0.0	U	0.062		0.23	01/13/08	02/03/08
Potassium 40	8.4		1.4		0.4	01/13/08	02/03/08
Radium (226)	0.22	J	0.11	1.00	0.15	01/13/08	02/03/08
Thorium 232	0.28		0.18		0.26	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 95
Thorium 228	0.34	J	0.12	1.00	0.06	01/21/08	01/30/08
Thorium 230	0.51	J	0.15	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 95
Uranium 233/234	0.25	J	0.11	1.00	0.08	01/21/08	01/30/08
Uranium 235/236	0.0	U	0.011	1.00	0.033	01/21/08	01/30/08
Uranium 238	0.24	J	0.10	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-776

Radiochemistry

Lab Sample ID: F8A090168-017
Work Order: KE87L
Matrix: SOLID

Date Collected: 12/14/07 1435
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.17	U	0.14		0.22	01/13/08	02/03/08
Americium 241	-0.034	U	0.087		0.15	01/13/08	02/03/08
Cesium 137	0.023	U	0.037	0.200	0.062	01/13/08	02/03/08
Cobalt 60	-0.003	U	0.035		0.067	01/13/08	02/03/08
Europium 152	-0.016	U	0.091		0.16	01/13/08	02/03/08
Europium 154	0.0	U	0.29		0.53	01/13/08	02/03/08
Potassium 40	8.0		1.2		0.3	01/13/08	02/03/08
Radium (226)	0.55	J	0.12	1.00	0.1	01/13/08	02/03/08
Thorium 232	0.17	U	0.14		0.22	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 87
Thorium 228	0.39	J	0.13	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.38	J	0.13	1.00	0.03	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 93
Uranium 233/234	0.41	J	0.13	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	0.023	U	0.036	1.00	0.053	01/21/08	01/30/08
Uranium 238	0.24	J	0.10	1.00	0.03	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-777

Radiochemistry

Lab Sample ID: F8A090168-018
Work Order: KE87N
Matrix: SOLID

Date Collected: 12/14/07 1440
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.34		0.23		0.32	01/13/08	02/03/08
Americium 241	-0.030	U	0.095		0.16	01/13/08	02/03/08
Cesium 137	-0.004	U	0.054	0.200	0.10	01/13/08	02/03/08
Cobalt 60	0.007	U	0.051		0.10	01/13/08	02/03/08
Europium 152	0.0003	U	0.082		0.16	01/13/08	02/03/08
Europium 154	0.0	U	0.079		0.29	01/13/08	02/03/08
Potassium 40	10		1.8		0.9	01/13/08	02/03/08
Radium (226)	0.29	J	0.11	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.34		0.23		0.32	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 95
Thorium 228	0.36	J	0.13	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.43	J	0.14	1.00	0.06	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 92
Uranium 233/234	0.31	J	0.11	1.00	0.06	01/21/08	01/30/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/21/08	01/30/08
Uranium 238	0.29	J	0.11	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-778

Radiochemistry

Lab Sample ID: F8A090168-019
Work Order: KE87R
Matrix: SOLID

Date Collected: 12/14/07 1442
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.29		0.20		0.27	01/13/08	02/03/08
Americium 241	0.083	U	0.057		0.084	01/13/08	02/03/08
Cesium 137	-0.001	U	0.055	0.200	0.10	01/13/08	02/03/08
Cobalt 60	0.0	U	0.065		0.12	01/13/08	02/03/08
Europium 152	0.008	U	0.094		0.17	01/13/08	02/03/08
Europium 154	0.05	U	0.33		0.63	01/13/08	02/03/08
Potassium 40	7.9		1.5		0.5	01/13/08	02/03/08
Radium (226)	0.51	J	0.14	1.00	0.15	01/13/08	02/03/08
Thorium 232	0.29		0.20		0.27	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 89
Thorium 228	0.45	J	0.15	1.00	0.10	01/21/08	01/30/08
Thorium 230	0.38	J	0.13	1.00	0.08	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 93
Uranium 233/234	0.37	J	0.12	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	-0.0045	U	0.0063	1.00	0.058	01/21/08	01/30/08
Uranium 238	0.32	J	0.11	1.00	0.05	01/21/08	01/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 59
Strontium 90	-0.16	U	0.28	3.00	0.53	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-760

Radiochemistry

Lab Sample ID: F8A090168-020
Work Order: KE87V
Matrix: SOLID

Date Collected: 12/14/07 1352
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013024		Yld %
Actinium 228	0.179		0.098		0.13	01/13/08	02/03/08
Americium 241	0.009	U	0.24		0.42	01/13/08	02/03/08
Cesium 137	0.012	U	0.028	0.200	0.049	01/13/08	02/03/08
Cobalt 60	0.016	U	0.023		0.038	01/13/08	02/03/08
Europium 152	-0.025	U	0.068		0.12	01/13/08	02/03/08
Europium 154	0.02	U	0.18		0.33	01/13/08	02/03/08
Potassium 40	8.4		1.1		0.4	01/13/08	02/03/08
Radium (226)	0.512	J	0.096	1.00	0.075	01/13/08	02/03/08
Thorium 232	0.179		0.098		0.13	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 87
Thorium 228	0.40	J	0.14	1.00	0.07	01/21/08	01/30/08
Thorium 230	0.46	J	0.15	1.00	0.03	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 91
Uranium 233/234	0.39	J	0.13	1.00	0.03	01/21/08	01/30/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	01/21/08	01/30/08
Uranium 238	0.27	J	0.11	1.00	0.05	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-761

Radiochemistry

Lab Sample ID: F8A090168-021
Work Order: KE872
Matrix: SOLID

Date Collected: 12/14/07 1354
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.22	U	0.17		0.25	01/13/08	02/04/08
Americium 241	0.031	U	0.083		0.14	01/13/08	02/04/08
Cesium 137	0.053	U	0.054	0.200	0.085	01/13/08	02/04/08
Cobalt 60	-0.015	U	0.051		0.094	01/13/08	02/04/08
Europium 152	-0.03	U	0.12		0.22	01/13/08	02/04/08
Europium 154	0.007	U	0.37		0.70	01/13/08	02/04/08
Potassium 40	9.4		1.6		0.6	01/13/08	02/04/08
Radium (226)	0.94	J	0.18	1.00	0.12	01/13/08	02/04/08
Thorium 232	0.22	U	0.17		0.25	01/13/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021083		Yld % 91
Thorium 228	0.44	J	0.15	1.00	0.08	01/21/08	01/30/08
Thorium 230	0.31	J	0.12	1.00	0.05	01/21/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021085		Yld % 97
Uranium 233/234	0.27	J	0.10	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	0.009	U	0.024	1.00	0.049	01/21/08	01/30/08
Uranium 238	0.248	J	0.099	1.00	0.039	01/21/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-761 DUP

Radiochemistry

Lab Sample ID: F8A090168-021X
Work Order: KE872
Matrix: SOLID

Date Collected: 12/14/07 1354
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.30		0.20		0.29	01/13/08	02/04/08
Americium 241	-0.004	U	0.10		0.17	01/13/08	02/04/08
Cesium 137	0.126	J	0.057	0.200	0.075	01/13/08	02/04/08
Cobalt 60	0.011	U	0.038		0.071	01/13/08	02/04/08
Europium 152	-0.02	U	0.10		0.18	01/13/08	02/04/08
Europium 154	0.08	U	0.29		0.52	01/13/08	02/04/08
Potassium 40	7.0		1.3		0.8	01/13/08	02/04/08
Radium (226)	1.02		0.17	1.00	0.09	01/13/08	02/04/08
Thorium 232	0.30		0.20		0.29	01/13/08	02/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-762

Radiochemistry

Lab Sample ID: F8A090168-022
Work Order: KE876
Matrix: SOLID

Date Collected: 12/14/07 1358
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8013026**		**Yld %**
Actinium 228	0.06	U	0.14		0.24	01/13/08	02/03/08
Americium 241	-0.032	U	0.090		0.15	01/13/08	02/03/08
Cesium 137	0.015	U	0.044	0.200	0.077	01/13/08	02/03/08
Cobalt 60	0.001	U	0.033		0.065	01/13/08	02/03/08
Europium 152	-0.01	U	0.090		0.16	01/13/08	02/03/08
Europium 154	-0.12	U	0.34		0.59	01/13/08	02/03/08
Potassium 40	7.6		1.2		0.8	01/13/08	02/03/08
Radium (226)	0.54	J	0.13	1.00	0.14	01/13/08	02/03/08
Thorium 232	0.06	U	0.14		0.24	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8021197**		**Yld % 89**
Uranium 233/234	0.43	J	0.13	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	0.022	U	0.034	1.00	0.051	01/21/08	01/30/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/21/08	01/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8033091**		**Yld % 81**
Thorium 228	0.47	J	0.15	1.00	0.07	02/02/08	02/05/08
Thorium 230	0.42	J	0.14	1.00	0.07	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-762 DUP

Radiochemistry

Lab Sample ID: F8A090168-022X
Work Order: KE876
Matrix: SOLID

Date Collected: 12/14/07 1358
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8021197**	**Yld % 94**
Uranium 233/234	**0.35**	**J**	**0.12**	1.00	**0.07**	**01/21/08**	**01/30/08**
Uranium 235/236	0.034	U	0.042	1.00	0.051	01/21/08	01/30/08
Uranium 238	**0.28**	**J**	**0.11**	1.00	**0.07**	**01/21/08**	**01/30/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8033091**	**Yld % 70**
Thorium 228	**0.19**	**J**	**0.11**	1.00	**0.10**	**02/02/08**	**02/05/08**
Thorium 230	**0.37**	**J**	**0.14**	1.00	**0.06**	**02/02/08**	**02/05/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

[illegible] Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-763

Radiochemistry

Lab Sample ID: F8A090168-023
Work Order: KE878
Matrix: SOLID

Date Collected: 12/14/07 1402
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013026**		**Yld %**
Actinium 228	0.22	U	0.22		0.35	01/13/08	02/03/08
Americium 241	0.02	U	0.11		0.20	01/13/08	02/03/08
Cesium 137	0.067	U	0.066	0.200	0.11	01/13/08	02/03/08
Cobalt 60	0.0	U	0.13		0.23	01/13/08	02/03/08
Europium 152	0.05	U	0.11		0.18	01/13/08	02/03/08
Europium 154	-0.16	U	0.54		0.96	01/13/08	02/03/08
Potassium 40	10.6		1.8		0.5	01/13/08	02/03/08
Radium (226)	1.26		0.22	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.22	U	0.22		0.35	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021197**		**Yld % 97**
Uranium 233/234	0.24	J	0.10	1.00	0.07	01/21/08	01/30/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/21/08	01/30/08
Uranium 238	0.34	J	0.12	1.00	0.05	01/21/08	01/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8033091**		**Yld % 82**
Thorium 228	0.41	J	0.14	1.00	0.08	02/02/08	02/05/08
Thorium 230	0.46	J	0.15	1.00	0.06	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-764

Radiochemistry

Lab Sample ID: F8A090168-024
Work Order: KE897
Matrix: SOLID

Date Collected: 12/14/07 1404
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8013026**		**Yld %**
Actinium 228	0.19	U	0.20		0.33	01/13/08	02/03/08
Americium 241	0.025	U	0.081		0.14	01/13/08	02/03/08
Cesium 137	0.026	U	0.049	0.200	0.092	01/13/08	02/03/08
Cobalt 60	-0.012	U	0.055		0.10	01/13/08	02/03/08
Europium 152	-0.007	U	0.10		0.19	01/13/08	02/03/08
Europium 154	0.0	U	0.22		0.45	01/13/08	02/03/08
Potassium 40	8.7		1.5		0.4	01/13/08	02/03/08
Radium (226)	0.90	J	0.18	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.19	U	0.20		0.33	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8021197**		**Yld % 91**
Uranium 233/234	0.31	J	0.12	1.00	0.03	01/21/08	01/30/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	01/21/08	01/30/08
Uranium 238	0.32	J	0.12	1.00	0.05	01/21/08	01/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8033091**		**Yld % 84**
Thorium 228	0.20	J	0.10	1.00	0.08	02/02/08	02/05/08
Thorium 230	0.32	J	0.12	1.00	0.08	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-765

Radiochemistry

Lab Sample ID: F8A090168-025
Work Order: KE9AE
Matrix: SOLID

Date Collected: 12/14/07 1410
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.33		0.13		0.17	01/13/08	02/03/08
Americium 241	-0.04	U	0.23		0.39	01/13/08	02/03/08
Cesium 137	0.01	U	0.027	0.200	0.047	01/13/08	02/03/08
Cobalt 60	0.006	U	0.022		0.041	01/13/08	02/03/08
Europium 152	-0.012	U	0.070		0.12	01/13/08	02/03/08
Europium 154	0.06	U	0.22		0.39	01/13/08	02/03/08
Potassium 40	6.92		0.97		0.43	01/13/08	02/03/08
Radium (226)	0.56	J	0.11	1.00	0.08	01/13/08	02/03/08
Thorium 232	0.33		0.13		0.17	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 95
Uranium 233/234	0.46	J	0.14	1.00	0.05	01/21/08	01/30/08
Uranium 235/236	0.045	U	0.048	1.00	0.050	01/21/08	01/30/08
Uranium 238	0.30	J	0.11	1.00	0.04	01/21/08	01/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033091		Yld % 65
Thorium 228	0.54	J	0.18	1.00	0.09	02/02/08	02/05/08
Thorium 230	0.62	J	0.19	1.00	0.07	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-766

Radiochemistry

Lab Sample ID: F8A090168-026
Work Order: KE9AG
Matrix: SOLID

Date Collected: 12/14/07 1412
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.39		0.13		0.18	01/13/08	02/03/08
Americium 241	0.005	U	0.080		0.14	01/13/08	02/03/08
Cesium 137	0.026	U	0.040	0.200	0.067	01/13/08	02/03/08
Cobalt 60	0.002	U	0.045		0.086	01/13/08	02/03/08
Europium 152	0.001	U	0.087		0.16	01/13/08	02/03/08
Europium 154	0.0	U	0.23		0.44	01/13/08	02/03/08
Potassium 40	7.4		1.3		0.6	01/13/08	02/03/08
Radium (226)	0.52	J	0.12	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.39		0.13		0.18	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 92
Uranium 233/234	0.32	J	0.12	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	01/21/08	01/31/08
Uranium 238	0.39	J	0.13	1.00	0.05	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033091		Yld % 74
Thorium 228	0.38	J	0.14	1.00	0.09	02/02/08	02/05/08
Thorium 230	0.68	J	0.19	1.00	0.03	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-767

Radiochemistry

Lab Sample ID: F8A090168-027
Work Order: KE9AJ
Matrix: SOLID

Date Collected: 12/14/07 1413
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.23		0.16		0.23	01/13/08	02/03/08
Americium 241	0.0	U	0.088		0.15	01/13/08	02/03/08
Cesium 137	0.035	U	0.046	0.200	0.076	01/13/08	02/03/08
Cobalt 60	-0.007	U	0.053		0.099	01/13/08	02/03/08
Europium 152	0.056	U	0.085		0.14	01/13/08	02/03/08
Europium 154	-0.08	U	0.37		0.68	01/13/08	02/03/08
Potassium 40	8.3		1.4		0.4	01/13/08	02/03/08
Radium (226)	0.68	J	0.15	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.23		0.16		0.23	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 95
Uranium 233/234	0.33	J	0.12	1.00	0.05	01/21/08	01/31/08
Uranium 235/236	0.022	U	0.034	1.00	0.051	01/21/08	01/31/08
Uranium 238	0.28	J	0.11	1.00	0.06	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033091		Yld % 85
Thorium 228	0.46	J	0.15	1.00	0.08	02/02/08	02/05/08
Thorium 230	0.50	J	0.16	1.00	0.05	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-768

Radiochemistry

Lab Sample ID: F8A090168-028
Work Order: KE9AM
Matrix: SOLID

Date Collected: 12/14/07 1414
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8013026**	**Yld %**
Actinium 228	0.18	U	0.14		0.21	01/13/08	02/03/08
Americium 241	-0.000006	U	0.080		0.14	01/13/08	02/03/08
Cesium 137	0.027	U	0.040	0.200	0.068	01/13/08	02/03/08
Cobalt 60	0.010	U	0.037		0.067	01/13/08	02/03/08
Europium 152	-0.015	U	0.095		0.17	01/13/08	02/03/08
Europium 154	-0.05	U	0.36		0.65	01/13/08	02/03/08
Potassium 40	6.8		1.1		0.3	01/13/08	02/03/08
Radium (226)	0.40	J	0.11	1.00	0.14	01/13/08	02/03/08
Thorium 232	0.18	U	0.14		0.21	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8021197**	**Yld % 92**
Uranium 233/234	0.28	J	0.11	1.00	0.05	01/21/08	01/31/08
Uranium 235/236	-0.0045	U	0.0064	1.00	0.059	01/21/08	01/31/08
Uranium 238	0.30	J	0.11	1.00	0.05	01/21/08	01/31/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 56**
Strontium 90	0.1	U	0.34	3.00	0.59	01/09/08	01/24/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8033091**	**Yld % 74**
Thorium 228	0.35	J	0.14	1.00	0.12	02/02/08	02/05/08
Thorium 230	0.33	J	0.13	1.00	0.09	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-769

Radiochemistry

Lab Sample ID: F8A090168-029
Work Order: KE9AT
Matrix: SOLID

Date Collected: 12/14/07 1422
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8013026**	**Yld %**
Actinium 228	0.20	U	0.18		0.27	01/13/08	02/03/08
Americium 241	0.012	U	0.078		0.14	01/13/08	02/03/08
Cesium 137	0.037	U	0.038	0.200	0.060	01/13/08	02/03/08
Cobalt 60	0.005	U	0.036		0.073	01/13/08	02/03/08
Europium 152	-0.03	U	0.11		0.20	01/13/08	02/03/08
Europium 154	-0.008	U	0.15		0.34	01/13/08	02/03/08
Potassium 40	8.4		1.5		0.5	01/13/08	02/03/08
Radium (226)	0.63	J	0.14	1.00	0.05	01/13/08	02/03/08
Thorium 232	0.20	U	0.18		0.27	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8021197**	**Yld % 97**
Uranium 233/234	0.29	J	0.11	1.00	0.03	01/21/08	01/31/08
Uranium 235/236	0.012	U	0.025	1.00	0.033	01/21/08	01/31/08
Uranium 238	0.174	J	0.085	1.00	0.048	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8033091**	**Yld % 81**
Thorium 228	0.35	J	0.13	1.00	0.07	02/02/08	02/05/08
Thorium 230	0.52	J	0.16	1.00	0.05	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-791

Radiochemistry

Lab Sample ID: F8A090168-030
Work Order: KE9AX
Matrix: SOLID

Date Collected: 12/14/07 1301
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.48		0.16		0.25	01/13/08	02/03/08
Americium 241	0.020	U	0.090		0.16	01/13/08	02/03/08
Cesium 137	-0.04	U	0.22	0.20	0.1	01/13/08	02/03/08
Cobalt 60	-0.016	U	0.059		0.11	01/13/08	02/03/08
Europium 152	-0.009	U	0.11		0.19	01/13/08	02/03/08
Europium 154	-0.003	U	0.26		0.52	01/13/08	02/03/08
Potassium 40	11.3		1.8		1.0	01/13/08	02/03/08
Radium (226)	0.58	J	0.14	1.00	0.10	01/13/08	02/03/08
Thorium 232	0.48		0.16		0.25	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 99
Uranium 233/234	0.45	J	0.13	1.00	0.04	01/21/08	01/31/08
Uranium 235/236	0.021	U	0.033	1.00	0.049	01/21/08	01/31/08
Uranium 238	0.41	J	0.13	1.00	0.02	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033091		Yld % 83
Thorium 228	0.53	J	0.16	1.00	0.09	02/02/08	02/05/08
Thorium 230	0.54	J	0.16	1.00	0.06	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-792

Radiochemistry

Lab Sample ID: F8A090168-031
Work Order: KE9A2
Matrix: SOLID

Date Collected: 12/14/07 1302
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013026**		**Yld %**
Actinium 228	0.63		0.12		0.06	01/13/08	02/03/08
Americium 241	-0.11	U	0.30		0.51	01/13/08	02/03/08
Cesium 137	0.075	J	0.036	0.200	0.047	01/13/08	02/03/08
Cobalt 60	0.0	U	0.066		0.12	01/13/08	02/03/08
Europium 152	0.040	U	0.072		0.12	01/13/08	02/03/08
Europium 154	-0.07	U	0.22		0.40	01/13/08	02/03/08
Potassium 40	10.3		1.3		0.5	01/13/08	02/03/08
Radium (226)	0.53	J	0.11	1.00	0.1	01/13/08	02/03/08
Thorium 232	0.63		0.12		0.06	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021197**		**Yld % 99**
Uranium 233/234	0.47	J	0.14	1.00	0.04	01/21/08	01/31/08
Uranium 235/236	0.032	U	0.039	1.00	0.048	01/21/08	01/31/08
Uranium 238	0.31	J	0.11	1.00	0.04	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8033091**		**Yld % 68**
Thorium 228	0.65	J	0.20	1.00	0.11	02/02/08	02/05/08
Thorium 230	0.68	J	0.20	1.00	0.07	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-793

Radiochemistry

Lab Sample ID: F8A090168-032
Work Order: KE9A4
Matrix: SOLID

Date Collected: 12/14/07 1304
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.65		0.19		0.24	01/13/08	02/03/08
Americium 241	-0.004	U	0.067		0.12	01/13/08	02/03/08
Cesium 137	0.042	U	0.054	0.200	0.088	01/13/08	02/03/08
Cobalt 60	0.0	U	0.012		0.043	01/13/08	02/03/08
Europium 152	0.04	U	0.10		0.18	01/13/08	02/03/08
Europium 154	-0.04	U	0.32		0.61	01/13/08	02/03/08
Potassium 40	12.0		1.8		0.4	01/13/08	02/03/08
Radium (226)	0.51	J	0.13	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.65		0.19		0.24	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 87
Uranium 233/234	0.49	J	0.15	1.00	0.03	01/21/08	01/31/08
Uranium 235/236	-0.0025	U	0.0049	1.00	0.056	01/21/08	01/31/08
Uranium 238	0.32	J	0.12	1.00	0.03	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033091		Yld % 70
Thorium 228	0.66	J	0.20	1.00	0.11	02/02/08	02/05/08
Thorium 230	0.63	J	0.19	1.00	0.06	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-794

Radiochemistry

Lab Sample ID: F8A090168-033
Work Order: KE9A5
Matrix: SOLID

Date Collected: 12/14/07 1311
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013026**		**Yld %**
Actinium 228	0.22	U	0.17		0.24	01/13/08	02/03/08
Americium 241	0.054	U	0.093		0.16	01/13/08	02/03/08
Cesium 137	0.048	U	0.046	0.200	0.072	01/13/08	02/03/08
Cobalt 60	0.0008	U	0.043		0.086	01/13/08	02/03/08
Europium 152	0.018	U	0.095		0.17	01/13/08	02/03/08
Europium 154	-0.01	U	0.30		0.59	01/13/08	02/03/08
Potassium 40	7.1		1.3		0.4	01/13/08	02/03/08
Radium (226)	0.42	J	0.11	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.22	U	0.17		0.24	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021197**		**Yld % 92**
Uranium 233/234	0.37	J	0.13	1.00	0.07	01/21/08	01/31/08
Uranium 235/236	0.036	J	0.042	1.00	0.033	01/21/08	01/31/08
Uranium 238	0.32	J	0.12	1.00	0.07	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8033091**		**Yld % 79**
Thorium 228	0.24	J	0.11	1.00	0.09	02/02/08	02/05/08
Thorium 230	0.45	J	0.15	1.00	0.06	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-795

Radiochemistry

Lab Sample ID: F8A090168-034
Work Order: KE9CC
Matrix: SOLID

Date Collected: 12/14/07 1314
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.43		0.16		0.28	01/13/08	02/03/08
Americium 241	0.004	U	0.089		0.15	01/13/08	02/03/08
Cesium 137	0.035	U	0.040	0.200	0.066	01/13/08	02/03/08
Cobalt 60	0.0004	U	0.034		0.066	01/13/08	02/03/08
Europium 152	0.045	U	0.089		0.15	01/13/08	02/03/08
Europium 154	0.05	U	0.27		0.49	01/13/08	02/03/08
Potassium 40	8.9		1.3		0.5	01/13/08	02/03/08
Radium (226)	0.39	J	0.13	1.00	0.16	01/13/08	02/03/08
Thorium 232	0.43		0.16		0.28	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 88
Uranium 233/234	0.43	J	0.14	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.022	U	0.039	1.00	0.067	01/21/08	01/31/08
Uranium 238	0.36	J	0.13	1.00	0.06	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 81
Thorium 228	0.40	J	0.14	1.00	0.09	02/02/08	02/05/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-795 DUP

Radiochemistry

Lab Sample ID: F8A090168-034X
Work Order: KE9CC
Matrix: SOLID

Date Collected: 12/14/07 1314
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8033092**	**Yld % 57**
Thorium 228	**0.33**	**J**	**0.15**	1.00	**0.13**	**02/02/08**	**02/05/08**
Thorium 230	**0.41**	**J**	**0.16**	1.00	**0.07**	**02/02/08**	**02/05/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit

Tetra Tech EC, Inc.

Client Sample ID: 15-796

Radiochemistry

Lab Sample ID: F8A090168-035
Work Order: KE9CF
Matrix: SOLID

Date Collected: 12/14/07 1322
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.52		0.15		0.21	01/13/08	02/03/08
Americium 241	-0.030	U	0.099		0.17	01/13/08	02/03/08
Cesium 137	-0.004	U	0.038	0.200	0.068	01/13/08	02/03/08
Cobalt 60	-0.008	U	0.046		0.084	01/13/08	02/03/08
Europium 152	-0.03	U	0.11		0.18	01/13/08	02/03/08
Europium 154	-0.007	U	0.24		0.46	01/13/08	02/03/08
Potassium 40	9.5		1.3		0.3	01/13/08	02/03/08
Radium (226)	0.44	J	0.12	1.00	0.15	01/13/08	02/03/08
Thorium 232	0.52		0.15		0.21	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 95
Uranium 233/234	0.35	J	0.12	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/21/08	01/31/08
Uranium 238	0.32	J	0.12	1.00	0.06	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 76
Thorium 228	0.33	J	0.14	1.00	0.11	02/02/08	02/05/08
Thorium 230	0.33	J	0.13	1.00	0.03	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-797

Radiochemistry

Lab Sample ID: F8A090168-036
Work Order: KE9CH
Matrix: SOLID

Date Collected: 12/14/07 1325
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8013026**		**Yld %**
Actinium 228	0.27	U	0.22		0.33	01/13/08	02/03/08
Americium 241	-0.01	U	0.10		0.17	01/13/08	02/03/08
Cesium 137	0.010	U	0.049	0.200	0.090	01/13/08	02/03/08
Cobalt 60	0.0	U	0.076		0.14	01/13/08	02/03/08
Europium 152	0.03	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.003	U	0.37		0.71	01/13/08	02/03/08
Potassium 40	9.7		1.7		0.5	01/13/08	02/03/08
Radium (226)	0.41	J	0.13	1.00	0.13	01/13/08	02/03/08
Thorium 232	0.27	U	0.22		0.33	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8021197**		**Yld % 90**
Uranium 233/234	0.34	J	0.12	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/21/08	01/31/08
Uranium 238	0.25	J	0.10	1.00	0.05	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8033092**		**Yld % 57**
Thorium 228	0.50	J	0.19	1.00	0.14	02/02/08	02/06/08
Thorium 230	0.67	J	0.22	1.00	0.07	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-798

Radiochemistry

Lab Sample ID: F8A090168-037
Work Order: KE9CJ
Matrix: SOLID

Date Collected: 12/14/07 1331
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8013026**	**Yld %**
Actinium 228	0.24	U	0.14		0.32	01/13/08	02/03/08
Americium 241	-0.004	U	0.089		0.15	01/13/08	02/03/08
Cesium 137	0.015	U	0.049	0.200	0.095	01/13/08	02/03/08
Cobalt 60	0.0	U	0.13		0.23	01/13/08	02/03/08
Europium 152	0.036	U	0.089		0.16	01/13/08	02/03/08
Europium 154	-0.16	U	0.44		0.77	01/13/08	02/03/08
Potassium 40	9.4		1.7		1.0	01/13/08	02/03/08
Radium (226)	0.60	J	0.15	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.24	U	0.14		0.32	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8021197**	**Yld % 100**
Uranium 233/234	0.45	J	0.14	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.063	J	0.058	1.00	0.063	01/21/08	01/31/08
Uranium 238	0.42	J	0.13	1.00	0.08	01/21/08	01/31/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8009213**	**Yld % 48**
Strontium 90	-0.24	U	0.56	3.00	0.99	01/09/08	01/24/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8033092**	**Yld % 85**
Thorium 228	0.41	J	0.14	1.00	0.07	02/02/08	02/06/08
Thorium 230	0.51	J	0.16	1.00	0.07	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-799

Radiochemistry

Lab Sample ID: F8A090168-038
Work Order: KE9CK
Matrix: SOLID

Date Collected: 12/14/07 1335
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.55		0.15		0.16	01/13/08	02/03/08
Americium 241	0.02	U	0.29		0.51	01/13/08	02/03/08
Cesium 137	0.088	J	0.037	0.200	0.038	01/13/08	02/03/08
Cobalt 60	0.017	U	0.029		0.050	01/13/08	02/03/08
Europium 152	0.0	U	0.085		0.15	01/13/08	02/03/08
Europium 154	0.0	U	0.19		0.37	01/13/08	02/03/08
Potassium 40	10.2		1.3		0.5	01/13/08	02/03/08
Radium (226)	0.50	J	0.12	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.55		0.15		0.16	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 91
Uranium 233/234	0.31	J	0.11	1.00	0.05	01/21/08	01/31/08
Uranium 235/236	0.020	U	0.036	1.00	0.061	01/21/08	01/31/08
Uranium 238	0.33	J	0.12	1.00	0.06	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 81
Thorium 228	0.90	J	0.22	1.00	0.09	02/02/08	02/06/08
Thorium 230	0.62	J	0.18	1.00	0.06	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-800

Radiochemistry

Lab Sample ID: F8A090168-039
Work Order: KE9CN
Matrix: SOLID

Date Collected: 12/14/07 1356
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.37		0.14		0.19	01/13/08	02/03/08
Americium 241	0.012	U	0.088		0.15	01/13/08	02/03/08
Cesium 137	0.009	U	0.038	0.200	0.069	01/13/08	02/03/08
Cobalt 60	0.0	U	0.011		0.040	01/13/08	02/03/08
Europium 152	-0.002	U	0.079		0.15	01/13/08	02/03/08
Europium 154	-0.01	U	0.35		0.66	01/13/08	02/03/08
Potassium 40	9.0		1.6		1	01/13/08	02/03/08
Radium (226)	0.371	J	0.097	1.00	0.045	01/13/08	02/03/08
Thorium 232	0.37		0.14		0.19	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 92
Uranium 233/234	0.26	J	0.10	1.00	0.05	01/21/08	01/31/08
Uranium 235/236	0.009	U	0.024	1.00	0.049	01/21/08	01/31/08
Uranium 238	0.28	J	0.10	1.00	0.04	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 78
Thorium 228	0.33	J	0.13	1.00	0.09	02/02/08	02/06/08
Thorium 230	0.42	J	0.14	1.00	0.06	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-801

Radiochemistry

Lab Sample ID: F8A090168-040
Work Order: KE9CR
Matrix: SOLID

Date Collected: 12/14/07 1358
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013026		Yld %
Actinium 228	0.44		0.16		0.26	01/13/08	02/03/08
Americium 241	-0.05	U	0.10		0.17	01/13/08	02/03/08
Cesium 137	0.045	U	0.049	0.200	0.079	01/13/08	02/03/08
Cobalt 60	0.011	U	0.051		0.096	01/13/08	02/03/08
Europium 152	-0.0004	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.0	U	0.41		0.78	01/13/08	02/03/08
Potassium 40	10.2		1.7		0.6	01/13/08	02/03/08
Radium (226)	0.47	J	0.12	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.44		0.16		0.26	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 97
Uranium 233/234	0.35	J	0.13	1.00	0.06	01/21/08	01/31/08
Uranium 235/236	0.023	U	0.037	1.00	0.054	01/21/08	01/31/08
Uranium 238	0.37	J	0.13	1.00	0.04	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 85
Thorium 228	0.46	J	0.15	1.00	0.08	02/02/08	02/06/08
Thorium 230	0.66	J	0.18	1.00	0.08	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-802

Radiochemistry

Lab Sample ID: F8A090168-041
Work Order: KE9CX
Matrix: SOLID

Date Collected: 12/14/07 1404
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.39		0.15		0.25	01/13/08	02/03/08
Americium 241	-0.023	U	0.089		0.15	01/13/08	02/03/08
Cesium 137	0.039	U	0.047	0.200	0.076	01/13/08	02/03/08
Cobalt 60	0.013	U	0.045		0.083	01/13/08	02/03/08
Europium 152	-0.001	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.0	U	0.52		0.95	01/13/08	02/03/08
Potassium 40	8.3		1.5		0.4	01/13/08	02/03/08
Radium (226)	0.37	J	0.13	1.00	0.16	01/13/08	02/03/08
Thorium 232	0.39		0.15		0.25	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 93
Uranium 233/234	0.46	J	0.14	1.00	0.07	01/21/08	01/31/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	01/21/08	01/31/08
Uranium 238	0.30	J	0.11	1.00	0.07	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 86
Thorium 228	0.84	J	0.20	1.00	0.08	02/02/08	02/06/08
Thorium 230	0.53	J	0.15	1.00	0.05	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-802 DUP

Radiochemistry

Lab Sample ID: F8A090168-041X
Work Order: KE9CX
Matrix: SOLID

Date Collected: 12/14/07 1404
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.38		0.15		0.25	01/13/08	02/03/08
Americium 241	0.009	U	0.081		0.14	01/13/08	02/03/08
Cesium 137	0.041	U	0.040	0.200	0.063	01/13/08	02/03/08
Cobalt 60	0.0	U	0.059		0.11	01/13/08	02/03/08
Europium 152	-0.0002	U	0.083		0.15	01/13/08	02/03/08
Europium 154	-0.0004	U	0.28		0.53	01/13/08	02/03/08
Potassium 40	7.1		1.1		0.5	01/13/08	02/03/08
Radium (226)	0.39	J	0.12	1.00	0.14	01/13/08	02/03/08
Thorium 232	0.38		0.15		0.25	01/13/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-803

Radiochemistry

Lab Sample ID: F8A090168-042
Work Order: KE9C2
Matrix: SOLID

Date Collected: 12/14/07 1406
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.46		0.17		0.30	01/13/08	02/03/08
Americium 241	0.035	U	0.096		0.16	01/13/08	02/03/08
Cesium 137	-0.003	U	0.060	0.200	0.099	01/13/08	02/03/08
Cobalt 60	0.020	U	0.054		0.097	01/13/08	02/03/08
Europium 152	0.04	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.05	U	0.36		0.66	01/13/08	02/03/08
Potassium 40	16.0		2.2		0.4	01/13/08	02/03/08
Radium (226)	0.51	J	0.15	1.00	0.17	01/13/08	02/03/08
Thorium 232	0.46		0.17		0.30	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8021197		Yld % 86
Uranium 233/234	0.59	J	0.17	1.00	0.05	01/21/08	01/31/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	01/21/08	01/31/08
Uranium 238	0.43	J	0.14	1.00	0.05	01/21/08	01/31/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 77
Thorium 228	0.55	J	0.17	1.00	0.08	02/02/08	02/06/08
Thorium 230	0.59	J	0.17	1.00	0.03	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-627	F8A090168001	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-627	F8A090168001	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-627	F8A090168001	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-627DUP	F8A090168001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-627DUP	F8A090168001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-627DUP	F8A090168001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-628	F8A090168002	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-628	F8A090168002	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-628	F8A090168002	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-628	F8A090168002	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-629	F8A090168003	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-629	F8A090168003	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-629	F8A090168003	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-630	F8A090168004	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-630	F8A090168004	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-630	F8A090168004	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-631	F8A090168005	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-631	F8A090168005	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-631	F8A090168005	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-632	F8A090168006	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-632	F8A090168006	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-632	F8A090168006	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-633	F8A090168007	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-633	F8A090168007	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-633	F8A090168007	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-634	F8A090168008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-634	F8A090168008	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-634	F8A090168008	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-635	F8A090168009	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-635	F8A090168009	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-635	F8A090168009	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-636	F8A090168010	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-636	F8A090168010	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-636	F8A090168010	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-770	F8A090168011	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-770	F8A090168011	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-770	F8A090168011	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-771	F8A090168012	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-771	F8A090168012	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-771	F8A090168012	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-772	F8A090168013	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-772	F8A090168013	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-772	F8A090168013	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-773	F8A090168014	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-773	F8A090168014	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-773	F8A090168014	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-774	F8A090168015	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-774	F8A090168015	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-774	F8A090168015	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-775	F8A090168016	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-775	F8A090168016	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-775	F8A090168016	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-776	F8A090168017	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-776	F8A090168017	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-776	F8A090168017	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-777	F8A090168018	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-777	F8A090168018	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-777	F8A090168018	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-778	F8A090168019	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-778	F8A090168019	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-778	F8A090168019	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-778	F8A090168019	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-760	F8A090168020	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-760	F8A090168020	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-760	F8A090168020	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-761	F8A090168021	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-761	F8A090168021	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-761	F8A090168021	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-761DUP	F8A090168021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-762	F8A090168022	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-762	F8A090168022	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-762	F8A090168022	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-762DUP	F8A090168022DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-762DUP	F8A090168022DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-763	F8A090168023	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-763	F8A090168023	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-763	F8A090168023	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-764	F8A090168024	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-764	F8A090168024	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-764	F8A090168024	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-765	F8A090168025	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-765	F8A090168025	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-765	F8A090168025	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-766	F8A090168026	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-766	F8A090168026	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-766	F8A090168026	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-767	F8A090168027	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-767	F8A090168027	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-767	F8A090168027	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-768	F8A090168028	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-768	F8A090168028	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-768	F8A090168028	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-768	F8A090168028	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-769	F8A090168029	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-769	F8A090168029	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-769	F8A090168029	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-791	F8A090168030	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-791	F8A090168030	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-791	F8A090168030	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-792	F8A090168031	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-792	F8A090168031	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-792	F8A090168031	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-793	F8A090168032	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-793	F8A090168032	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-793	F8A090168032	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-794	F8A090168033	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-794	F8A090168033	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-794	F8A090168033	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-795	F8A090168034	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-795	F8A090168034	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-795	F8A090168034	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-795DUP	F8A090168034DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-796	F8A090168035	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-796	F8A090168035	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-796	F8A090168035	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-797	F8A090168036	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-797	F8A090168036	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-797	F8A090168036	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-798	F8A090168037	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-798	F8A090168037	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-798	F8A090168037	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-798	F8A090168037	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-799	F8A090168038	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-799	F8A090168038	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-799	F8A090168038	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-800	F8A090168039	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-800	F8A090168039	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-800	F8A090168039	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-801	F8A090168040	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-801	F8A090168040	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-801	F8A090168040	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-802	F8A090168041	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-802	F8A090168041	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-802	F8A090168041	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-802DUP	F8A090168041DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-803	F8A090168042	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-803	F8A090168042	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-803	F8A090168042	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090168										
DOE A-01-R TH MOD	15-629	SO	N	THORIUM-228	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-633	SO	N	THORIUM-228	1.00	0.39J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-760	SO	N	THORIUM-228	1.00	0.40J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-771	SO	N	THORIUM-228	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-773	SO	N	THORIUM-228	1.00	0.24J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-775	SO	N	THORIUM-228	1.00	0.34J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-776	SO	N	THORIUM-228	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-777	SO	N	THORIUM-228	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R U MOD	15-629	SO	N	URANIUM-233/234	1.00	0.128J	0.071	U	pCi/g	
DOE A-01-R U MOD	15-630	SO	N	URANIUM-233/234	1.00	0.228J	0.095	U	pCi/g	
DOE A-01-R U MOD	15-633	SO	N	URANIUM-233/234	1.00	0.247J	0.097	U	pCi/g	
DOE A-01-R U MOD	15-761	SO	N	URANIUM-233/234	1.00	0.27J	0.10	U	pCi/g	
DOE A-01-R U MOD	15-775	SO	N	URANIUM-233/234	1.00	0.25J	0.11	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A090168

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A090168	15-629	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-629	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090168	15-630	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090168	15-633	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-633	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090168	15-760	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-761	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090168	15-771	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-773	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-775	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-775	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090168	15-776	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8A090168	15-777	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A090168

Method Blank Outlier Report

Lab Reporting Batch : F8A090168
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A210000083MB

Lab ID: TestAme
Analysis Date : 01/30/2008
Preparation Date :
Preparation Batch : 8021083

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-228					
Method Blank Result:	**0.084**	**1.00**	**pCi/g**	**J**	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-629	F8A090168003	1	0.33	J	pCi/g
15-633	F8A090168007	1	0.39	J	pCi/g
15-760	F8A090168020	1	0.40	J	pCi/g
15-771	F8A090168012	1	0.34	J	pCi/g
15-773	F8A090168014	1	0.24	J	pCi/g
15-775	F8A090168016	1	0.34	J	pCi/g
15-776	F8A090168017	1	0.39	J	pCi/g
15-777	F8A090168018	1	0.36	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090168
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A210000085MB

Lab ID: TestAme
Analysis Date : 01/30/2008
Preparation Date :
Preparation Batch : 8021085

	Result	Reporting Limit	Units	Lab Qual	Comments
URANIUM-233/234					
Method Blank Result:	**0.055**	**1.00**	**pCi/g**	**J**	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-629	F8A090168003	1	0.128	J	pCi/g
15-630	F8A090168004	1	0.228	J	pCi/g
15-633	F8A090168007	1	0.247	J	pCi/g
15-761	F8A090168021	1	0.27	J	pCi/g
15-775	F8A090168016	1	0.25	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090168
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/05/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B020000091MB
Preparation Batch : 8033091

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	0.063	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18448U35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A090168 ADR Page: 1 of 2
Laboratory : Test America Reviewer: MG
2nd Reviewer:

~~EPA~~ DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by difference)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-627	11 1	15-770	21 2	15-761	31 2	15-792
2 1	15-628	12 1	15-771	22 2	15-762	32 2	15-793
3 1	15-629	13 1	15-772	23 2	15-763	33 2	15-794
4 1	15-630	14 1	15-773	24 2	15-764	34 2	15-795
5 1	15-631	15 1	15-774	25 2	15-765	35 2	15-796
6 1	15-632	16 1	15-775	26 2	15-766	36 2	15-797
7 1	15-633	17 1	15-776	27 2	15-767	37 2	15-798
8 1	15-634	18 1	15-777	28 2	15-768	38 2	15-799
9 1	15-635	19 1	15-778	29 2	15-769	39 2	15-800
10 1	15-636	20 1	15-760	30 2	15-791	40 2	15-801

Notes:

LDC #: 18448U35
SDG #: F8A090168
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 2 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~ DOE GA-01-R Mod)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates		
IX	Field blanks		

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 3	15-802	51		61		71	
42 3	15-803	52		62		72	
43 1	15-627DUP	53		63		73	
44 2	15-761DUP	54		64		74	
45 3	15-802DUP	55		65		75	
46 1	PBS1	56		66		76	
47 2	PBS2	57		67		77	
48 3	PBS3	58		68		78	
49		59		69		79	
50		60		70		80	

Notes:

LDC #: 18448U59
SDG #: F8A090168
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. for high RPD)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-627	11 1	15-770	21 1	15-761	31 2	15-792
2 1	15-628	12 1	15-771	22 2	15-762	32 2	15-793
3 1	15-629	13 1	15-772	23 2	15-763	33 2	15-794
4 1	15-630	14 1	15-773	24 2	15-764	34 2	15-795
5 1	15-631	15 1	15-774	25 2	15-765	35 2	15-796
6 1	15-632	16 1	15-775	26 2	15-766	36 2	15-797
7 1	15-633	17 1	15-776	27 2	15-767	37 2	15-798
8 1	15-634	18 1	15-777	28 2	15-768	38 2	15-799
9 1	15-635	19 1	15-778	29 2	15-769	39 2	15-800
10 1	15-636	20 1	15-760	30 2	15-791	40 2	15-801

Notes:

LDC #: 18448T59
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 2 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

See PQL + D

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 2	15-802	51		61		71	
42 2	15-803	52		62		72	
43 1	15-627DUP	53		63		73	
44 2	15-762DUP	54		64		74	
45	~~15-795DUP~~ sn 9	55		65		75	
46 1	PBS1	56		66		76	
47 2	PBS2	57		67		77	
48		58		68		78	
49		59		69		79	
50		60		70		80	

Notes:

LDC #: 18448U61
SDG #: F8A090168
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3 9m4

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A090153) all N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ ~~N~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-628	11		21		31	
2	15-778	12		22		32	
3	15-768	13		23		33	
4	15-798	14		24		34	
5	PBS	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Daily instrument check found in "V", SDG: F8A090186

LDC #: 18448U73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A090168 ADR Page: 1 of 2
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-627	11 1	15-770	21 1	15-761	31 2	15-792
2 1	15-628	12 1	15-771	22 2	15-762	32 2	15-793
3 1	15-629	13 1	15-772	23 2	15-763	33 2	15-794
4 1	15-630	14 1	15-773	24 2	15-764	34 3	15-795
5 1	15-631	15 1	15-774	25 2	15-765	35 3	15-796
6 1	15-632	16 1	15-775	26 2	15-766	36 3	15-797
7 1	15-633	17 1	15-776	27 2	15-767	37 3	15-798
8 1	15-634	18 1	15-777	28 2	15-768	38 3	15-799
9 1	15-635	19 1	15-778	29 2	15-769	39 3	15-800
10 1	15-636	20 1	15-760	30 2	15-791	40 3	15-801

Notes:

LDC #: 18448T73
SDG #: F8A090153
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08

Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X.	Field blanks		

See pg 1 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 3	15-802	51		61		71	
42 3	15-803	52		62		72	
43 1	15-627DUP	53		63		73	
44 2	15-762DUP	54		64		74	
45 3	15-795DUP	55		65		75	
46 1	PBS1	56		66		76	
47 2	PBS2	57		67		77	
48 3	PBS3	58		68		78	
49		59		69		79	
50		60		70		80	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37198

ENTERED 1-30

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica Sth SV

LABORATORY ID (FOR LABORATORY): F8A090186

10 p

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 601.1m GCAmmt	Thorium	Uranium	% DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-853	12/19/07	08:40	1	X		S	21DY	X	X	X			2IR-343-05a	0"	6"	Reg
15-854	12/19/07	08:42	1	X		S	21DY	X	X	X			2IR-343-05b	6"	12"	Reg
15-855	12/19/07	08:47	1	X		S	21DY	X	X	X			2IR-343-06a	0"	6"	Reg
15-856	12/19/07	08:49	1	X		S	21DY	X	X	X			2IR-343-06b	6"	12"	Reg
15-857	12/19/07	08:53	1	X		S	21DY	X	X	X			2IR-343-07a	0"	6"	Reg
15-858	12/19/07	08:55	2	X		S	21DY	X	X	X	X		2IR-343-07b	6"	12"	Reg
15-859	12/19/07	09:02	1	X		S	21DY	X	X	X			2IR-343-08a	0"	6"	Reg
15-860	12/19/07	09:05	1	X		S	21DY	X	X	X			2IR-343-08b	6"	12"	Reg
15-861	12/19/07	09:08	1	X		S	21DY	X	X	X			2IR-343-09a	0"	6"	Reg
15-867	12/19/07	09:10	1	X		S	21DY	X	X	X			2IR-343-09b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TTEC / IT	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3~~ DY + 21 DY Ingrowths

COMPOSITE DESCRIPTION: # no 3-days 1-8-08 SV

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

Project Information Section Do not submit to Laboratory

SAMPLING COMMENT: IR= Installation Renovation

1605/145 needs correcti

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37197

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: STL Testamerica

LABORATORY ID (FOR LABORATORY): F8A090186

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 6010 Gamma Spectroscopy Thorium Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-863	12/19/07	09:15	1	X		S	21	X X X		2IR-343-10a	0"	6"	Reg
15-864	12/19/07	09:17	1	X		S	21	X X X		2IR-343-10b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: NO 3-day + 8-08 5pm 3 DAY + 21 DAY TURNAROUNDS
COMPANY TT SD/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Renovation

16059185

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 37187

CHAIN-OF-CUSTODY RECORD

1-30

ENTERED

PROJECT NAME: IR Sites 1, 2, & 32	PURCHASE ORDER NO.: 101734
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 3.10.025 D
SAMPLER NAME: V. RICHARDS	AIRBILL NUMBER:
PROJECT CONTACT: LISA DIENKOWSKIE	PROJECT CONTACT PHONE NUMBER: 949.756.7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica IL

LABORATORY ID (FOR LABORATORY): F8A090186

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-555	12.11.07	1247	1	X		S	21		21R-349-07b	6"	1'	Reg
15-556	12.19.07	1305	1	X		S	21		21R-349-08a	0	6"	Reg
15-557	12.19.07	1307	1	X		S	21		21R-349-08b	6"	1'	Reg
15-558	12.19.07	1310	2	X		S	21		21R-349-09a	0	6"	Reg
15-559	12.19.07	1313	1	X		S	21		21R-349-09b	6"	1'	Reg
15-560	12.19.07	1321	1	X		S	21		21R-349-10a	0	6"	Reg
15-561	12.19.07	1324	1	X		S	21		21R-349-10b	6"	1'	Reg

RELINQUISHED BY (Signature)	DATE 12/18/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS * no -3 day 1-8-08 SC ~~5 Day~~ + 21 Day Turnaround
COMPANY TTC Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)** TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN
COMPANY	TIME	COMPANY	

SAMPLING COMMENT: IR: Installation Restoration

1605945

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31689

ENTERED

PROJECT NAME: Ik [illegible]	PURCHASE ORDER NO.: 01734
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: ~~5210-022-D~~
SAMPLER NAME: L. Edwards	AIRBILL NUMBER:
PROJECT CONTACT: [illegible] Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica

LABORATORY ID (FOR LABORATORY): F8A090186

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-875	12-11-07	1043	1	X		S	21		21R-349-02b	6"	1'	Reg
15-876	12-19-07	1050	1	X		S	21		21R-349-03a	0	6"	Reg
15-877	12-19-07	1052	1	X		S	21		21R-349-03b	6"	1'	Reg
15-878	12-19-07	1059	2	X		S	21		21R-349-04a	0	6"	Reg
15-879	12-19-07	1102	1	X		S	21		21R-349-04b	6"	1'	Reg
15-880	12-19-07	1125	1	X		S	21		21R-349-05a	0	6"	Reg
15-881	12-19-07	1127	1	X		S	21		21R-349-05b	6"	1'	Reg
15-882	12-19-07	1235	1	X		S	21		21R-349-06a	0	6"	Reg
15-883	12-19-07	1237	1	X		S	21		21R-349-06b	6"	1'	Reg
15-884	12-19-07	1245	1	X		S	21		21R-349-07a	0"	6'	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY TTEC	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3 DAY~~ + 2 DAY Ingrowths # NO3 dup 1-8-08 SV

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

16059195

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-885

Radiochemistry

Lab Sample ID: F8A090186-001
Work Order: KE9GQ
Matrix: SOLID

Date Collected: 12/19/07 1247
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.35		0.10		0.15	01/13/08	02/03/08
Americium 241	0.13	U	0.21		0.36	01/13/08	02/03/08
Cesium 137	0.070	J	0.033	0.200	0.034	01/13/08	02/03/08
Cobalt 60	0.014	U	0.023		0.039	01/13/08	02/03/08
Europium 152	0.0004	U	0.068		0.12	01/13/08	02/03/08
Europium 154	0.04	U	0.20		0.36	01/13/08	02/03/08
Potassium 40	8.2		1.1		0.4	01/13/08	02/03/08
Radium (226)	0.402	J	0.097	1.00	0.10	01/13/08	02/03/08
Thorium 232	0.35		0.10		0.15	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 88
Thorium 228	0.48	J	0.15	1.00	0.09	01/23/08	01/31/08
Thorium 230	0.36	J	0.13	1.00	0.04	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 90
Uranium 233/234	0.23	J	0.10	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	0.008	U	0.026	1.00	0.062	01/23/08	02/01/08
Uranium 238	0.42	J	0.14	1.00	0.06	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-885 DUP

Radiochemistry

Lab Sample ID: F8A090186-001X
Work Order: KE9GO
Matrix: SOLID

Date Collected: 12/19/07 1247
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8023253**	**Yld % 85**
Thorium 228	**0.47**	**J**	**0.15**	1.00	**0.08**	**01/23/08**	**01/31/08**
Thorium 230	**0.44**	**J**	**0.14**	1.00	**0.06**	**01/23/08**	**01/31/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8023254**	**Yld % 94**
Uranium 233/234	**0.30**	**J**	**0.11**	1.00	**0.06**	**01/23/08**	**02/01/08**
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/23/08	02/01/08
Uranium 238	**0.34**	**J**	**0.12**	1.00	**0.06**	**01/23/08**	**02/01/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-886

Radiochemistry

Lab Sample ID: F8A090186-002
Work Order: KE9GV
Matrix: SOLID

Date Collected: 12/19/07 1255
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.28		0.17		0.25	01/13/08	02/03/08
Americium 241	-0.034	U	0.069		0.12	01/13/08	02/03/08
Cesium 137	0.019	U	0.043	0.200	0.074	01/13/08	02/03/08
Cobalt 60	0.006	U	0.045		0.085	01/13/08	02/03/08
Europium 152	-0.025	U	0.090		0.16	01/13/08	02/03/08
Europium 154	-0.09	U	0.35		0.63	01/13/08	02/03/08
Potassium 40	8.7		1.4		0.3	01/13/08	02/03/08
Radium (226)	0.49	J	0.13	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.28		0.17		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 83
Thorium 228	0.51	J	0.16	1.00	0.09	01/23/08	01/31/08
Thorium 230	0.50	J	0.15	1.00	0.05	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 95
Uranium 233/234	0.31	J	0.11	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	-0.0022	U	0.0044	1.00	0.050	01/23/08	02/01/08
Uranium 238	0.33	J	0.12	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-887

Radiochemistry

Lab Sample ID: F8A090186-003
Work Order: KE9GW
Matrix: SOLID

Date Collected: 12/19/07 1257
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.31		0.18		0.25	01/13/08	02/03/08
Americium 241	0.032	U	0.079		0.14	01/13/08	02/03/08
Cesium 137	0.032	U	0.038	0.200	0.062	01/13/08	02/03/08
Cobalt 60	-0.020	U	0.057		0.10	01/13/08	02/03/08
Europium 152	-0.005	U	0.084		0.16	01/13/08	02/03/08
Europium 154	-0.14	U	0.36		0.64	01/13/08	02/03/08
Potassium 40	5.9		1.3		0.9	01/13/08	02/03/08
Radium (226)	0.87	J	0.17	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.31		0.18		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 80
Thorium 228	0.40	J	0.14	1.00	0.1	01/23/08	01/31/08
Thorium 230	0.38	J	0.14	1.00	0.05	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 98
Uranium 233/234	0.27	J	0.11	1.00	0.07	01/23/08	02/01/08
Uranium 235/236	0.017	U	0.035	1.00	0.064	01/23/08	02/01/08
Uranium 238	0.24	J	0.10	1.00	0.08	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-888

Radiochemistry

Lab Sample ID: F8A090186-004
Work Order: KE9G1
Matrix: SOLID

Date Collected: 12/19/07 1310
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.23	U	0.17		0.25	01/13/08	02/03/08
Americium 241	0.001	U	0.10		0.18	01/13/08	02/03/08
Cesium 137	0.004	U	0.033	0.200	0.061	01/13/08	02/03/08
Cobalt 60	0.0	U	0.083		0.15	01/13/08	02/03/08
Europium 152	-0.027	U	0.094		0.16	01/13/08	02/03/08
Europium 154	-0.05	U	0.27		0.50	01/13/08	02/03/08
Potassium 40	9.1		1.4		0.8	01/13/08	02/03/08
Radium (226)	0.51	J	0.13	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.23	U	0.17		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 85
Thorium 228	0.39	J	0.14	1.00	0.1	01/23/08	01/31/08
Thorium 230	0.35	J	0.13	1.00	0.03	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 95
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.007	U	0.025	1.00	0.059	01/23/08	02/01/08
Uranium 238	0.30	J	0.11	1.00	0.06	01/23/08	02/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 52
Strontium 90	-0.17	U	0.52	3.00	0.92	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-889

Radiochemistry

Lab Sample ID: F8A090186-005
Work Order: KE9G3
Matrix: SOLID

Date Collected: 12/19/07 1313
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.11	U	0.14		0.23	01/13/08	02/03/08
Americium 241	0.027	U	0.075		0.13	01/13/08	02/03/08
Cesium 137	0.010	U	0.053	0.200	0.096	01/13/08	02/03/08
Cobalt 60	-0.007	U	0.062		0.12	01/13/08	02/03/08
Europium 152	-0.02	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.005	U	0.32		0.63	01/13/08	02/03/08
Potassium 40	7.0		1.4		0.5	01/13/08	02/03/08
Radium (226)	0.67	J	0.14	1.00	0.05	01/13/08	02/03/08
Thorium 232	0.11	U	0.14		0.23	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 83
Thorium 228	0.70	J	0.19	1.00	0.08	01/23/08	01/31/08
Thorium 230	0.65	J	0.18	1.00	0.05	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 91
Uranium 233/234	0.35	J	0.12	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	01/23/08	02/01/08
Uranium 238	0.38	J	0.12	1.00	0.04	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-890

Radiochemistry

Lab Sample ID: F8A090186-006
Work Order: KE9G4
Matrix: SOLID

Date Collected: 12/19/07 1321
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.40		0.16		0.27	01/13/08	02/03/08
Americium 241	0.033	U	0.095		0.16	01/13/08	02/03/08
Cesium 137	0.122	J	0.070	0.200	0.11	01/13/08	02/03/08
Cobalt 60	0.003	U	0.056		0.11	01/13/08	02/03/08
Europium 152	0.0	U	0.12		0.23	01/13/08	02/03/08
Europium 154	0.09	U	0.43		0.78	01/13/08	02/03/08
Potassium 40	7.6		1.5		0.5	01/13/08	02/03/08
Radium (226)	0.44	J	0.13	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.40		0.16		0.27	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 92
Thorium 228	0.31	J	0.12	1.00	0.07	01/23/08	01/31/08
Thorium 230	0.41	J	0.13	1.00	0.03	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 98
Uranium 233/234	0.42	J	0.14	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.023	U	0.036	1.00	0.054	01/23/08	02/01/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-891

Radiochemistry

Lab Sample ID: F8A090186-007
Work Order: KE9G5
Matrix: SOLID

Date Collected: 12/19/07 1324
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.39		0.15		0.17	01/13/08	02/03/08
Americium 241	0.01	U	0.28		0.49	01/13/08	02/03/08
Cesium 137	0.102	J	0.042	0.200	0.053	01/13/08	02/03/08
Cobalt 60	0.0	U	0.0064		0.024	01/13/08	02/03/08
Europium 152	0.012	U	0.065		0.12	01/13/08	02/03/08
Europium 154	-0.02	U	0.26		0.47	01/13/08	02/03/08
Potassium 40	10.5		1.3		0.5	01/13/08	02/03/08
Radium (226)	0.77	J	0.14	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.39		0.15		0.17	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 82
Thorium 228	0.44	J	0.15	1.00	0.07	01/23/08	01/31/08
Thorium 230	0.45	J	0.15	1.00	0.05	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 96
Uranium 233/234	0.25	J	0.11	1.00	0.07	01/23/08	02/01/08
Uranium 235/236	0.046	U	0.049	1.00	0.051	01/23/08	02/01/08
Uranium 238	0.29	J	0.11	1.00	0.07	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-853

Radiochemistry

Lab Sample ID: F8A090186-008
Work Order: KE9G7
Matrix: SOLID

Date Collected: 12/19/07 0840
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.46		0.22		0.28	01/13/08	02/03/08
Americium 241	0.042	U	0.078		0.13	01/13/08	02/03/08
Cesium 137	0.028	U	0.037	0.200	0.061	01/13/08	02/03/08
Cobalt 60	-0.002	U	0.034		0.068	01/13/08	02/03/08
Europium 152	0.005	U	0.090		0.16	01/13/08	02/03/08
Europium 154	-0.009	U	0.31		0.59	01/13/08	02/03/08
Potassium 40	7.8		1.4		0.4	01/13/08	02/03/08
Radium (226)	0.47	J	0.12	1.00	0.07	01/13/08	02/03/08
Thorium 232	0.46		0.22		0.28	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 75
Thorium 228	0.49	J	0.16	1.00	0.07	01/23/08	01/31/08
Thorium 230	0.44	J	0.15	1.00	0.09	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 98
Uranium 233/234	0.31	J	0.11	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.012	U	0.024	1.00	0.033	01/23/08	02/01/08
Uranium 238	0.35	J	0.12	1.00	0.04	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-854

Radiochemistry

Lab Sample ID: F8A090186-009
Work Order: KE9G9
Matrix: SOLID

Date Collected: 12/19/07 0842
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.38		0.14		0.23	01/13/08	02/03/08
Americium 241	0.02	U	0.10		0.17	01/13/08	02/03/08
Cesium 137	0.033	U	0.048	0.200	0.079	01/13/08	02/03/08
Cobalt 60	-0.002	U	0.042		0.085	01/13/08	02/03/08
Europium 152	0.017	U	0.091		0.16	01/13/08	02/03/08
Europium 154	-0.12	U	0.39		0.70	01/13/08	02/03/08
Potassium 40	9.7		1.6		0.4	01/13/08	02/03/08
Radium (226)	0.44	J	0.13	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.38		0.14		0.23	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 71
Thorium 228	0.49	J	0.17	1.00	0.09	01/23/08	01/31/08
Thorium 230	0.59	J	0.19	1.00	0.08	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 92
Uranium 233/234	0.31	J	0.12	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	0.008	U	0.027	1.00	0.064	01/23/08	02/01/08
Uranium 238	0.31	J	0.12	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-855

Radiochemistry

Lab Sample ID: F8A090186-010
Work Order: KE9HD
Matrix: SOLID

Date Collected: 12/19/07 0847
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.47		0.17		0.29	01/13/08	02/03/08
Americium 241	0.071	U	0.099		0.16	01/13/08	02/03/08
Cesium 137	0.061	U	0.057	0.200	0.091	01/13/08	02/03/08
Cobalt 60	-0.010	U	0.062		0.11	01/13/08	02/03/08
Europium 152	-0.0006	U	0.093		0.17	01/13/08	02/03/08
Europium 154	-0.007	U	0.32		0.60	01/13/08	02/03/08
Potassium 40	12.0		1.6		0.3	01/13/08	02/03/08
Radium (226)	0.24	J	0.12	1.00	0.19	01/13/08	02/03/08
Thorium 232	0.47		0.17		0.29	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 84
Thorium 228	0.65	J	0.18	1.00	0.08	01/23/08	01/31/08
Thorium 230	0.62	J	0.17	1.00	0.06	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 91
Uranium 233/234	0.24	J	0.11	1.00	0.08	01/23/08	02/01/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	01/23/08	02/01/08
Uranium 238	0.36	J	0.13	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-856

Radiochemistry

Lab Sample ID: F8A090186-011
Work Order: KE9HE
Matrix: SOLID

Date Collected: 12/19/07 0849
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.45		0.19		0.23	01/13/08	02/03/08
Americium 241	0.04	U	0.10		0.17	01/13/08	02/03/08
Cesium 137	-0.002	U	0.054	0.200	0.096	01/13/08	02/03/08
Cobalt 60	0.001	U	0.053		0.098	01/13/08	02/03/08
Europium 152	0.03	U	0.11		0.19	01/13/08	02/03/08
Europium 154	-0.05	U	0.35		0.63	01/13/08	02/03/08
Potassium 40	10.4		1.5		0.3	01/13/08	02/03/08
Radium (226)	0.32	J	0.12	1.00	0.17	01/13/08	02/03/08
Thorium 232	0.45		0.19		0.23	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 84
Thorium 228	0.94	J	0.22	1.00	0.08	01/23/08	01/31/08
Thorium 230	0.96	J	0.22	1.00	0.06	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 89
Uranium 233/234	0.53	J	0.16	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	0.024	U	0.037	1.00	0.055	01/23/08	02/01/08
Uranium 238	0.72	J	0.18	1.00	0.03	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-857

Radiochemistry

Lab Sample ID: F8A090186-012
Work Order: KE9HG
Matrix: SOLID

Date Collected: 12/19/07 0853
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.26	U	0.25		0.39	01/13/08	02/03/08
Americium 241	-0.003	U	0.11		0.19	01/13/08	02/03/08
Cesium 137	0.089	U	0.075	0.200	0.12	01/13/08	02/03/08
Cobalt 60	0.023	U	0.060		0.11	01/13/08	02/03/08
Europium 152	-0.001	U	0.14		0.25	01/13/08	02/03/08
Europium 154	-0.004	U	0.59		1.1	01/13/08	02/03/08
Potassium 40	11.9		2.0		0.6	01/13/08	02/03/08
Radium (226)	0.60	J	0.18	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.26	U	0.25		0.39	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 76
Thorium 228	0.57	J	0.18	1.00	0.09	01/23/08	01/31/08
Thorium 230	0.55	J	0.18	1.00	0.09	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 91
Uranium 233/234	0.46	J	0.14	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	01/23/08	02/01/08
Uranium 238	0.54	J	0.15	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-858

Radiochemistry

Lab Sample ID: F8A090186-013
Work Order: KE9HJ
Matrix: SOLID

Date Collected: 12/19/07 0855
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.57		0.20		0.30	01/13/08	02/03/08
Americium 241	0.077	U	0.091		0.15	01/13/08	02/03/08
Cesium 137	0.044	U	0.052	0.200	0.095	01/13/08	02/03/08
Cobalt 60	-0.003	U	0.060		0.12	01/13/08	02/03/08
Europium 152	-0.0006	U	0.11		0.21	01/13/08	02/03/08
Europium 154	-0.03	U	0.42		0.78	01/13/08	02/03/08
Potassium 40	10.6		1.8		0.5	01/13/08	02/03/08
Radium (226)	0.46	J	0.14	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.57		0.20		0.30	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 76
Thorium 228	0.28	J	0.12	1.00	0.08	01/23/08	01/31/08
Thorium 230	0.45	J	0.15	1.00	0.06	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 92
Uranium 233/234	0.36	J	0.13	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/23/08	02/01/08
Uranium 238	0.41	J	0.13	1.00	0.06	01/23/08	02/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 54
Strontium 90	0.12	U	0.52	3.00	0.88	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-859

Radiochemistry

Lab Sample ID: F8A090186-014
Work Order: KE9HN
Matrix: SOLID

Date Collected: 12/19/07 0902
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.67		0.14		0.06	01/13/08	02/03/08
Americium 241	0.14	U	0.22		0.36	01/13/08	02/03/08
Cesium 137	0.026	U	0.031	0.200	0.051	01/13/08	02/03/08
Cobalt 60	-0.01	U	0.031		0.057	01/13/08	02/03/08
Europium 152	-0.006	U	0.076		0.14	01/13/08	02/03/08
Europium 154	0.03	U	0.20		0.36	01/13/08	02/03/08
Potassium 40	9.3		1.2		0.5	01/13/08	02/03/08
Radium (226)	0.325	J	0.088	1.00	0.093	01/13/08	02/03/08
Thorium 232	0.67		0.14		0.06	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 77
Thorium 228	0.73	J	0.20	1.00	0.08	01/23/08	01/31/08
Thorium 230	0.58	J	0.17	1.00	0.03	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 92
Uranium 233/234	0.39	J	0.13	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.020	U	0.035	1.00	0.060	01/23/08	02/01/08
Uranium 238	0.45	J	0.14	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-860

Radiochemistry

Lab Sample ID: F8A090186-015
Work Order: KE9HP
Matrix: SOLID

Date Collected: 12/19/07 0905
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.46		0.20		0.25	01/13/08	02/03/08
Americium 241	-0.022	U	0.099		0.17	01/13/08	02/03/08
Cesium 137	0.017	U	0.046	0.200	0.081	01/13/08	02/03/08
Cobalt 60	-0.012	U	0.053		0.098	01/13/08	02/03/08
Europium 152	0.012	U	0.089		0.16	01/13/08	02/03/08
Europium 154	-0.12	U	0.41		0.73	01/13/08	02/03/08
Potassium 40	9.3		1.5		0.4	01/13/08	02/03/08
Radium (226)	0.37	J	0.12	1.00	0.14	01/13/08	02/03/08
Thorium 232	0.46		0.20		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 88
Thorium 228	0.21	J	0.11	1.00	0.10	01/23/08	01/31/08
Thorium 230	0.37	J	0.13	1.00	0.07	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 93
Uranium 233/234	0.30	J	0.11	1.00	0.03	01/23/08	02/01/08
Uranium 235/236	0.026	U	0.036	1.00	0.035	01/23/08	02/01/08
Uranium 238	0.25	J	0.11	1.00	0.05	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-861

Radiochemistry

Lab Sample ID: F8A090186-016
Work Order: KE9HQ
Matrix: SOLID

Date Collected: 12/19/07 0908
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.41		0.25		0.35	01/13/08	02/03/08
Americium 241	0.04	U	0.10		0.18	01/13/08	02/03/08
Cesium 137	0.046	U	0.053	0.200	0.085	01/13/08	02/03/08
Cobalt 60	0.020	U	0.064		0.12	01/13/08	02/03/08
Europium 152	-0.05	U	0.14		0.24	01/13/08	02/03/08
Europium 154	-0.01	U	0.45		0.85	01/13/08	02/03/08
Potassium 40	13.3		2.1		0.5	01/13/08	02/03/08
Radium (226)	0.33	J	0.14	1.00	0.20	01/13/08	02/03/08
Thorium 232	0.41		0.25		0.35	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 84
Thorium 228	0.58	J	0.17	1.00	0.09	01/23/08	01/31/08
Thorium 230	0.65	J	0.18	1.00	0.06	01/23/08	01/31/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 93
Uranium 233/234	0.49	J	0.14	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.034	U	0.043	1.00	0.052	01/23/08	02/01/08
Uranium 238	0.40	J	0.13	1.00	0.03	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-862

Radiochemistry

Lab Sample ID: F8A090186-017
Work Order: KE9HR
Matrix: SOLID

Date Collected: 12/19/07 0910
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.61		0.25		0.32	01/13/08	02/03/08
Americium 241	-0.01	U	0.11		0.20	01/13/08	02/03/08
Cesium 137	0.103	J	0.062	0.200	0.090	01/13/08	02/03/08
Cobalt 60	-0.0009	U	0.064		0.12	01/13/08	02/03/08
Europium 152	-0.02	U	0.11		0.20	01/13/08	02/03/08
Europium 154	-0.03	U	0.40		0.74	01/13/08	02/03/08
Potassium 40	14.0		1.8		0.4	01/13/08	02/03/08
Radium (226)	0.44	J	0.16	1.00	0.22	01/13/08	02/03/08
Thorium 232	0.61		0.25		0.32	01/13/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 87
Uranium 233/234	0.34	J	0.12	1.00	0.05	01/23/08	02/01/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/23/08	02/01/08
Uranium 238	0.43	J	0.14	1.00	0.04	01/23/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 85
Thorium 228	0.74	J	0.20	1.00	0.11	02/02/08	02/06/08
Thorium 230	0.70	J	0.19	1.00	0.08	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-863

Radiochemistry

Lab Sample ID: F8A090186-018
Work Order: KE9HV
Matrix: SOLID

Date Collected: 12/19/07 0915
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013028		Yld %
Actinium 228	0.72		0.27		0.33	01/13/08	02/03/08
Americium 241	0.06	U	0.11		0.18	01/13/08	02/03/08
Cesium 137	0.094	U	0.067	0.200	0.10	01/13/08	02/03/08
Cobalt 60	0.013	U	0.071		0.13	01/13/08	02/03/08
Europium 152	-0.05	U	0.16		0.27	01/13/08	02/03/08
Europium 154	0.0	U	0.44		0.82	01/13/08	02/03/08
Potassium 40	11.6		1.8		1.0	01/13/08	02/03/08
Radium (226)	0.47	J	0.17	1.00	0.23	01/13/08	02/03/08
Thorium 232	0.72		0.27		0.33	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 82
Thorium 228	0.52	J	0.16	1.00	0.09	01/23/08	02/01/08
Thorium 230	0.58	J	0.17	1.00	0.06	01/23/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 90
Uranium 233/234	0.51	J	0.15	1.00	0.03	01/23/08	02/01/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	01/23/08	02/01/08
Uranium 238	0.53	J	0.15	1.00	0.03	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-864

Radiochemistry

Lab Sample ID: F8A090186-019
Work Order: KE9HW
Matrix: SOLID

Date Collected: 12/19/07 0917
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.52		0.16		0.21	01/13/08	02/03/08
Americium 241	-0.07	U	0.29		0.51	01/13/08	02/03/08
Cesium 137	0.121	J	0.041	0.200	0.029	01/13/08	02/03/08
Cobalt 60	0.004	U	0.038		0.072	01/13/08	02/03/08
Europium 152	0.037	U	0.095		0.16	01/13/08	02/03/08
Europium 154	0.0	U	0.19		0.37	01/13/08	02/03/08
Potassium 40	12.3		1.6		0.6	01/13/08	02/03/08
Radium (226)	0.44	J	0.12	1.00	0.12	01/13/08	02/03/08
Thorium 232	0.52		0.16		0.21	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 91
Thorium 228	0.64	J	0.17	1.00	0.08	01/23/08	02/01/08
Thorium 230	0.54	J	0.15	1.00	0.05	01/23/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 86
Uranium 233/234	0.39	J	0.13	1.00	0.08	01/23/08	02/01/08
Uranium 235/236	0.026	U	0.037	1.00	0.036	01/23/08	02/01/08
Uranium 238	0.46	J	0.15	1.00	0.07	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-864 DUP

Radiochemistry

Lab Sample ID: F8A090186-019X
Work Order: KE9HW
Matrix: SOLID

Date Collected: 12/19/07 0917
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.49		0.17		0.26	01/13/08	02/03/08
Americium 241	0.002	U	0.091		0.16	01/13/08	02/03/08
Cesium 137	0.041	U	0.055	0.200	0.091	01/13/08	02/03/08
Cobalt 60	0.003	U	0.062		0.12	01/13/08	02/03/08
Europium 152	0.05	U	0.12		0.21	01/13/08	02/03/08
Europium 154	-0.07	U	0.40		0.72	01/13/08	02/03/08
Potassium 40	13.1		1.8		0.4	01/13/08	02/03/08
Radium (226)	0.52	J	0.15	1.00	0.19	01/13/08	02/03/08
Thorium 232	0.49		0.17		0.26	01/13/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-875

Radiochemistry

Lab Sample ID: F8A090186-020
Work Order: KE9H0
Matrix: SOLID

Date Collected: 12/19/07 1043
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.30		0.20		0.29	01/13/08	02/03/08
Americium 241	0.016	U	0.083		0.14	01/13/08	02/03/08
Cesium 137	-0.0003	U	0.026	0.200	0.052	01/13/08	02/03/08
Cobalt 60	-0.012	U	0.060		0.11	01/13/08	02/03/08
Europium 152	0.046	U	0.082		0.14	01/13/08	02/03/08
Europium 154	-0.05	U	0.34		0.63	01/13/08	02/03/08
Potassium 40	7.6		1.4		0.9	01/13/08	02/03/08
Radium (226)	0.32	J	0.11	1.00	0.13	01/13/08	02/03/08
Thorium 232	0.30		0.20		0.29	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023253		Yld % 88
Thorium 228	0.36	J	0.13	1.00	0.08	01/23/08	02/01/08
Thorium 230	0.53	J	0.16	1.00	0.08	01/23/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023254		Yld % 90
Uranium 233/234	0.31	J	0.12	1.00	0.06	01/23/08	02/01/08
Uranium 235/236	0.008	U	0.026	1.00	0.062	01/23/08	02/01/08
Uranium 238	0.32	J	0.12	1.00	0.06	01/23/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-876

Radiochemistry

Lab Sample ID: F8A090186-021
Work Order: KE9H1
Matrix: SOLID

Date Collected: 12/19/07 1050
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.30		0.18		0.25	01/13/08	02/03/08
Americium 241	0.039	U	0.076		0.13	01/13/08	02/03/08
Cesium 137	0.098	J	0.057	0.200	0.080	01/13/08	02/03/08
Cobalt 60	0.016	U	0.046		0.085	01/13/08	02/03/08
Europium 152	0.05	U	0.11		0.20	01/13/08	02/03/08
Europium 154	0.06	U	0.28		0.53	01/13/08	02/03/08
Potassium 40	9.3		1.5		0.4	01/13/08	02/03/08
Radium (226)	0.74	J	0.15	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.30		0.18		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 92
Thorium 228	0.43	J	0.14	1.00	0.07	01/23/08	01/30/08
Thorium 230	0.62	J	0.17	1.00	0.05	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 89
Uranium 233/234	0.24	J	0.10	1.00	0.06	01/23/08	01/29/08
Uranium 235/236	0.008	U	0.028	1.00	0.066	01/23/08	01/29/08
Uranium 238	0.30	J	0.12	1.00	0.06	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-877

Radiochemistry

Lab Sample ID: F8A090186-022
Work Order: KE9H2
Matrix: SOLID

Date Collected: 12/19/07 1052
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.30		0.15		0.19	01/13/08	02/03/08
Americium 241	-0.0006	U	0.070		0.12	01/13/08	02/03/08
Cesium 137	0.049	U	0.040	0.200	0.061	01/13/08	02/03/08
Cobalt 60	0.0004	U	0.037		0.070	01/13/08	02/03/08
Europium 152	0.027	U	0.078		0.14	01/13/08	02/03/08
Europium 154	0.08	U	0.26		0.46	01/13/08	02/03/08
Potassium 40	8.0		1.2		0.6	01/13/08	02/03/08
Radium (226)	0.26	J	0.11	1.00	0.15	01/13/08	02/03/08
Thorium 232	0.30		0.15		0.19	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 87
Thorium 228	0.47	J	0.15	1.00	0.07	01/23/08	01/30/08
Thorium 230	0.60	J	0.17	1.00	0.03	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 90
Uranium 233/234	0.43	J	0.14	1.00	0.06	01/23/08	01/29/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	01/23/08	01/29/08
Uranium 238	0.31	J	0.11	1.00	0.05	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-878

Radiochemistry

Lab Sample ID: F8A090186-023
Work Order: KE9H3
Matrix: SOLID

Date Collected: 12/19/07 1059
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.30		0.21		0.29	01/13/08	02/03/08
Americium 241	0.007	U	0.094		0.16	01/13/08	02/03/08
Cesium 137	0.125	J	0.071	0.200	0.099	01/13/08	02/03/08
Cobalt 60	0.0	U	0.075		0.14	01/13/08	02/03/08
Europium 152	-0.02	U	0.11		0.21	01/13/08	02/03/08
Europium 154	0.0	U	0.67		1.2	01/13/08	02/03/08
Potassium 40	9.5		1.7		0.5	01/13/08	02/03/08
Radium (226)	0.60	J	0.15	1.00	0.09	01/13/08	02/03/08
Thorium 232	0.30		0.21		0.29	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 97
Thorium 228	0.42	J	0.14	1.00	0.08	01/23/08	01/30/08
Thorium 230	0.40	J	0.13	1.00	0.05	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 91
Uranium 233/234	0.29	J	0.12	1.00	0.07	01/23/08	01/29/08
Uranium 235/236	0.018	U	0.037	1.00	0.069	01/23/08	01/29/08
Uranium 238	0.46	J	0.15	1.00	0.08	01/23/08	01/29/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 68
Strontium 90	0.99	J	0.45	3.00	0.67	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-879

Radiochemistry

Lab Sample ID: F8A090186-024
Work Order: KE9H6
Matrix: SOLID

Date Collected: 12/19/07 1102
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.23	U	0.20		0.30	01/13/08	02/03/08
Americium 241	0.004	U	0.092		0.16	01/13/08	02/03/08
Cesium 137	0.011	U	0.044	0.200	0.087	01/13/08	02/03/08
Cobalt 60	0.0	U	0.062		0.12	01/13/08	02/03/08
Europium 152	0.004	U	0.10		0.19	01/13/08	02/03/08
Europium 154	0.14	U	0.22		0.36	01/13/08	02/03/08
Potassium 40	8.1		1.5		0.7	01/13/08	02/03/08
Radium (226)	0.55	J	0.14	1.00	0.11	01/13/08	02/03/08
Thorium 232	0.23	U	0.20		0.30	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 86
Thorium 228	0.55	J	0.17	1.00	0.09	01/23/08	01/30/08
Thorium 230	0.50	J	0.15	1.00	0.06	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 93
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/23/08	01/29/08
Uranium 235/236	0.057	U	0.056	1.00	0.060	01/23/08	01/29/08
Uranium 238	0.44	J	0.14	1.00	0.06	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-880

Radiochemistry

Lab Sample ID: F8A090186-025
Work Order: KE9JA
Matrix: SOLID

Date Collected: 12/19/07 1125
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.62		0.15		0.11	01/13/08	02/03/08
Americium 241	-0.05	U	0.24		0.41	01/13/08	02/03/08
Cesium 137	0.081	J	0.036	0.200	0.044	01/13/08	02/03/08
Cobalt 60	0.013	U	0.029		0.051	01/13/08	02/03/08
Europium 152	0.033	U	0.069		0.12	01/13/08	02/03/08
Europium 154	0.04	U	0.20		0.36	01/13/08	02/03/08
Potassium 40	8.7		1.2		0.5	01/13/08	02/03/08
Radium (226)	0.49	J	0.10	1.00	0.08	01/13/08	02/03/08
Thorium 232	0.62		0.15		0.11	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 87
Thorium 228	1.04		0.23	1.00	0.09	01/23/08	01/30/08
Thorium 230	0.62	J	0.17	1.00	0.05	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 91
Uranium 233/234	0.48	J	0.14	1.00	0.05	01/23/08	01/29/08
Uranium 235/236	0.033	U	0.041	1.00	0.050	01/23/08	01/29/08
Uranium 238	0.40	J	0.13	1.00	0.04	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-881

Radiochemistry

Lab Sample ID: F8A090186-026
Work Order: KE9JC
Matrix: SOLID

Date Collected: 12/19/07 1127
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.35		0.16		0.19	01/13/08	02/03/08
Americium 241	-0.048	U	0.098		0.16	01/13/08	02/03/08
Cesium 137	0.071	U	0.051	0.200	0.077	01/13/08	02/03/08
Cobalt 60	0.0	U	0.0099		0.036	01/13/08	02/03/08
Europium 152	0.023	U	0.066		0.12	01/13/08	02/03/08
Europium 154	-0.07	U	0.36		0.65	01/13/08	02/03/08
Potassium 40	8.7		1.4		0.4	01/13/08	02/03/08
Radium (226)	0.63	J	0.12	1.00	0.04	01/13/08	02/03/08
Thorium 232	0.35		0.16		0.19	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 88
Thorium 228	0.46	J	0.15	1.00	0.08	01/23/08	01/30/08
Thorium 230	0.48	J	0.15	1.00	0.06	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 93
Uranium 233/234	0.28	J	0.11	1.00	0.06	01/23/08	01/29/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	01/23/08	01/29/08
Uranium 238	0.32	J	0.12	1.00	0.05	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-882

Radiochemistry

Lab Sample ID: F8A090186-027
Work Order: KE9JE
Matrix: SOLID

Date Collected: 12/19/07 1235
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.56		0.22		0.24	01/13/08	02/03/08
Americium 241	0.063	U	0.095		0.16	01/13/08	02/03/08
Cesium 137	0.086	U	0.059	0.200	0.086	01/13/08	02/03/08
Cobalt 60	0.0	U	0.012		0.044	01/13/08	02/03/08
Europium 152	-0.005	U	0.094		0.17	01/13/08	02/03/08
Europium 154	-0.06	U	0.37		0.69	01/13/08	02/03/08
Potassium 40	10.2		1.7		0.4	01/13/08	02/03/08
Radium (226)	0.44	J	0.14	1.00	0.17	01/13/08	02/03/08
Thorium 232	0.56		0.22		0.24	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 86
Thorium 228	0.54	J	0.16	1.00	0.09	01/23/08	01/30/08
Thorium 230	0.72	J	0.18	1.00	0.05	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 93
Uranium 233/234	0.43	J	0.14	1.00	0.07	01/23/08	01/29/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	01/23/08	01/29/08
Uranium 238	0.29	J	0.11	1.00	0.07	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-883

Radiochemistry

Lab Sample ID: F8A090186-028
Work Order: KE9JG
Matrix: SOLID

Date Collected: 12/19/07 1237
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8013030**	**Yld %**
Actinium 228	0.19	U	0.17		0.27	01/13/08	02/03/08
Americium 241	0.042	U	0.098		0.17	01/13/08	02/03/08
Cesium 137	0.039	U	0.055	0.200	0.092	01/13/08	02/03/08
Cobalt 60	0.008	U	0.043		0.080	01/13/08	02/03/08
Europium 152	-0.03	U	0.12		0.21	01/13/08	02/03/08
Europium 154	0.07	U	0.35		0.63	01/13/08	02/03/08
Potassium 40	8.8		1.4		0.9	01/13/08	02/03/08
Radium (226)	0.51	J	0.15	1.00	0.19	01/13/08	02/03/08
Thorium 232	0.19	U	0.17		0.27	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8023338**	**Yld % 81**
Thorium 228	0.61	J	0.18	1.00	0.1	01/23/08	01/30/08
Thorium 230	0.67	J	0.18	1.00	0.05	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8023340**	**Yld % 92**
Uranium 233/234	0.51	J	0.15	1.00	0.05	01/23/08	01/29/08
Uranium 235/236	0.0	U	0.011	1.00	0.034	01/23/08	01/29/08
Uranium 238	0.39	J	0.13	1.00	0.04	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-884

Radiochemistry

Lab Sample ID: F8A090186-029
Work Order: KE9JJ
Matrix: SOLID

Date Collected: 12/19/07 1245
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8013030		Yld %
Actinium 228	0.29		0.17		0.25	01/13/08	02/03/08
Americium 241	0.051	U	0.083		0.14	01/13/08	02/03/08
Cesium 137	0.139	J	0.059	0.200	0.077	01/13/08	02/03/08
Cobalt 60	0.0	U	0.048		0.090	01/13/08	02/03/08
Europium 152	0.048	U	0.090		0.15	01/13/08	02/03/08
Europium 154	0.11	U	0.26		0.45	01/13/08	02/03/08
Potassium 40	8.6		1.3		0.3	01/13/08	02/03/08
Radium (226)	0.42	J	0.12	1.00	0.16	01/13/08	02/03/08
Thorium 232	0.29		0.17		0.25	01/13/08	02/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023338		Yld % 94
Thorium 228	0.39	J	0.14	1.00	0.09	01/23/08	01/30/08
Thorium 230	0.49	J	0.15	1.00	0.03	01/23/08	01/30/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023340		Yld % 91
Uranium 233/234	0.28	J	0.11	1.00	0.03	01/23/08	01/29/08
Uranium 235/236	0.023	U	0.036	1.00	0.054	01/23/08	01/29/08
Uranium 238	0.37	J	0.13	1.00	0.03	01/23/08	01/29/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

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U Result is less than the sample detection limit.

N00236_003440
ALAMEDA POINT
SSIC NO. 5090.3.A

FOLDER 2 OF 93

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-885	F8A090186001	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-885	F8A090186001	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-885	F8A090186001	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-885DUP	F8A090186001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-885DUP	F8A090186001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-886	F8A090186002	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-886	F8A090186002	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-886	F8A090186002	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-887	F8A090186003	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-887	F8A090186003	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-887	F8A090186003	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-888	F8A090186004	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-888	F8A090186004	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-888	F8A090186004	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-888	F8A090186004	N	Gen Prep	)OE SR-03-RC MOI	3
19-Dec-2007	15-889	F8A090186005	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-889	F8A090186005	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-889	F8A090186005	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-890	F8A090186006	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-890	F8A090186006	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-890	F8A090186006	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-891	F8A090186007	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-891	F8A090186007	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-891	F8A090186007	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-853	F8A090186008	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-853	F8A090186008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-853	F8A090186008	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-854	F8A090186009	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-854	F8A090186009	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-854	F8A090186009	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-855	F8A090186010	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-855	F8A090186010	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-855	F8A090186010	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-856	F8A090186011	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-856	F8A090186011	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-856	F8A090186011	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-857	F8A090186012	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-857	F8A090186012	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-857	F8A090186012	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-858	F8A090186013	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-858	F8A090186013	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-858	F8A090186013	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-858	F8A090186013	N	Gen Prep	)OE SR-03-RC MOI	3
19-Dec-2007	15-859	F8A090186014	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-859	F8A090186014	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-859	F8A090186014	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-860	F8A090186015	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-860	F8A090186015	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-860	F8A090186015	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-861	F8A090186016	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-861	F8A090186016	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-861	F8A090186016	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-862	F8A090186017	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-862	F8A090186017	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-862	F8A090186017	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-863	F8A090186018	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-863	F8A090186018	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-863	F8A090186018	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-864	F8A090186019	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-864	F8A090186019	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-864	F8A090186019	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-864DUP	F8A090186019DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-875	F8A090186020	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-875	F8A090186020	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-875	F8A090186020	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-876	F8A090186021	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-876	F8A090186021	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-876	F8A090186021	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-876DUP	F8A090186021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-876DUP	F8A090186021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-877	F8A090186022	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-877	F8A090186022	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-877	F8A090186022	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-878	F8A090186023	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-878	F8A090186023	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-878	F8A090186023	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-878	F8A090186023	N	Gen Prep	)OE SR-03-RC MOI	3
19-Dec-2007	15-879	F8A090186024	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-879	F8A090186024	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-879	F8A090186024	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-880	F8A090186025	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-880	F8A090186025	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-880	F8A090186025	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-881	F8A090186026	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-881	F8A090186026	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-881	F8A090186026	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-882	F8A090186027	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-882	F8A090186027	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-882	F8A090186027	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-883	F8A090186028	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-883	F8A090186028	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-883	F8A090186028	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-884	F8A090186029	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-884	F8A090186029	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-884	F8A090186029	N	Gen Prep	DOE GA-01-R MOD	3

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090186										
DOE A-01-R U MOD	15-876	SO	N							
				URANIUM-233/234	1.00	0.24J	0.10	U	pCi/g	
				URANIUM-238	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R U MOD	15-877	SO	N							
				URANIUM-233/234	1.00	0.43J	0.14	U	pCi/g	
				URANIUM-238	1.00	0.31J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-878	SO	N							
				URANIUM-233/234	1.00	0.29J	0.12	U	pCi/g	
				URANIUM-238	1.00	0.46J	0.15	U	pCi/g	
DOE A-01-R U MOD	15-879	SO	N							
				URANIUM-233/234	1.00	0.32J	0.12	U	pCi/g	
				URANIUM-238	1.00	0.44J	0.14	U	pCi/g	
DOE A-01-R U MOD	15-880	SO	N							
				URANIUM-233/234	1.00	0.48J	0.14	U	pCi/g	
				URANIUM-238	1.00	0.40J	0.13	U	pCi/g	
DOE A-01-R U MOD	15-881	SO	N							
				URANIUM-233/234	1.00	0.28J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.32J	0.12	U	pCi/g	
DOE A-01-R U MOD	15-882	SO	N							
				URANIUM-233/234	1.00	0.43J	0.14	U	pCi/g	
				URANIUM-238	1.00	0.29J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-883	SO	N							
				URANIUM-233/234	1.00	0.51J	0.15	U	pCi/g	
				URANIUM-238	1.00	0.39J	0.13	U	pCi/g	
DOE A-01-R U MOD	15-884	SO	N							
				URANIUM-233/234	1.00	0.28J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.37J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A090186

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A090186	15-876	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-876	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-877	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-877	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-878	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-878	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-879	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-879	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-880	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-880	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-881	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-881	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-882	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-882	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-883	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-883	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8A090186	15-884	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8A090186	15-884	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A090186

Method Blank Outlier Report

Lab Reporting Batch : F8A090186
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A230000338MB

Lab ID: TestAme
Analysis Date : 01/30/2008
Preparation Date :
Preparation Batch : 8023338

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	0.049	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A090186 **Lab ID:** TestAme

Analysis Method : DOE A-01-R U MOD **Analysis Date :** 01/29/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8A230000340MB **Preparation Batch :** 8023340

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.113	1.00	pCi/g	J	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-876	F8A090186021	1	0.24	J	pCi/g
15-877	F8A090186022	1	0.43	J	pCi/g
15-878	F8A090186023	1	0.29	J	pCi/g
15-879	F8A090186024	1	0.32	J	pCi/g
15-880	F8A090186025	1	0.48	J	pCi/g
15-881	F8A090186026	1	0.28	J	pCi/g
15-882	F8A090186027	1	0.43	J	pCi/g
15-883	F8A090186028	1	0.51	J	pCi/g
15-884	F8A090186029	1	0.28	J	pCi/g

URANIUM-235/236	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.151	1.00	pCi/g	J	

URANIUM-235/236 contamination found in the method blank did not qualify any samples.

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.144	1.00	pCi/g	J	

URANIUM-238 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-876	F8A090186021	1	0.30	J	pCi/g
15-877	F8A090186022	1	0.31	J	pCi/g
15-878	F8A090186023	1	0.46	J	pCi/g
15-879	F8A090186024	1	0.44	J	pCi/g
15-880	F8A090186025	1	0.40	J	pCi/g
15-881	F8A090186026	1	0.32	J	pCi/g
15-882	F8A090186027	1	0.29	J	pCi/g
15-883	F8A090186028	1	0.39	J	pCi/g
15-884	F8A090186029	1	0.37	J	pCi/g

LDC #: 18448V35
SDG #: F8A090186
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

gmA

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff, or both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1 1	15-885	11 1	15-856	21 2	15-876	31 1	PBS1
2 1	15-886	12 1	15-857	22 2	15-877	32 2	PBS2
3 1	15-887	13 1	15-858	23 2	15-878	33	
4 1	15-888	14 1	15-859	24 2	15-879	34	
5 1	15-889	15 1	15-860	25 2	15-880	35	
6 1	15-890	16 1	15-861	26 2	15-881	36	
7 1	15-891	17 1	15-862	27 2	15-882	37	
8 1	15-853	18 1	15-863	28 2	15-883	38	
9 1	15-854	19 2	15-864	29 2	15-884	39	
10 1	15-855	20 2	15-875	30 2	15-864DUP	40	

Notes:

LDC #: 18448V59
SDG #: F8A090186
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (high RPD's are N.D. for both)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-885	11 1	15-856	21 2	15-876	31 2	15-876DUP
2 1	15-886	12 1	15-857	22 2	15-877	32 1	PBS1
3 1	15-887	13 1	15-858	23 2	15-878	33 2	PBS2
4 1	15-888	14 1	15-859	24 2	15-879	34	
5 1	15-889	15 1	15-860	25 2	15-880	35	
6 1	15-890	16 1	15-861	26 2	15-881	36	
7 1	15-891	17 1	15-862	27 2	15-882	37	
8 1	15-853	18 1	15-863	28 2	15-883	38	
9 1	15-854	19 1	15-864	29 2	15-884	39	
10 1	15-855	20 1	15-875	30 1	15-885DUP	40	

Notes:

LDC #: 18448V61
SDG #: F8A090186
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

MY

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A090153) all N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	"
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-888	11		21		31	
2	15-858	12		22		32	
3	15-878	13		23		33	
4	PBS	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448V73
SDG #: F8A090186
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	CC
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-885	11 1	15-856	21 2	15-876	31 2	15-876DUP
2 1	15-886	12 1	15-857	22 2	15-877	32 1	PBS1
3 1	15-887	13 1	15-858	23 2	15-878	33 2	PBS2
4 1	15-888	14 1	15-859	24 2	15-879	34 3	PBS3
5 1	15-889	15 1	15-860	25 2	15-880	35	
6 1	15-890	16 1	15-861	26 2	15-881	36	
7 1	15-891	17 3	15-862	27 2	15-882	37	
8 1	15-853	18 1	15-863	28 2	15-883	38	
9 1	15-854	19 1	15-864	29 2	15-884	39	
10 1	15-855	20 1	15-875	30 1	15-885DUP	40	

Notes:

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37169

ENTERED

1 of 2

PROJECT NAME: IR sites 1 24 32	PURCHASE ORDER NO.: 100.0679552 DG 7E17341
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica STL

LABORATORY ID (FOR LABORATORY): FBA090191

Project Information Section Do not submit to Laboratory

16 P

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Thorium	Uranium	90 Sr DOE Sr-01/Sr-02	COMMENTS	LOCATION ID	DEPTH START	DEPTH END	QC
15-724	12/17/07	9:55	1	X		S	21 DY	X	X	X			2IR-187-03a	0'	6"	Reg
15-725	12/17/07	9:57	1	X		S	21 DY	X	X	X			2IR-187-03b	6"	12"	Reg
15-726	12/17/07	10:03	1	X		S	21 DY	X	X	X			2IR-187-04a	0"	6"	Reg
15-727	12/17/07	10:05	1	X		S	21 DY	X	X	X			2IR-187-04b	6"	12"	Reg
15-728	12/17/07	10:07	2	X		S	21 DY	X	X	X	X		2IR-187-05a	0"	6"	Reg
15-729	12/17/07	10:09	1	X		S	21 DY	X	X	X			2IR-187-05b	6"	12"	Reg
15-730	12/17/07	10:11	1	X		S	21 DY	X	X	X			2IR-187-06a	0"	6"	Reg
15-731	12/17/07	10:13	1	X		S	21 DY	X	X	X			2IR-187-06b	6"	12"	Reg
15-732	12/17/07	10:18	1	X		S	21 DY	X	X	X			2IR-187-07a	0"	6"	Reg
15-733	12/17/07	10:20	1	X		S	21 DY	X	X	X			2IR-187-07b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE 1/8/08	RECEIVED BY (Signature)	
COMPANY Tt/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 30d + 21 dy Inbraiths

COMPOSITE DESCRIPTION: ~~24~~ no 3-days 1-8-08 SC

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37170

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1,2 & 32	106.0679552 ~~1017341~~	Testamerica STL
PROJECT LOCATION	**PROJECT NO.**	**LABORATORY ID (FOR LABORATORY)**
Alameda CA	3210.028D	F8A090191
SAMPLER NAME	**AIRBILL NUMBER**	
V Richards		
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
Lisa Bienkowskie	949-756-7500	

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; 90 Sr DOE SR-01/SR-02

Project Information Section — Do not submit to Laboratory

6

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Thorium	Uranium	90 Sr	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-734	12/17/07	10:24	1	X		S	21 DY	X	X	X			2IR-187-08a	0"	6"	Reg
15-735	12/17/07	10:26	1	X		S	21 DY	X	X	X			2IR-187-08b	6"	12"	Reg
15-736	12/17/07	10:29	1	X		S	21 DY	X	X	X			2IR-187-09a	0"	6"	Reg
15-737	12/17/07	10:31	1	X		S	21 DY	X	X	X			2IR-187-09b	6"	12"	Reg
15-738	12/17/07	10:35	2	X		S	21 DY	X	X	X	X		2IR-187-10a	0"	6"	Reg
15-739	12/17/07	10:37	1	X		S	21 DY	X	X	X			2IR-187-10b	6"	12"	Reg

* (TAT)

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/8/08	
COMPANY	**TIME**	**COMPANY**
TEC/Fedex		
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**

LABORATORY INSTRUCTIONS/COMMENTS
~~3DY~~ + 21 DY Ingrowths

COMPOSITE DESCRIPTION
* no 3-day 1-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37186

ENTERED

PROJECT NAME	PURCHASE ORDER NO. 166.067455.0002
PROJECT LOCATION	PROJECT NO.
SAMPLER NAME	AIRBILL NUMBER
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER

ANALYSES REQUIRED

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): F8A090191

Project Information Section Do not submit to Laboratory

4

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
[illegible]-14	1-17-09	1445	1	X		S	21 Dy		IR-282-04a	0"	6"	Reg
[illegible]-15	1-17-09	1447	1	X		S	21 Dy		IR-282-04b	6"	1'	Reg
[illegible]-16	1-17-09	1452	1	X		S	21 Dy		IR-282-05a	0"	6"	Reg
[illegible]-17	1-17-09	1455	1	X		S	21 Dy		IR-282-05b	6"	1'	Reg

RELINQUISHED BY (Signature)	DATE 1/18/09	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS * no 3 day & 21 Dy Ingrowths 1-8-09
COMPANY Tt Eco / Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR=Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37172

ENTERED

PROJECT NAME: IR Sites 1, 7 & 32	PURCHASE ORDER NO.: 106.06.4552 DO #01734
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bieukiewskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica SL

LABORATORY ID (FOR LABORATORY): FBA090191

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-828	12/17/07	13:13	2	X		S	21DY		2IR-342-03b	6"	12"	Reg
15-829	12/17/07	13:16	1	X		S	21DY		2IR-342-04a	0"	6"	Reg
15-830	12/17/07	13:18	1	X		S	21DY		2IR-342-04b	6"	12"	Reg
15-831	12/17/07	13:25	1	X		S	21DY		2IR-342-05a	0"	6"	Reg
15-832	12/17/07	13:27	1	X		S	21DY		2IR-342-05b	6"	12"	Reg
15-833	12/17/07	13:30	1	X		S	21DY		2IR-342-06a	0"	6"	Reg
15-834	12/17/07	13:32	1	X		S	21DY		2IR-342-06b	6"	12"	Reg
15-835	12/17/07	13:35	1	X		S	21DY		2IR-342-07a	0"	6"	Reg
15-836	12/17/07	13:37	1	X		S	21DY		2IR-342-07b	6"	12"	Reg
15-837	12/17/07	13:42	1	X		S	21DY		2IR-342-08a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 12/18/07	RECEIVED BY (Signature)	
COMPANY Tetra Tech	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: ~~3DY~~ + 21 DY Instructions SW * no 3 day 1-8-08

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37174

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR Sites 1, 2 & 32	106.0029552 DG ~~1017344~~	Testamerica STL
PROJECT LOCATION	**PROJECT NO.**	**LABORATORY ID (FOR LABORATORY)**
Alameda CA	3210.028D	F8A090191
SAMPLER NAME	**AIRBILL NUMBER**	
V Richards		
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
Lisa Bienkowskie	949-756-7500	

ANALYSES REQUIRED: EPA 901.1M Gamma; Thorium; Uranium; 80/82 DOE 3.01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M GAMMA	THORIUM	URANIUM	80/82 DOE 3.01/SR-02	COMMENTS
15-848	12/17/07	14:27	2	X		S	21 DY	X	X	X	X	
15-849	12/17/07	14:30	1	X		S	21 DY	X	X	X		
15-850	12/17/07	14:32	1	X		S	21 DY	X	X	X		
15-851	12/17/07	14:35	1	X		S	21 DY	X	X	X		
15-852	12/17/07	14:37	1	X		S	21 DY	X	X	X		

Project Information Section
Do not submit to Laboratory

5

LOCATION	DEPTH START	DEPTH END	QC
2IR-343-02b	6"	12"	Reg
2IR-343-03a	0"	6"	Reg
2IR-343-03b	6"	12"	Reg
2IR-343-04a	0"	6"	Reg
2IR-343-04b	6"	12"	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/8/08	
COMPANY	**TIME**	**COMPANY**
TtEC/Fedex		
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**

LABORATORY INSTRUCTIONS/COMMENTS: * no 3-day ~~3 DY~~ + 21 DY Ingrowths 1-8-08 SJ

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ **SAMPLE CONDITION:** ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-724

Radiochemistry

Lab Sample ID: F8A090191-001
Work Order: KE9J8
Matrix: SOLID

Date Collected: 12/17/07 0955
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.48		0.27		0.35	01/14/08	02/04/08
Americium 241	0.03	U	0.11		0.19	01/14/08	02/04/08
Cesium 137	0.058	U	0.072	0.200	0.12	01/14/08	02/04/08
Cobalt 60	0.0	U	0.015		0.056	01/14/08	02/04/08
Europium 152	0.02	U	0.13		0.23	01/14/08	02/04/08
Europium 154	-0.12	U	0.47		0.85	01/14/08	02/04/08
Potassium 40	9.5		1.9		1.1	01/14/08	02/04/08
Radium (226)	0.60	J	0.15	1.00	0.06	01/14/08	02/04/08
Thorium 232	0.48		0.27		0.35	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 72
Thorium 228	0.64	J	0.19	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.70	J	0.20	1.00	0.08	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 90
Uranium 233/234	0.44	J	0.14	1.00	0.06	01/24/08	02/02/08
Uranium 235/236	-0.0023	U	0.0047	1.00	0.053	01/24/08	02/02/08
Uranium 238	0.28	J	0.11	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-724 DUP

Radiochemistry

Lab Sample ID: F8A090191-001X
Work Order: KE9J8
Matrix: SOLID

Date Collected: 12/17/07 0955
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.41		0.17		0.31	01/14/08	02/04/08
Americium 241	0.019	U	0.073		0.13	01/14/08	02/04/08
Cesium 137	0.049	U	0.056	0.200	0.090	01/14/08	02/04/08
Cobalt 60	0.017	U	0.049		0.091	01/14/08	02/04/08
Europium 152	-0.04	U	0.12		0.21	01/14/08	02/04/08
Europium 154	0.18	U	0.35		0.61	01/14/08	02/04/08
Potassium 40	10.8		1.8		0.5	01/14/08	02/04/08
Radium (226)	0.49	J	0.16	1.00	0.16	01/14/08	02/04/08
Thorium 232	0.41		0.17		0.31	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 79
Thorium 228	0.59	J	0.18	1.00	0.09	01/24/08	02/02/08
Thorium 230	0.43	J	0.15	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 90
Uranium 233/234	0.34	J	0.13	1.00	0.07	01/24/08	02/02/08
Uranium 235/236	0.019	U	0.038	1.00	0.070	01/24/08	02/02/08
Uranium 238	0.41	J	0.14	1.00	0.09	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-725

Radiochemistry

Lab Sample ID: F8A090191-002
Work Order: KE9KC
Matrix: SOLID

Date Collected: 12/17/07 0957
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.51		0.19		0.35	01/14/08	02/04/08
Americium 241	-0.004	U	0.11		0.20	01/14/08	02/04/08
Cesium 137	0.034	U	0.050	0.200	0.093	01/14/08	02/04/08
Cobalt 60	-0.004	U	0.054		0.11	01/14/08	02/04/08
Europium 152	0.003	U	0.080		0.15	01/14/08	02/04/08
Europium 154	0.0	U	0.69		1.2	01/14/08	02/04/08
Potassium 40	10.1		1.8		0.5	01/14/08	02/04/08
Radium (226)	0.46	J	0.15	1.00	0.17	01/14/08	02/04/08
Thorium 232	0.51		0.19		0.35	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 80
Thorium 228	0.67	J	0.19	1.00	0.09	01/24/08	02/02/08
Thorium 230	0.70	J	0.19	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 93
Uranium 233/234	0.46	J	0.14	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.008	U	0.025	1.00	0.060	01/24/08	02/02/08
Uranium 238	0.37	J	0.13	1.00	0.06	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-726

Radiochemistry

Lab Sample ID: F8A090191-003
Work Order: KE9KE
Matrix: SOLID

Date Collected: 12/17/07 1003
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.39		0.12		0.17	01/14/08	02/04/08
Americium 241	-0.02	U	0.25		0.43	01/14/08	02/04/08
Cesium 137	0.018	U	0.031	0.200	0.052	01/14/08	02/04/08
Cobalt 60	0.0	U	0.042		0.077	01/14/08	02/04/08
Europium 152	-0.001	U	0.045		0.085	01/14/08	02/04/08
Europium 154	-0.08	U	0.23		0.40	01/14/08	02/04/08
Potassium 40	10.3		1.3		0.5	01/14/08	02/04/08
Radium (226)	0.57	J	0.11	1.00	0.10	01/14/08	02/04/08
Thorium 232	0.39		0.12		0.17	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 80
Thorium 228	0.57	J	0.17	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.57	J	0.17	1.00	0.08	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 90
Uranium 233/234	0.31	J	0.11	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	-0.0023	U	0.0045	1.00	0.051	01/24/08	02/02/08
Uranium 238	0.49	J	0.14	1.00	0.04	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-727

Radiochemistry

Lab Sample ID: F8A090191-004
Work Order: KE9KG
Matrix: SOLID

Date Collected: 12/17/07 1005
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.35		0.15		0.25	01/14/08	02/04/08
Americium 241	-0.036	U	0.087		0.15	01/14/08	02/04/08
Cesium 137	0.021	U	0.048	0.200	0.083	01/14/08	02/04/08
Cobalt 60	-0.018	U	0.054		0.096	01/14/08	02/04/08
Europium 152	-0.026	U	0.098		0.17	01/14/08	02/04/08
Europium 154	0.05	U	0.36		0.66	01/14/08	02/04/08
Potassium 40	9.9		1.5		0.4	01/14/08	02/04/08
Radium (226)	0.42	J	0.12	1.00	0.12	01/14/08	02/04/08
Thorium 232	0.35		0.15		0.25	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 79
Thorium 228	0.41	J	0.14	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.50	J	0.16	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 101
Uranium 233/234	0.34	J	0.12	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.034	U	0.043	1.00	0.052	01/24/08	02/02/08
Uranium 238	0.39	J	0.13	1.00	0.04	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-728

Radiochemistry

Lab Sample ID: F8A090191-005
Work Order: KE9KH
Matrix: SOLID

Date Collected: 12/17/07 1007
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.51		0.19		0.29	01/14/08	02/04/08
Americium 241	0.03	U	0.11		0.18	01/14/08	02/04/08
Cesium 137	0.028	U	0.045	0.200	0.076	01/14/08	02/04/08
Cobalt 60	-0.016	U	0.057		0.10	01/14/08	02/04/08
Europium 152	-0.003	U	0.10		0.19	01/14/08	02/04/08
Europium 154	0.06	U	0.31		0.58	01/14/08	02/04/08
Potassium 40	11.9		1.8		0.4	01/14/08	02/04/08
Radium (226)	0.59	J	0.16	1.00	0.15	01/14/08	02/04/08
Thorium 232	0.51		0.19		0.29	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 78
Thorium 228	0.58	J	0.17	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.61	J	0.17	1.00	0.03	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 86
Uranium 233/234	0.43	J	0.14	1.00	0.08	01/24/08	02/02/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	01/24/08	02/02/08
Uranium 238	0.48	J	0.15	1.00	0.08	01/24/08	02/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 51
Strontium 90	0.05	U	0.54	3.00	0.93	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-729

Radiochemistry

Lab Sample ID: F8A090191-006
Work Order: KE9KK
Matrix: SOLID

Date Collected: 12/17/07 1009
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.58		0.22		0.41	01/14/08	02/04/08
Americium 241	-0.02	U	0.13		0.22	01/14/08	02/04/08
Cesium 137	0.008	U	0.051	0.200	0.094	01/14/08	02/04/08
Cobalt 60	-0.022	U	0.084		0.15	01/14/08	02/04/08
Europium 152	0.05	U	0.14		0.25	01/14/08	02/04/08
Europium 154	0.12	U	0.40		0.72	01/14/08	02/04/08
Potassium 40	15.5		2.3		0.5	01/14/08	02/04/08
Radium (226)	0.72	J	0.17	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.58		0.22		0.41	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 76
Thorium 228	0.85	J	0.22	1.00	0.09	01/24/08	02/02/08
Thorium 230	0.77	J	0.21	1.00	0.05	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 99
Uranium 233/234	0.57	J	0.15	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.012	U	0.024	1.00	0.032	01/24/08	02/02/08
Uranium 238	0.55	J	0.15	1.00	0.04	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-730

Radiochemistry

Lab Sample ID: F8A090191-007
Work Order: KE9KM
Matrix: SOLID

Date Collected: 12/17/07 1011
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.22	U	0.22		0.35	01/14/08	02/04/08
Americium 241	0.0	U	0.10		0.18	01/14/08	02/04/08
Cesium 137	0.029	U	0.056	0.200	0.11	01/14/08	02/04/08
Cobalt 60	-0.0003	U	0.037		0.080	01/14/08	02/04/08
Europium 152	0.0	U	0.12		0.22	01/14/08	02/04/08
Europium 154	-0.03	U	0.37		0.71	01/14/08	02/04/08
Potassium 40	9.7		1.7		0.5	01/14/08	02/04/08
Radium (226)	0.54	J	0.16	1.00	0.14	01/14/08	02/04/08
Thorium 232	0.22	U	0.22		0.35	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 88
Thorium 228	0.50	J	0.16	1.00	0.08	01/24/08	02/03/08
Thorium 230	0.54	J	0.16	1.00	0.05	01/24/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 92
Uranium 233/234	0.34	J	0.12	1.00	0.06	01/24/08	02/02/08
Uranium 235/236	0.021	U	0.038	1.00	0.064	01/24/08	02/02/08
Uranium 238	0.24	J	0.10	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-731

Radiochemistry

Lab Sample ID: F8A090191-008
Work Order: KE9KP
Matrix: SOLID

Date Collected: 12/17/07 1013
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.40		0.12		0.15	01/14/08	02/04/08
Americium 241	-0.01	U	0.27		0.47	01/14/08	02/04/08
Cesium 137	0.037	U	0.033	0.200	0.051	01/14/08	02/04/08
Cobalt 60	0.0	U	0.047		0.086	01/14/08	02/04/08
Europium 152	-0.0001	U	0.067		0.12	01/14/08	02/04/08
Europium 154	-0.03	U	0.24		0.43	01/14/08	02/04/08
Potassium 40	10.8		1.3		0.5	01/14/08	02/04/08
Radium (226)	0.354	J	0.090	1.00	0.087	01/14/08	02/04/08
Thorium 232	0.40		0.12		0.15	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 73
Thorium 228	0.74	J	0.21	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.57	J	0.18	1.00	0.04	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 98
Uranium 233/234	0.27	J	0.11	1.00	0.07	01/24/08	02/02/08
Uranium 235/236	0.024	U	0.034	1.00	0.032	01/24/08	02/02/08
Uranium 238	0.35	J	0.12	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-732

Radiochemistry

Lab Sample ID: F8A090191-009
Work Order: KE9KT
Matrix: SOLID

Date Collected: 12/17/07 1018
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.45		0.22		0.29	01/14/08	02/04/08
Americium 241	0.02	U	0.10		0.18	01/14/08	02/04/08
Cesium 137	0.065	U	0.055	0.200	0.084	01/14/08	02/04/08
Cobalt 60	0.009	U	0.039		0.075	01/14/08	02/04/08
Europium 152	-0.04	U	0.13		0.22	01/14/08	02/04/08
Europium 154	0.03	U	0.34		0.64	01/14/08	02/04/08
Potassium 40	8.5		1.6		1.1	01/14/08	02/04/08
Radium (226)	0.39	J	0.14	1.00	0.18	01/14/08	02/04/08
Thorium 232	0.45		0.22		0.29	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 76
Thorium 228	0.68	J	0.20	1.00	0.1	01/24/08	02/02/08
Thorium 230	0.82	J	0.22	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 85
Uranium 233/234	0.43	J	0.14	1.00	0.07	01/24/08	02/02/08
Uranium 235/236	0.011	U	0.028	1.00	0.059	01/24/08	02/02/08
Uranium 238	0.54	J	0.16	1.00	0.03	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-733

Radiochemistry

Lab Sample ID: F8A090191-010
Work Order: KE9K4
Matrix: SOLID

Date Collected: 12/17/07 1020
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.37		0.23		0.30	01/14/08	02/04/08
Americium 241	-0.014	U	0.099		0.17	01/14/08	02/04/08
Cesium 137	0.117	J	0.075	0.200	0.11	01/14/08	02/04/08
Cobalt 60	0.015	U	0.057		0.11	01/14/08	02/04/08
Europium 152	0.014	U	0.093		0.17	01/14/08	02/04/08
Europium 154	0.03	U	0.39		0.74	01/14/08	02/04/08
Potassium 40	9.7		1.9		1.1	01/14/08	02/04/08
Radium (226)	0.49	J	0.14	1.00	0.10	01/14/08	02/04/08
Thorium 232	0.37		0.23		0.30	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 66
Thorium 228	0.80	J	0.23	1.00	0.11	01/24/08	02/02/08
Thorium 230	0.47	J	0.17	1.00	0.08	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 89
Uranium 233/234	0.56	J	0.16	1.00	0.06	01/24/08	02/02/08
Uranium 235/236	0.010	U	0.026	1.00	0.053	01/24/08	02/02/08
Uranium 238	0.58	J	0.16	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-734

Radiochemistry

Lab Sample ID: F8A090191-011
Work Order: KE9K6
Matrix: SOLID

Date Collected: 12/17/07 1024
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.56		0.19		0.31	01/14/08	02/04/08
Americium 241	0.055	U	0.086		0.14	01/14/08	02/04/08
Cesium 137	0.004	U	0.054	0.200	0.11	01/14/08	02/04/08
Cobalt 60	0.0	U	0.068		0.13	01/14/08	02/04/08
Europium 152	0.033	U	0.089		0.16	01/14/08	02/04/08
Europium 154	-0.11	U	0.40		0.73	01/14/08	02/04/08
Potassium 40	11.8		1.9		0.5	01/14/08	02/04/08
Radium (226)	0.29	J	0.14	1.00	0.20	01/14/08	02/04/08
Thorium 232	0.56		0.19		0.31	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 75
Thorium 228	0.37	J	0.15	1.00	0.11	01/24/08	02/02/08
Thorium 230	0.34	J	0.14	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 93
Uranium 233/234	0.32	J	0.12	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	01/24/08	02/02/08
Uranium 238	0.35	J	0.12	1.00	0.06	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-735

Radiochemistry

Lab Sample ID: F8A090191-012
Work Order: KE9K9
Matrix: SOLID

Date Collected: 12/17/07 1026
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.34		0.13		0.18	01/14/08	02/04/08
Americium 241	-0.008	U	0.25		0.44	01/14/08	02/04/08
Cesium 137	0.060	U	0.041	0.200	0.061	01/14/08	02/04/08
Cobalt 60	-0.007	U	0.035		0.065	01/14/08	02/04/08
Europium 152	0.026	U	0.081		0.14	01/14/08	02/04/08
Europium 154	-0.007	U	0.20		0.38	01/14/08	02/04/08
Potassium 40	11.8		1.5		0.5	01/14/08	02/04/08
Radium (226)	0.42	J	0.11	1.00	0.12	01/14/08	02/04/08
Thorium 232	0.34		0.13		0.18	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 59
Thorium 228	0.58	J	0.20	1.00	0.12	01/24/08	02/02/08
Thorium 230	0.51	J	0.18	1.00	0.08	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 94
Uranium 233/234	0.41	J	0.13	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.031	U	0.042	1.00	0.059	01/24/08	02/02/08
Uranium 238	0.45	J	0.14	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-736

Radiochemistry

Lab Sample ID: F8A090191-013
Work Order: KE9LA
Matrix: SOLID

Date Collected: 12/17/07 1029
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8014488**		**Yld %**
Actinium 228	0.23	U	0.17		0.24	01/14/08	02/04/08
Americium 241	-0.013	U	0.077		0.13	01/14/08	02/04/08
Cesium 137	0.016	U	0.040	0.200	0.071	01/14/08	02/04/08
Cobalt 60	0.0	U	0.0098		0.036	01/14/08	02/04/08
Europium 152	-0.028	U	0.093		0.16	01/14/08	02/04/08
Europium 154	-0.03	U	0.29		0.54	01/14/08	02/04/08
Potassium 40	8.5		1.4		0.6	01/14/08	02/04/08
Radium (226)	0.34	J	0.11	1.00	0.13	01/14/08	02/04/08
Thorium 232	0.23	U	0.17		0.24	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8023444**		**Yld % 85**
Thorium 228	0.51	J	0.16	1.00	0.07	01/24/08	02/03/08
Thorium 230	0.50	J	0.16	1.00	0.03	01/24/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8023446**		**Yld % 87**
Uranium 233/234	0.32	J	0.12	1.00	0.03	01/24/08	02/02/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	01/24/08	02/02/08
Uranium 238	0.37	J	0.13	1.00	0.05	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-737

Radiochemistry

Lab Sample ID: F8A090191-014
Work Order: KE9LE
Matrix: SOLID

Date Collected: 12/17/07 1031
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.34		0.19		0.25	01/14/08	02/04/08
Americium 241	-0.04	U	0.10		0.18	01/14/08	02/04/08
Cesium 137	0.013	U	0.045	0.200	0.081	01/14/08	02/04/08
Cobalt 60	0.020	U	0.039		0.070	01/14/08	02/04/08
Europium 152	-0.009	U	0.098		0.18	01/14/08	02/04/08
Europium 154	0.01	U	0.37		0.70	01/14/08	02/04/08
Potassium 40	8.9		1.5		0.4	01/14/08	02/04/08
Radium (226)	0.51	J	0.13	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.34		0.19		0.25	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 87
Thorium 228	0.39	J	0.14	1.00	0.09	01/24/08	02/02/08
Thorium 230	0.36	J	0.13	1.00	0.04	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 91
Uranium 233/234	0.36	J	0.12	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.010	U	0.025	1.00	0.053	01/24/08	02/02/08
Uranium 238	0.45	J	0.14	1.00	0.03	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-738

Radiochemistry

Lab Sample ID: F8A090191-015
Work Order: KE9LG
Matrix: SOLID

Date Collected: 12/17/07 1035
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.19	U	0.19		0.29	01/14/08	02/04/08
Americium 241	-0.028	U	0.097		0.17	01/14/08	02/04/08
Cesium 137	0.029	U	0.042	0.200	0.071	01/14/08	02/04/08
Cobalt 60	0.0	U	0.013		0.049	01/14/08	02/04/08
Europium 152	-0.02	U	0.12		0.21	01/14/08	02/04/08
Europium 154	0.01	U	0.38		0.73	01/14/08	02/04/08
Potassium 40	7.2		1.5		0.5	01/14/08	02/04/08
Radium (226)	0.46	J	0.13	1.00	0.09	01/14/08	02/04/08
Thorium 232	0.19	U	0.19		0.29	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 84
Thorium 228	0.47	J	0.16	1.00	0.1	01/24/08	02/02/08
Thorium 230	0.71	J	0.19	1.00	0.03	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 97
Uranium 233/234	0.43	J	0.13	1.00	0.05	01/24/08	02/02/08
Uranium 235/236	0.032	U	0.040	1.00	0.049	01/24/08	02/02/08
Uranium 238	0.28	J	0.10	1.00	0.04	01/24/08	02/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 64
Strontium 90	0.23	U	0.43	3.00	0.71	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-739

Radiochemistry

Lab Sample ID: F8A090191-016
Work Order: KE9L3
Matrix: SOLID

Date Collected: 12/17/07 1037
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.25	U	0.19		0.27	01/14/08	02/04/08
Americium 241	0.084	U	0.088		0.14	01/14/08	02/04/08
Cesium 137	0.017	U	0.055	0.200	0.11	01/14/08	02/04/08
Cobalt 60	0.031	U	0.059		0.10	01/14/08	02/04/08
Europium 152	0.047	U	0.090		0.16	01/14/08	02/04/08
Europium 154	-0.14	U	0.47		0.84	01/14/08	02/04/08
Potassium 40	10.5		1.8		0.5	01/14/08	02/04/08
Radium (226)	0.58	J	0.18	1.00	0.15	01/14/08	02/04/08
Thorium 232	0.25	U	0.19		0.27	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 80
Thorium 228	0.44	J	0.16	1.00	0.09	01/24/08	02/03/08
Thorium 230	0.46	J	0.16	1.00	0.06	01/24/08	02/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 94
Uranium 233/234	0.38	J	0.13	1.00	0.03	01/24/08	02/02/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	01/24/08	02/02/08
Uranium 238	0.30	J	0.11	1.00	0.03	01/24/08	02/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-814

Radiochemistry

Lab Sample ID: F8A090191-017
Work Order: KE9MC
Matrix: SOLID

Date Collected: 12/17/07 1445
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.43		0.14		0.20	01/14/08	02/04/08
Americium 241	-0.09	U	0.33		0.56	01/14/08	02/04/08
Cesium 137	0.018	U	0.034	0.200	0.059	01/14/08	02/04/08
Cobalt 60	-0.014	U	0.046		0.081	01/14/08	02/04/08
Europium 152	0.038	U	0.086		0.15	01/14/08	02/04/08
Europium 154	0.04	U	0.24		0.44	01/14/08	02/04/08
Potassium 40	9.6		1.3		0.5	01/14/08	02/04/08
Radium (226)	1.66		0.21	1.00	0.09	01/14/08	02/04/08
Thorium 232	0.43		0.14		0.20	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 81
Thorium 228	0.64	J	0.18	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.54	J	0.16	1.00	0.03	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 92
Uranium 233/234	0.33	J	0.12	1.00	0.06	01/24/08	02/03/08
Uranium 235/236	0.008	U	0.026	1.00	0.061	01/24/08	02/03/08
Uranium 238	0.45	J	0.14	1.00	0.06	01/24/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-815

Radiochemistry

Lab Sample ID: F8A090191-018
Work Order: KE9MK
Matrix: SOLID

Date Collected: 12/17/07 1447
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.35		0.20		0.26	01/14/08	02/04/08
Americium 241	0.005	U	0.10		0.18	01/14/08	02/04/08
Cesium 137	0.00009	U	0.047	0.200	0.088	01/14/08	02/04/08
Cobalt 60	0.0	U	0.011		0.040	01/14/08	02/04/08
Europium 152	-0.008	U	0.097		0.17	01/14/08	02/04/08
Europium 154	-0.10	U	0.36		0.65	01/14/08	02/04/08
Potassium 40	7.6		1.4		0.4	01/14/08	02/04/08
Radium (226)	0.48	J	0.13	1.00	0.14	01/14/08	02/04/08
Thorium 232	0.35		0.20		0.26	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 82
Thorium 228	0.43	J	0.15	1.00	0.07	01/24/08	02/02/08
Thorium 230	0.33	J	0.13	1.00	0.05	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 92
Uranium 233/234	0.211	J	0.097	1.00	0.066	01/24/08	02/03/08
Uranium 235/236	0.025	U	0.035	1.00	0.033	01/24/08	02/03/08
Uranium 238	0.27	J	0.11	1.00	0.06	01/24/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-816

Radiochemistry

Lab Sample ID: F8A090191-019
Work Order: KE9MP
Matrix: SOLID

Date Collected: 12/17/07 1452
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.26	U	0.23		0.36	01/14/08	02/04/08
Americium 241	0.019	U	0.088		0.15	01/14/08	02/04/08
Cesium 137	0.033	U	0.062	0.200	0.11	01/14/08	02/04/08
Cobalt 60	-0.009	U	0.048		0.095	01/14/08	02/04/08
Europium 152	0.02	U	0.12		0.21	01/14/08	02/04/08
Europium 154	0.0	U	0.53		0.99	01/14/08	02/04/08
Potassium 40	9.9		1.8		0.6	01/14/08	02/04/08
Radium (226)	0.70	J	0.16	1.00	0.06	01/14/08	02/04/08
Thorium 232	0.26	U	0.23		0.36	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 80
Thorium 228	0.43	J	0.15	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.49	J	0.16	1.00	0.07	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 90
Uranium 233/234	0.35	J	0.12	1.00	0.06	01/24/08	02/03/08
Uranium 235/236	0.010	U	0.026	1.00	0.053	01/24/08	02/03/08
Uranium 238	0.43	J	0.14	1.00	0.05	01/24/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-817

Radiochemistry

Lab Sample ID: F8A090191-020
Work Order: KE9MX
Matrix: SOLID

Date Collected: 12/17/07 1455
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014488		Yld %
Actinium 228	0.31		0.18		0.20	01/14/08	02/04/08
Americium 241	-0.001	U	0.079		0.14	01/14/08	02/04/08
Cesium 137	-0.02	U	0.19	0.20	0.11	01/14/08	02/04/08
Cobalt 60	0.0	U	0.074		0.14	01/14/08	02/04/08
Europium 152	0.00004	U	0.10		0.19	01/14/08	02/04/08
Europium 154	0.0	U	0.57		1.0	01/14/08	02/04/08
Potassium 40	8.1		1.6		0.5	01/14/08	02/04/08
Radium (226)	0.29	J	0.13	1.00	0.17	01/14/08	02/04/08
Thorium 232	0.31		0.18		0.20	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023444		Yld % 85
Thorium 228	0.78	J	0.20	1.00	0.08	01/24/08	02/02/08
Thorium 230	0.41	J	0.14	1.00	0.06	01/24/08	02/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8023446		Yld % 97
Uranium 233/234	0.40	J	0.13	1.00	0.07	01/24/08	02/03/08
Uranium 235/236	0.017	U	0.035	1.00	0.065	01/24/08	02/03/08
Uranium 238	0.30	J	0.12	1.00	0.08	01/24/08	02/03/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-828

Radiochemistry

Lab Sample ID: F8A090191-021
Work Order: KE9M4
Matrix: SOLID

Date Collected: 12/17/07 1313
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.69		0.21		0.11	01/14/08	02/04/08
Americium 241	0.02	U	0.11		0.19	01/14/08	02/04/08
Cesium 137	0.040	U	0.048	0.200	0.078	01/14/08	02/04/08
Cobalt 60	0.0	U	0.061		0.12	01/14/08	02/04/08
Europium 152	0.02	U	0.11		0.20	01/14/08	02/04/08
Europium 154	-0.005	U	0.37		0.70	01/14/08	02/04/08
Potassium 40	10.2		1.7		0.4	01/14/08	02/04/08
Radium (226)	0.57	J	0.14	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.69		0.21		0.11	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 81
Thorium 228	0.46	J	0.15	1.00	0.07	01/25/08	02/01/08
Thorium 230	0.54	J	0.16	1.00	0.06	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 80
Uranium 233/234	0.45	J	0.15	1.00	0.08	01/25/08	02/01/08
Uranium 235/236	0.028	U	0.040	1.00	0.039	01/25/08	02/01/08
Uranium 238	0.33	J	0.13	1.00	0.07	01/25/08	02/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 59
Strontium 90	0.05	U	0.48	3.00	0.81	01/09/08	01/24/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-828 DUP

Radiochemistry

Lab Sample ID: F8A090191-021X
Work Order: KE9M4
Matrix: SOLID

Date Collected: 12/17/07 1313
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.47		0.24		0.31	01/14/08	02/04/08
Americium 241	0.0467	U	0.0996		0.17	01/14/08	02/04/08
Cesium 137	0.006	U	0.051	0.200	0.10	01/14/08	02/04/08
Cobalt 60	0.0	U	0.013		0.049	01/14/08	02/04/08
Europium 152	-0.02	U	0.11		0.19	01/14/08	02/04/08
Europium 154	0.0	U	0.44		0.83	01/14/08	02/04/08
Potassium 40	11.2		1.9		0.5	01/14/08	02/04/08
Radium (226)	0.64	J	0.15	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.47		0.24		0.31	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 69
Thorium 228	0.52	J	0.17	1.00	0.09	01/25/08	02/01/08
Thorium 230	0.68	J	0.19	1.00	0.03	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 83
Uranium 233/234	0.43	J	0.14	1.00	0.07	01/25/08	02/01/08
Uranium 235/236	0.024	U	0.039	1.00	0.057	01/25/08	02/01/08
Uranium 238	0.44	J	0.14	1.00	0.06	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-829

Radiochemistry

Lab Sample ID: F8A090191-022
Work Order: KE9NE
Matrix: SOLID

Date Collected: 12/17/07 1316
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.52		0.16		0.19	01/14/08	02/04/08
Americium 241	0.06	U	0.25		0.44	01/14/08	02/04/08
Cesium 137	0.027	U	0.032	0.200	0.053	01/14/08	02/04/08
Cobalt 60	0.0	U	0.049		0.090	01/14/08	02/04/08
Europium 152	-0.016	U	0.077		0.14	01/14/08	02/04/08
Europium 154	0.0	U	0.26		0.48	01/14/08	02/04/08
Potassium 40	9.9		1.4		0.9	01/14/08	02/04/08
Radium (226)	0.47	J	0.12	1.00	0.12	01/14/08	02/04/08
Thorium 232	0.52		0.16		0.19	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 78
Thorium 228	0.55	J	0.18	1.00	0.09	01/25/08	02/01/08
Thorium 230	0.70	J	0.20	1.00	0.05	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 82
Uranium 233/234	0.37	J	0.14	1.00	0.08	01/25/08	02/01/08
Uranium 235/236	0.006	U	0.030	1.00	0.076	01/25/08	02/01/08
Uranium 238	0.38	J	0.14	1.00	0.09	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-830

Radiochemistry

Lab Sample ID: F8A090191-023
Work Order: KE9NG
Matrix: SOLID

Date Collected: 12/17/07 1318
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.33		0.19		0.26	01/14/08	02/04/08
Americium 241	0.043	U	0.087		0.15	01/14/08	02/04/08
Cesium 137	0.004	U	0.047	0.200	0.085	01/14/08	02/04/08
Cobalt 60	0.007	U	0.047		0.089	01/14/08	02/04/08
Europium 152	-0.02	U	0.11		0.19	01/14/08	02/04/08
Europium 154	0.19	U	0.37		0.63	01/14/08	02/04/08
Potassium 40	8.2		1.5		0.9	01/14/08	02/04/08
Radium (226)	0.35	J	0.12	1.00	0.14	01/14/08	02/04/08
Thorium 232	0.33		0.19		0.26	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 80
Thorium 228	0.48	J	0.16	1.00	0.11	01/25/08	02/01/08
Thorium 230	0.59	J	0.18	1.00	0.08	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 77
Uranium 233/234	0.29	J	0.12	1.00	0.06	01/25/08	02/01/08
Uranium 235/236	0.024	U	0.043	1.00	0.073	01/25/08	02/01/08
Uranium 238	0.44	J	0.15	1.00	0.07	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-831

Radiochemistry

Lab Sample ID: F8A090191-024
Work Order: KE9NJ
Matrix: SOLID

Date Collected: 12/17/07 1325
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8014489**		**Yld %**
Actinium 228	0.0	U	0.14		0.25	01/14/08	02/04/08
Americium 241	0.015	U	0.099		0.17	01/14/08	02/04/08
Cesium 137	0.014	U	0.040	0.200	0.069	01/14/08	02/04/08
Cobalt 60	0.0	U	0.047		0.088	01/14/08	02/04/08
Europium 152	-0.03	U	0.10		0.18	01/14/08	02/04/08
Europium 154	0.06	U	0.27		0.50	01/14/08	02/04/08
Potassium 40	10.9		1.4		0.3	01/14/08	02/04/08
Radium (226)	0.32	J	0.11	1.00	0.15	01/14/08	02/04/08
Thorium 232	0.0	U	0.14		0.25	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8025307**		**Yld % 77**
Thorium 228	0.61	J	0.18	1.00	0.08	01/25/08	02/01/08
Thorium 230	0.56	J	0.17	1.00	0.03	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8025308**		**Yld % 79**
Uranium 233/234	0.45	J	0.15	1.00	0.06	01/25/08	02/01/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	01/25/08	02/01/08
Uranium 238	0.38	J	0.13	1.00	0.05	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-832

Radiochemistry

Lab Sample ID: F8A090191-025
Work Order: KE9NN
Matrix: SOLID

Date Collected: 12/17/07 1327
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.38		0.23		0.32	01/14/08	02/04/08
Americium 241	-0.01	U	0.11		0.19	01/14/08	02/04/08
Cesium 137	0.024	U	0.055	0.200	0.096	01/14/08	02/04/08
Cobalt 60	0.002	U	0.049		0.098	01/14/08	02/04/08
Europium 152	0.01	U	0.11		0.20	01/14/08	02/04/08
Europium 154	0.05	U	0.35		0.66	01/14/08	02/04/08
Potassium 40	9.6		1.7		0.5	01/14/08	02/04/08
Radium (226)	0.63	J	0.14	1.00	0.05	01/14/08	02/04/08
Thorium 232	0.38		0.23		0.32	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 44
Thorium 228	0.44	J	0.21	1.00	0.17	01/25/08	02/01/08
Thorium 230	0.56	J	0.23	1.00	0.11	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 70
Uranium 233/234	0.31	J	0.14	1.00	0.08	01/25/08	02/01/08
Uranium 235/236	0.014	U	0.035	1.00	0.074	01/25/08	02/01/08
Uranium 238	0.50	J	0.17	1.00	0.06	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-833

Radiochemistry

Lab Sample ID: F8A090191-026
Work Order: KE9NP
Matrix: SOLID

Date Collected: 12/17/07 1330
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.48		0.23		0.29	01/14/08	02/04/08
Americium 241	0.040	U	0.094		0.16	01/14/08	02/04/08
Cesium 137	0.065	U	0.058	0.200	0.099	01/14/08	02/04/08
Cobalt 60	-0.008	U	0.075		0.14	01/14/08	02/04/08
Europium 152	0.01	U	0.11		0.20	01/14/08	02/04/08
Europium 154	0.0	U	0.54		1.0	01/14/08	02/04/08
Potassium 40	11.2		1.9		0.5	01/14/08	02/04/08
Radium (226)	0.57	J	0.15	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.48		0.23		0.29	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 54
Thorium 228	0.53	J	0.20	1.00	0.13	01/25/08	02/01/08
Thorium 230	0.51	J	0.20	1.00	0.09	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 86
Uranium 233/234	0.35	J	0.13	1.00	0.08	01/25/08	02/01/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	01/25/08	02/01/08
Uranium 238	0.32	J	0.12	1.00	0.08	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-834

Radiochemistry

Lab Sample ID: F8A090191-027
Work Order: KE9NR
Matrix: SOLID

Date Collected: 12/17/07 1332
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.51		0.14		0.16	01/14/08	02/04/08
Americium 241	0.16	U	0.18		0.29	01/14/08	02/04/08
Cesium 137	0.020	U	0.027	0.200	0.046	01/14/08	02/04/08
Cobalt 60	0.0003	U	0.034		0.063	01/14/08	02/04/08
Europium 152	-0.011	U	0.068		0.12	01/14/08	02/04/08
Europium 154	0.07	U	0.23		0.41	01/14/08	02/04/08
Potassium 40	10.1		1.3		0.5	01/14/08	02/04/08
Radium (226)	0.46	J	0.12	1.00	0.09	01/14/08	02/04/08
Thorium 232	0.51		0.14		0.16	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 76
Thorium 228	0.66	J	0.19	1.00	0.10	01/25/08	02/01/08
Thorium 230	0.55	J	0.17	1.00	0.06	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 86
Uranium 233/234	0.42	J	0.14	1.00	0.05	01/25/08	02/01/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	01/25/08	02/01/08
Uranium 238	0.32	J	0.12	1.00	0.05	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-835

Radiochemistry

Lab Sample ID: F8A090191-028
Work Order: KE9NT
Matrix: SOLID

Date Collected: 12/17/07 1335
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.40		0.22		0.30	01/14/08	02/04/08
Americium 241	0.055	U	0.075		0.12	01/14/08	02/04/08
Cesium 137	0.026	U	0.038	0.200	0.063	01/14/08	02/04/08
Cobalt 60	-0.011	U	0.059		0.11	01/14/08	02/04/08
Europium 152	-0.02	U	0.10		0.18	01/14/08	02/04/08
Europium 154	-0.0004	U	0.36		0.67	01/14/08	02/04/08
Potassium 40	12.3		1.8		0.4	01/14/08	02/04/08
Radium (226)	0.47	J	0.14	1.00	0.11	01/14/08	02/04/08
Thorium 232	0.40		0.22		0.30	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 82
Thorium 228	0.44	J	0.15	1.00	0.08	01/25/08	02/01/08
Thorium 230	0.53	J	0.16	1.00	0.06	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 83
Uranium 233/234	0.38	J	0.14	1.00	0.07	01/25/08	02/01/08
Uranium 235/236	0.009	U	0.030	1.00	0.072	01/25/08	02/01/08
Uranium 238	0.30	J	0.12	1.00	0.06	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-836

Radiochemistry

Lab Sample ID: F8A090191-029
Work Order: KE9NW
Matrix: SOLID

Date Collected: 12/17/07 1337
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.62		0.18		0.22	01/14/08	02/04/08
Americium 241	0.036	U	0.096		0.16	01/14/08	02/04/08
Cesium 137	0.035	U	0.045	0.200	0.075	01/14/08	02/04/08
Cobalt 60	0.003	U	0.053		0.099	01/14/08	02/04/08
Europium 152	0.05	U	0.11		0.18	01/14/08	02/04/08
Europium 154	0.07	U	0.32		0.58	01/14/08	02/04/08
Potassium 40	11.3		1.5		0.3	01/14/08	02/04/08
Radium (226)	0.38	J	0.12	1.00	0.15	01/14/08	02/04/08
Thorium 232	0.62		0.18		0.22	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 82
Thorium 228	0.66	J	0.18	1.00	0.09	01/25/08	02/01/08
Thorium 230	0.53	J	0.16	1.00	0.05	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 85
Uranium 233/234	0.49	J	0.16	1.00	0.08	01/25/08	02/01/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	01/25/08	02/01/08
Uranium 238	0.35	J	0.13	1.00	0.05	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-837

Radiochemistry

Lab Sample ID: F8A090191-030
Work Order: KE9NX
Matrix: SOLID

Date Collected: 12/17/07 1342
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.79		0.23		0.19	01/14/08	02/04/08
Americium 241	-0.006	U	0.097		0.17	01/14/08	02/04/08
Cesium 137	0.029	U	0.039	0.200	0.065	01/14/08	02/04/08
Cobalt 60	0.013	U	0.047		0.084	01/14/08	02/04/08
Europium 152	0.03	U	0.11		0.20	01/14/08	02/04/08
Europium 154	0.04	U	0.37		0.66	01/14/08	02/04/08
Potassium 40	10.1		1.5		0.7	01/14/08	02/04/08
Radium (226)	0.4	J	4.2	1.0	0.2	01/14/08	02/04/08
Thorium 232	0.79		0.23		0.19	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 72
Thorium 228	0.77	J	0.21	1.00	0.11	01/25/08	02/01/08
Thorium 230	0.67	J	0.19	1.00	0.05	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 67
Uranium 233/234	0.54	J	0.18	1.00	0.09	01/25/08	02/01/08
Uranium 235/236	0.014	U	0.035	1.00	0.074	01/25/08	02/01/08
Uranium 238	0.46	J	0.16	1.00	0.04	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-848

Radiochemistry

Lab Sample ID: F8A090191-031
Work Order: KE9N2
Matrix: SOLID

Date Collected: 12/17/07 1427
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.29	U	0.22		0.32	01/14/08	02/04/08
Americium 241	0.021	U	0.098		0.17	01/14/08	02/04/08
Cesium 137	0.043	U	0.062	0.200	0.10	01/14/08	02/04/08
Cobalt 60	-0.0004	U	0.054		0.11	01/14/08	02/04/08
Europium 152	0.02	U	0.13		0.23	01/14/08	02/04/08
Europium 154	0.0	U	0.094		0.35	01/14/08	02/04/08
Potassium 40	10.4		2.0		0.6	01/14/08	02/04/08
Radium (226)	0.46	J	0.13	1.00	0.07	01/14/08	02/04/08
Thorium 232	0.29	U	0.22		0.32	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 33
Thorium 228	0.51	J	0.27	1.00	0.25	01/25/08	02/01/08
Thorium 230	0.50	J	0.25	1.00	0.08	01/25/08	02/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8009213		Yld % 53
Strontium 90	0.52	U	0.58	3.00	0.94	01/09/08	01/24/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033093		Yld % 92
Uranium 233/234	0.40	J	0.13	1.00	0.05	02/02/08	02/05/08
Uranium 235/236	0.021	U	0.034	1.00	0.050	02/02/08	02/05/08
Uranium 238	0.33	J	0.12	1.00	0.04	02/02/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-849

Radiochemistry

Lab Sample ID: F8A090191-032
Work Order: KE9N5
Matrix: SOLID

Date Collected: 12/17/07 1430
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.37		0.16		0.31	01/14/08	02/04/08
Americium 241	0.013	U	0.086		0.15	01/14/08	02/04/08
Cesium 137	0.035	U	0.056	0.200	0.10	01/14/08	02/04/08
Cobalt 60	0.009	U	0.047		0.090	01/14/08	02/04/08
Europium 152	-0.005	U	0.12		0.22	01/14/08	02/04/08
Europium 154	-0.14	U	0.42		0.75	01/14/08	02/04/08
Potassium 40	9.3		1.7		0.8	01/14/08	02/04/08
Radium (226)	0.44	J	0.14	1.00	0.13	01/14/08	02/04/08
Thorium 232	0.37		0.16		0.31	01/14/08	02/04/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 69
Uranium 233/234	0.46	J	0.16	1.00	0.06	01/25/08	02/01/08
Uranium 235/236	0.013	U	0.034	1.00	0.070	01/25/08	02/01/08
Uranium 238	0.39	J	0.15	1.00	0.08	01/25/08	02/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8033092		Yld % 83
Thorium 228	0.56	J	0.16	1.00	0.09	02/02/08	02/06/08
Thorium 230	0.59	J	0.17	1.00	0.05	02/02/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-850

Radiochemistry

Lab Sample ID: F8A090191-033
Work Order: KE9N9
Matrix: SOLID

Date Collected: 12/17/07 1432
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.50		0.15		0.21	01/14/08	02/04/08
Americium 241	0.07	U	0.28		0.48	01/14/08	02/04/08
Cesium 137	0.087	J	0.040	0.200	0.039	01/14/08	02/04/08
Cobalt 60	0.004	U	0.037		0.068	01/14/08	02/04/08
Europium 152	-0.002	U	0.077		0.14	01/14/08	02/04/08
Europium 154	0.02	U	0.23		0.43	01/14/08	02/04/08
Potassium 40	10.5		1.4		0.6	01/14/08	02/04/08
Radium (226)	0.38	J	0.10	1.00	0.12	01/14/08	02/04/08
Thorium 232	0.50		0.15		0.21	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 85
Thorium 228	0.67	J	0.18	1.00	0.08	01/25/08	02/01/08
Thorium 230	0.55	J	0.16	1.00	0.03	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 82
Uranium 233/234	0.31	J	0.12	1.00	0.05	01/25/08	02/01/08
Uranium 235/236	0.036	U	0.049	1.00	0.068	01/25/08	02/01/08
Uranium 238	0.46	J	0.15	1.00	0.05	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-851

Radiochemistry

Lab Sample ID: F8A090191-034
Work Order: KE9PC
Matrix: SOLID

Date Collected: 12/17/07 1435
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.45		0.24		0.33	01/14/08	02/04/08
Americium 241	-0.012	U	0.099		0.17	01/14/08	02/04/08
Cesium 137	0.106	J	0.057	0.200	0.075	01/14/08	02/04/08
Cobalt 60	0.0	U	0.012		0.044	01/14/08	02/04/08
Europium 152	-0.01	U	0.11		0.19	01/14/08	02/04/08
Europium 154	0.0	U	0.65		1.2	01/14/08	02/04/08
Potassium 40	10.9		1.8		0.8	01/14/08	02/04/08
Radium (226)	0.22	J	0.11	1.00	0.15	01/14/08	02/04/08
Thorium 232	0.45		0.24		0.33	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 73
Thorium 228	0.57	J	0.18	1.00	0.08	01/25/08	02/01/08
Thorium 230	0.66	J	0.19	1.00	0.05	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 79
Uranium 233/234	0.44	J	0.15	1.00	0.03	01/25/08	02/01/08
Uranium 235/236	0.0	U	0.013	1.00	0.041	01/25/08	02/01/08
Uranium 238	0.34	J	0.13	1.00	0.06	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-852

Radiochemistry

Lab Sample ID: F8A090191-035
Work Order: KE9PD
Matrix: SOLID

Date Collected: 12/17/07 1437
Date Received: 01/09/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8014489		Yld %
Actinium 228	0.57		0.25		0.29	01/14/08	02/04/08
Americium 241	0.076	U	0.098		0.16	01/14/08	02/04/08
Cesium 137	0.040	U	0.047	0.200	0.076	01/14/08	02/04/08
Cobalt 60	0.0	U	0.014		0.051	01/14/08	02/04/08
Europium 152	-0.001	U	0.10		0.19	01/14/08	02/04/08
Europium 154	0.15	U	0.30		0.53	01/14/08	02/04/08
Potassium 40	10.4		1.8		0.5	01/14/08	02/04/08
Radium (226)	0.22	J	0.12	1.00	0.17	01/14/08	02/04/08
Thorium 232	0.57		0.25		0.29	01/14/08	02/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025307		Yld % 50
Thorium 228	0.56	J	0.21	1.00	0.11	01/25/08	02/01/08
Thorium 230	0.57	J	0.22	1.00	0.13	01/25/08	02/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8025308		Yld % 75
Uranium 233/234	0.37	J	0.14	1.00	0.06	01/25/08	02/01/08
Uranium 235/236	-0.0028	U	0.0057	1.00	0.064	01/25/08	02/01/08
Uranium 238	0.45	J	0.15	1.00	0.03	01/25/08	02/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-724	F8A090191001	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-724	F8A090191001	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-724	F8A090191001	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-724DUP	F8A090191001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-724DUP	F8A090191001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-724DUP	F8A090191001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-725	F8A090191002	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-725	F8A090191002	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-725	F8A090191002	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-726	F8A090191003	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-726	F8A090191003	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-726	F8A090191003	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-727	F8A090191004	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-727	F8A090191004	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-727	F8A090191004	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-728	F8A090191005	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-728	F8A090191005	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-728	F8A090191005	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-728	F8A090191005	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-729	F8A090191006	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-729	F8A090191006	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-729	F8A090191006	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-730	F8A090191007	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-730	F8A090191007	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-730	F8A090191007	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-731	F8A090191008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-731	F8A090191008	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-731	F8A090191008	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-732	F8A090191009	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-732	F8A090191009	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-732	F8A090191009	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-733	F8A090191010	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-733	F8A090191010	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-733	F8A090191010	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-734	F8A090191011	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-734	F8A090191011	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-734	F8A090191011	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-735	F8A090191012	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-735	F8A090191012	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-735	F8A090191012	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-736	F8A090191013	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-736	F8A090191013	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-736	F8A090191013	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-737	F8A090191014	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-737	F8A090191014	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-737	F8A090191014	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-738	F8A090191015	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-738	F8A090191015	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-738	F8A090191015	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-738	F8A090191015	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-739	F8A090191016	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-739	F8A090191016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-739	F8A090191016	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-814	F8A090191017	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-814	F8A090191017	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-814	F8A090191017	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-815	F8A090191018	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-815	F8A090191018	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-815	F8A090191018	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-816	F8A090191019	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-816	F8A090191019	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-816	F8A090191019	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-817	F8A090191020	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-817	F8A090191020	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-817	F8A090191020	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-828	F8A090191021	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-828	F8A090191021	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-828	F8A090191021	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-828	F8A090191021	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-828DUP	F8A090191021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-828DUP	F8A090191021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-828DUP	F8A090191021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-829	F8A090191022	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-829	F8A090191022	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-829	F8A090191022	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-830	F8A090191023	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-830	F8A090191023	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-830	F8A090191023	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-831	F8A090191024	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-831	F8A090191024	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-831	F8A090191024	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-832	F8A090191025	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-832	F8A090191025	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-832	F8A090191025	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-833	F8A090191026	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-833	F8A090191026	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-833	F8A090191026	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-834	F8A090191027	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-834	F8A090191027	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-834	F8A090191027	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-835	F8A090191028	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-835	F8A090191028	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-835	F8A090191028	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-836	F8A090191029	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-836	F8A090191029	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-836	F8A090191029	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-837	F8A090191030	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-837	F8A090191030	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-837	F8A090191030	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-848	F8A090191031	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-848	F8A090191031	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-848	F8A090191031	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-848	F8A090191031	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-848DUP	F8A090191031DUP	DUP	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-849	F8A090191032	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-849	F8A090191032	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-849	F8A090191032	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-850	F8A090191033	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-850	F8A090191033	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-850	F8A090191033	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-851	F8A090191034	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-851	F8A090191034	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-851	F8A090191034	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-852	F8A090191035	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-852	F8A090191035	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-852	F8A090191035	N	Gen Prep	DOE GA-01-R MOD	3

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090191										
DOE A-01-R TH MOD	15-734	SO	N	THORIUM-230	1.00	0.34J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-737	SO	N	THORIUM-230	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-815	SO	N	THORIUM-230	1.00	0.33J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-828	SO	N	THORIUM-230	1.00	0.54J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-829	SO	N	THORIUM-230	1.00	0.70J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-830	SO	N	THORIUM-230	1.00	0.59J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-831	SO	N	THORIUM-230	1.00	0.56J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-832	SO	N	THORIUM-230	1.00	0.56J	0.23	U	pCi/g	
DOE A-01-R TH MOD	15-833	SO	N	THORIUM-230	1.00	0.51J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-834	SO	N	THORIUM-230	1.00	0.55J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-835	SO	N	THORIUM-230	1.00	0.53J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-836	SO	N	THORIUM-230	1.00	0.53J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-837	SO	N	THORIUM-230	1.00	0.67J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-848	SO	N	THORIUM-230	1.00	0.50J	0.25	U	pCi/g	

N = Normal Sample TB = Trip Blank
FD = Field Duplicate FB = Field Blank

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A090191										
DOE A-01-R TH MOD	15-850	SO	N							
				THORIUM-230	1.00	0.55J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-851	SO	N							
				THORIUM-230	1.00	0.66J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-852	SO	N							
				THORIUM-230	1.00	0.57J	0.22	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A090191

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A090191	15-734	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-737	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-815	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-828	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-829	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-830	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-831	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-832	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-833	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-834	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-835	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-836	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-837	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-848	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-850	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-851	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A090191	15-852	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A090191

Method Blank Outlier Report

Lab Reporting Batch : F8A090191
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8A230000444MB

Lab ID: TestAme
Analysis Date : 02/02/2008
Preparation Date :
Preparation Batch : 8023444

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.076**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-734	F8A090191011	1	0.34	J	pCi/g
15-737	F8A090191014	1	0.36	J	pCi/g
15-815	F8A090191018	1	0.33	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A090191
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/01/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A250000307MB
Preparation Batch : 8025307

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-230					
Method Blank Result:	**0.199**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-828	F8A090191021	1	0.54	J	pCi/g
15-829	F8A090191022	1	0.70	J	pCi/g
15-830	F8A090191023	1	0.59	J	pCi/g
15-831	F8A090191024	1	0.56	J	pCi/g
15-832	F8A090191025	1	0.56	J	pCi/g
15-833	F8A090191026	1	0.51	J	pCi/g
15-834	F8A090191027	1	0.55	J	pCi/g
15-835	F8A090191028	1	0.53	J	pCi/g
15-836	F8A090191029	1	0.53	J	pCi/g
15-837	F8A090191030	1	0.67	J	pCi/g
15-848	F8A090191031	1	0.50	J	pCi/g
15-850	F8A090191033	1	0.55	J	pCi/g
15-851	F8A090191034	1	0.66	J	pCi/g
15-852	F8A090191035	1	0.57	J	pCi/g

LDC #: 18448W35
SDG #: F8A090191
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

gwA

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.~~1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	AN	DUP (both N.D. for high RPD)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-724	11 1	15-734	21 2	15-828	31 2	15-848
2 1	15-725	12 1	15-735	22 2	15-829	32 2	15-849
3 1	15-726	13 1	15-736	23 2	15-830	33 2	15-850
4 1	15-727	14 1	15-737	24 2	15-831	34 2	15-851
5 1	15-728	15 1	15-738	25 2	15-832	35 2	15-852
6 1	15-729	16 1	15-739	26 2	15-833	36 1	15-724DUP
7 1	15-730	17 1	15-814	27 2	15-834	37 2	15-828DUP
8 1	15-731	18 1	15-815	28 2	15-835	38 1	PBS1
9 1	15-732	19 1	15-816	29 2	15-836	39 2	PBS2
10 1	15-733	20 1	15-817	30 2	15-837	40	

Notes:

LDC #: 18448W59
SDG #: F8A090191
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. or OK by diff)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ N A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-724	11 1	15-734	21 2	15-828	31 3	15-848
2 1	15-725	12 1	15-735	22 2	15-829	32 2	15-849
3 1	15-726	13 1	15-736	23 2	15-830	33 2	15-850
4 1	15-727	14 1	15-737	24 2	15-831	34 2	15-851
5 1	15-728	15 1	15-738	25 2	15-832	35 2	15-852
6 1	15-729	16 1	15-739	26 2	15-833	36 1	15-724DUP
7 1	15-730	17 1	15-814	27 2	15-834	37 2	15-828DUP
8 1	15-731	18 1	15-815	28 2	15-835	38 3	15-848DUP
9 1	15-732	19 1	15-816	29 2	15-836	39 1	PBS1
10 1	15-733	20 1	15-817	30 2	15-837	40 2	PBS2
						3	PBS3

Notes:

LDC #: 18448W61
SDG #: F8A090191
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-27-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 9nA 3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A M	DUP (SDG: F8A090153) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-728	11		21		31	
2	15-738	12		22		32	
3	15-828	13		23		33	
4	15-848	14		24		34	
5	PBS	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448W73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-27-08
SDG #: F8A090191 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A090168) OK by diff.
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	W
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-724	11 1	15-734	21 2	15-828	31 2	15-848
2 1	15-725	12 1	15-735	22 2	15-829	32 3	15-849
3 1	15-726	13 1	15-736	23 2	15-830	33 2	15-850
4 1	15-727	14 1	15-737	24 2	15-831	34 2	15-851
5 1	15-728	15 1	15-738	25 2	15-832	35 2	15-852
6 1	15-729	16 1	15-739	26 2	15-833	36 1	15-724DUP
7 1	15-730	17 1	15-814	27 2	15-834	37 2	15-828DUP
8 1	15-731	18 1	15-815	28 2	15-835	38 1	PBS1
9 1	15-732	19 1	15-816	29 2	15-836	39 2	PBS2
10 1	15-733	20 1	15-817	30 2	15-837	40 3	PBS3

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31421

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A160127

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Isotopic Uranium	Isotopic Thorium	SR90 DOE RP-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-377	12/11/07	10:30	1	X		S	21 DY	X	X	X			B-1IR-7Aa	3'	3.5'	N
15-378	12/11/07	10:33	1	X		S	21 DY	X	X	X			B1IR-7Ab	3.5'	4'	N
15-379	12/11/07	10:40	2	X		W	21 DY	X	X	X		F8A140126	Equipment Rinsate			ER
15-380	12/11/07	10:47	2	X		S	21 DY	X	X	X	X		B1IR-7Ba	3'	3.5'	N
15-381	12/11/07	10:50	1	X		S	21 DY	X	X	X			B1IR-7Bb	3.5'	4'	N
15-382	12/11/07	11:00	1	X		S	21 DY	X	X	X			B1IR-7Ca	3'	3.5'	N
15-383	12/11/07	11:03	1	X		S	21 DY	X	X	X			B1IR-7Cb	3.5'	4'	N
15-384	12/11/07	11:10	1	X		S	21 DY	X	X	X			B-1IR-7Da	3'	3.5'	N
15-385	12/11/07	11:13	1	X		S	21 DY	X	X	X			B-1IR-7Db	3.5'	4'	N
15-386	12/11/07	12:43	1	X		S	21 DY	X	X	X			B-1IR-8Aa	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 12/12/07	RECEIVED BY (Signature)	
COMPANY TT SD / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaround

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

F8A140126 - 1059322

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31422

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA160127

Project Information Section Do not submit to Laboratory

8

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	Sr90 DOE SR-01/Sr-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-714	12/17/07	8:37	1	X		S	21 DY	X	X	X			B-2IR-182a	2'	2.5'	N
15-715	12/17/07	8:40	1	X		S	21 DY	X	X	X			B-2IR-182b	2.5'	3'	N
15-716	12/17/07	8:50	1	X		S	21 DY	X	X	X			B-2IR-183a	2'	2.5'	N
15-717	12/17/07	8:52	1	X		S	21 DY	X	X	X			B-2IR-183b	2.5'	3'	N
15-718	12/17/07	9:30	2	X		S	21 DY	X	X	X	X		B-2IR-187a	2'	2.5'	N
15-719	12/17/07	9:33	1	X		S	21 DY	X	X	X			B-2IR-187b	2.5'	3'	N
15-720	12/17/07	—	VOID									VOID				
15-721	12/17/07	—	VOID									VOID				
15-722	12/17/07	9:47	1	X		S	21 DY	X	X	X			B-2IR-187-02a	0"	6"	N
15-723	12/17/07	9:50	1	X		S	21 DY	X	X	X			B-2IR-187-02b	6"	12"	N

RELINQUISHED BY (Signature)	DATE 12/18/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Inspwtths
COMPANY TTEC / Foley	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31423

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m GAMMA	ISOTOPIC URANIUM	ISOTOPIC Thorium	Sr90 DOE SR-01/Sr02						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-750	12/14/07	13:02	1	X		S	21 DY	X	X	X								2IR-200-02b	2.5'	3'	N
15-751	12/14/07	13:03	1	X		S	21 DY	X	X	X								2IR-200-03a	0"	6"	N
15-752	12/14/07	13:04	1	X		S	21 DY	X	X	X								2IR-200-03b	6"	12"	N
15-753	12/14/07	13:06	1	X		S	21 DY	X	X	X								2IR-200-04a	0"	6"	N
15-754	12/14/07	13:07	1	X		S	21 DY	X	X	X								2IR-200-04b	6"	12"	N
15-755	12/14/07	13:12	1	X		S	21 DY	X	X	X								2IR-200-05a	0"	6"	N
15-756	12/14/07	13:13	1	X		S	21 DY	X	X	X								2IR-200-05b	6"	12"	N
15-757	12/14/07	13:45	1	X		S	21 DY	X	X	X								B-2IR-230a	2'	2.5'	N
15-758	12/14/07	13:48	2	X		S	21 DY	X	X	X	X							B-2IR-230b	2.5'	3'	N
15-759	12/14/07	13:50	1	X		S	21 DY	X	X	X								2IR-230-01a	0"	6"	N

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA16012T

10

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature)	DATE 12/18/07	RECEIVED BY (Signature)
COMPANY ITC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 Dy Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-377

Radiochemistry

Lab Sample ID: F8A160127-001
Work Order: KFLHL
Matrix: SOLID

Date Collected: 12/11/07 1030
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.48		0.15		0.23	01/18/08	02/08/08
Americium 241	0.02	U	0.26		0.45	01/18/08	02/08/08
Cesium 137	0.014	U	0.031	0.200	0.053	01/18/08	02/08/08
Cobalt 60	0.0	U	0.051		0.092	01/18/08	02/08/08
Europium 152	0.018	U	0.063		0.11	01/18/08	02/08/08
Europium 154	-0.07	U	0.27		0.48	01/18/08	02/08/08
Potassium 40	9.4		1.3		0.5	01/18/08	02/08/08
Radium (226)	0.52	J	0.12	1.00	0.10	01/18/08	02/08/08
Thorium 232	0.48		0.15		0.23	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 90
Thorium 228	0.44	J	0.14	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.55	J	0.15	1.00	0.04	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 84
Uranium 233/234	0.67	J	0.18	1.00	0.05	02/03/08	02/07/08
Uranium 235/236	0.035	U	0.046	1.00	0.064	02/03/08	02/07/08
Uranium 238	0.47	J	0.15	1.00	0.05	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-377 DUP

Radiochemistry

Lab Sample ID: F8A160127-001X
Work Order: KFLHL
Matrix: SOLID

Date Collected: 12/11/07 1030
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.30		0.18		0.25	01/18/08	02/08/08
Americium 241	0.003	U	0.089		0.15	01/18/08	02/08/08
Cesium 137	0.009	U	0.048	0.200	0.085	01/18/08	02/08/08
Cobalt 60	0.018	U	0.047		0.083	01/18/08	02/08/08
Europium 152	-0.02	U	0.10		0.18	01/18/08	02/08/08
Europium 154	-0.1	U	0.41		0.73	01/18/08	02/08/08
Potassium 40	10.2		1.5		0.3	01/18/08	02/08/08
Radium (226)	0.38	J	0.12	1.00	0.16	01/18/08	02/08/08
Thorium 232	0.30		0.18		0.25	01/18/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 82
Uranium 233/234	0.57	J	0.17	1.00	0.03	02/03/08	02/07/08
Uranium 235/236	0.070	J	0.063	1.00	0.038	02/03/08	02/07/08
Uranium 238	0.64	J	0.18	1.00	0.06	02/03/08	02/07/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 90
Thorium 228	0.54	J	0.16	1.00	0.09	02/03/08	02/08/08
Thorium 230	0.59	J	0.16	1.00	0.03	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-378

Radiochemistry

Lab Sample ID: F8A160127-002
Work Order: KFLHM
Matrix: SOLID

Date Collected: 12/11/07 1033
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.49		0.16		0.26	01/18/08	02/08/08
Americium 241	0.033	U	0.092		0.16	01/18/08	02/08/08
Cesium 137	0.016	U	0.044	0.200	0.077	01/18/08	02/08/08
Cobalt 60	-0.0008	U	0.056		0.11	01/18/08	02/08/08
Europium 152	-0.02	U	0.11		0.19	01/18/08	02/08/08
Europium 154	-0.02	U	0.34		0.64	01/18/08	02/08/08
Potassium 40	9.3		1.6		0.8	01/18/08	02/08/08
Radium (226)	0.54	J	0.13	1.00	0.08	01/18/08	02/08/08
Thorium 232	0.49		0.16		0.26	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 74
Thorium 228	0.63	J	0.18	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.89	J	0.22	1.00	0.06	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 84
Uranium 233/234	0.70	J	0.18	1.00	0.05	02/03/08	02/07/08
Uranium 235/236	0.036	U	0.045	1.00	0.055	02/03/08	02/07/08
Uranium 238	0.56	J	0.16	1.00	0.04	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-380

Radiochemistry

Lab Sample ID: F8A160127-004
Work Order: KFLHP
Matrix: SOLID

Date Collected: 12/11/07 1047
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8018250**		**Yld %**
Actinium 228	0.41		0.18		0.34	01/18/08	02/08/08
Americium 241	-0.01	U	0.11		0.19	01/18/08	02/08/08
Cesium 137	0.062	U	0.051	0.200	0.078	01/18/08	02/08/08
Cobalt 60	0.007	U	0.049		0.093	01/18/08	02/08/08
Europium 152	0.007	U	0.12		0.22	01/18/08	02/08/08
Europium 154	0.06	U	0.30		0.56	01/18/08	02/08/08
Potassium 40	8.6		1.5		0.4	01/18/08	02/08/08
Radium (226)	0.72	J	0.18	1.00	0.15	01/18/08	02/08/08
Thorium 232	0.41		0.18		0.34	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8034016**		**Yld % 84**
Thorium 228	0.48	J	0.15	1.00	0.07	02/03/08	02/08/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8034014**		**Yld % 80**
Uranium 233/234	0.70	J	0.19	1.00	0.07	02/03/08	02/07/08
Uranium 235/236	0.012	U	0.029	1.00	0.061	02/03/08	02/07/08
Uranium 238	0.68	J	0.19	1.00	0.03	02/03/08	02/07/08
Strontium-90 by GFPC DOE SR-03-RC MOD			**pCi/g**		**Batch # 8016309**		**Yld % 73**
Strontium 90	0.24	U	0.29	3.00	0.48	01/16/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-380 DUP

Radiochemistry

Lab Sample ID: F8A160127-004X
Work Order: KFLHP
Matrix: SOLID

Date Collected: 12/11/07 1047
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8016309**	**Yld % 73**
Strontium 90	0.19	U	0.28	3.00	0.46	01/16/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-381

Radiochemistry

Lab Sample ID: F8A160127-005
Work Order: KFLHT
Matrix: SOLID

Date Collected: 12/11/07 1050
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.81		0.23		0.36	01/18/08	02/08/08
Americium 241	-0.03	U	0.13		0.22	01/18/08	02/08/08
Cesium 137	0.030	U	0.058	0.200	0.099	01/18/08	02/08/08
Cobalt 60	-0.004	U	0.065		0.13	01/18/08	02/08/08
Europium 152	-0.02	U	0.14		0.24	01/18/08	02/08/08
Europium 154	-0.15	U	0.51		0.92	01/18/08	02/08/08
Potassium 40	7.6		1.5		0.5	01/18/08	02/08/08
Radium (226)	1.02		0.20	1.00	0.12	01/18/08	02/08/08
Thorium 232	0.81		0.23		0.36	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 86
Thorium 228	0.88	J	0.21	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.87	J	0.20	1.00	0.03	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 86
Uranium 233/234	0.53	J	0.16	1.00	0.06	02/03/08	02/07/08
Uranium 235/236	0.048	U	0.054	1.00	0.065	02/03/08	02/07/08
Uranium 238	0.52	J	0.16	1.00	0.07	02/03/08	02/07/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8016309		Yld % 63
Strontium 90	0.0	U	0.30	3.00	0.52	01/16/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-382

Radiochemistry

Lab Sample ID: F8A160127-006
Work Order: KFLHX
Matrix: SOLID

Date Collected: 12/11/07 1100
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.56		0.25		0.29	01/18/08	02/08/08
Americium 241	0.023	U	0.088		0.15	01/18/08	02/08/08
Cesium 137	-0.06	U	0.28	0.20	0.13	01/18/08	02/08/08
Cobalt 60	0.032	U	0.061		0.11	01/18/08	02/08/08
Europium 152	-0.05	U	0.13		0.23	01/18/08	02/08/08
Europium 154	-0.06	U	0.42		0.77	01/18/08	02/08/08
Potassium 40	9.1		1.7		0.5	01/18/08	02/08/08
Radium (226)	0.75	J	0.16	1.00	0.10	01/18/08	02/08/08
Thorium 232	0.56		0.25		0.29	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 74
Thorium 228	0.44	J	0.15	1.00	0.09	02/03/08	02/08/08
Thorium 230	0.56	J	0.17	1.00	0.03	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 80
Uranium 233/234	0.32	J	0.13	1.00	0.08	02/03/08	02/07/08
Uranium 235/236	0.070	J	0.063	1.00	0.038	02/03/08	02/07/08
Uranium 238	0.45	J	0.15	1.00	0.07	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-383

Radiochemistry

Lab Sample ID: F8A160127-007
Work Order: KFLH0
Matrix: SOLID

Date Collected: 12/11/07 1103
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.45		0.13		0.20	01/18/08	02/08/08
Americium 241	0.1	U	0.28		0.48	01/18/08	02/08/08
Cesium 137	0.0	U	0.038	0.200	0.069	01/18/08	02/08/08
Cobalt 60	0.007	U	0.036		0.067	01/18/08	02/08/08
Europium 152	-0.016	U	0.082		0.14	01/18/08	02/08/08
Europium 154	0.13	U	0.22		0.38	01/18/08	02/08/08
Potassium 40	9.8		1.3		0.5	01/18/08	02/08/08
Radium (226)	0.68	J	0.12	1.00	0.05	01/18/08	02/08/08
Thorium 232	0.45		0.13		0.20	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 74
Thorium 228	0.43	J	0.16	1.00	0.12	02/03/08	02/08/08
Thorium 230	0.62	J	0.19	1.00	0.09	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 78
Uranium 233/234	0.39	J	0.14	1.00	0.07	02/03/08	02/07/08
Uranium 235/236	0.026	U	0.041	1.00	0.061	02/03/08	02/07/08
Uranium 238	0.34	J	0.13	1.00	0.06	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-384

Radiochemistry

Lab Sample ID: F8A160127-008
Work Order: KFLH1
Matrix: SOLID

Date Collected: 12/11/07 1110
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.48		0.17		0.30	01/18/08	02/08/08
Americium 241	0.058	U	0.087		0.14	01/18/08	02/08/08
Cesium 137	0.029	U	0.047	0.200	0.079	01/18/08	02/08/08
Cobalt 60	0.0004	U	0.040		0.080	01/18/08	02/08/08
Europium 152	-0.036	U	0.098		0.17	01/18/08	02/08/08
Europium 154	-0.001	U	0.33		0.62	01/18/08	02/08/08
Potassium 40	8.6		1.5		0.6	01/18/08	02/08/08
Radium (226)	0.34	J	0.12	1.00	0.14	01/18/08	02/08/08
Thorium 232	0.48		0.17		0.30	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 90
Thorium 228	1.01		0.22	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.84	J	0.20	1.00	0.06	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 82
Uranium 233/234	0.85	J	0.21	1.00	0.08	02/03/08	02/07/08
Uranium 235/236	0.020	U	0.040	1.00	0.075	02/03/08	02/07/08
Uranium 238	0.82	J	0.21	1.00	0.09	02/03/08	02/07/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-385

Radiochemistry

Lab Sample ID: F8A160127-009
Work Order: KFLH2
Matrix: SOLID

Date Collected: 12/11/07 1113
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.54		0.19		0.30	01/18/08	02/08/08
Americium 241	0.027	U	0.092		0.16	01/18/08	02/08/08
Cesium 137	0.051	U	0.051	0.200	0.080	01/18/08	02/08/08
Cobalt 60	0.006	U	0.047		0.092	01/18/08	02/08/08
Europium 152	-0.02	U	0.11		0.20	01/18/08	02/08/08
Europium 154	-0.03	U	0.31		0.58	01/18/08	02/08/08
Potassium 40	8.7		1.6		0.9	01/18/08	02/08/08
Radium (226)	0.61	J	0.15	1.00	0.11	01/18/08	02/08/08
Thorium 232	0.54		0.19		0.30	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 73
Thorium 228	0.63	J	0.18	1.00	0.09	02/03/08	02/08/08
Thorium 230	0.89	J	0.22	1.00	0.03	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 90
Uranium 233/234	0.58	J	0.16	1.00	0.05	02/03/08	02/07/08
Uranium 235/236	0.008	U	0.026	1.00	0.062	02/03/08	02/07/08
Uranium 238	0.46	J	0.14	1.00	0.06	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-386

Radiochemistry

Lab Sample ID: F8A160127-010
Work Order: KFLH3
Matrix: SOLID

Date Collected: 12/11/07 0043
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.32		0.15		0.28	01/18/08	02/08/08
Americium 241	-0.06	U	0.10		0.17	01/18/08	02/08/08
Cesium 137	0.015	U	0.038	0.200	0.066	01/18/08	02/08/08
Cobalt 60	-0.01	U	0.058		0.10	01/18/08	02/08/08
Europium 152	0.0	U	0.13		0.24	01/18/08	02/08/08
Europium 154	-0.01	U	0.28		0.53	01/18/08	02/08/08
Potassium 40	10.2		1.5		0.3	01/18/08	02/08/08
Radium (226)	0.32	J	0.13	1.00	0.18	01/18/08	02/08/08
Thorium 232	0.32		0.15		0.28	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 91
Thorium 228	0.51	J	0.15	1.00	0.07	02/03/08	02/10/08
Thorium 230	0.47	J	0.14	1.00	0.05	02/03/08	02/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 89
Uranium 233/234	0.25	J	0.10	1.00	0.05	02/03/08	02/07/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	02/03/08	02/07/08
Uranium 238	0.36	J	0.12	1.00	0.04	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-714

Radiochemistry

Lab Sample ID: F8A160127-011
Work Order: KFLH5
Matrix: SOLID

Date Collected: 12/17/07 0837
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.42		0.18		0.22	01/18/08	02/08/08
Americium 241	0.033	U	0.096		0.16	01/18/08	02/08/08
Cesium 137	0.021	U	0.041	0.200	0.071	01/18/08	02/08/08
Cobalt 60	-0.010	U	0.051		0.092	01/18/08	02/08/08
Europium 152	-0.03	U	0.11		0.19	01/18/08	02/08/08
Europium 154	0.0	U	0.21		0.41	01/18/08	02/08/08
Potassium 40	12.4		1.6		0.3	01/18/08	02/08/08
Radium (226)	0.31	J	0.11	1.00	0.14	01/18/08	02/08/08
Thorium 232	0.42		0.18		0.22	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 80
Thorium 228	0.96	J	0.23	1.00	0.1	02/03/08	02/08/08
Thorium 230	0.63	J	0.18	1.00	0.03	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 91
Uranium 233/234	0.52	J	0.16	1.00	0.06	02/03/08	02/07/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	02/03/08	02/07/08
Uranium 238	0.42	J	0.14	1.00	0.05	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-715

Radiochemistry

Lab Sample ID: F8A160127-012
Work Order: KFLH6
Matrix: SOLID

Date Collected: 12/17/07 0840
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.39		0.20		0.22	01/18/08	02/08/08
Americium 241	-0.003	U	0.11		0.20	01/18/08	02/08/08
Cesium 137	0.016	U	0.060	0.200	0.11	01/18/08	02/08/08
Cobalt 60	-0.013	U	0.078		0.15	01/18/08	02/08/08
Europium 152	-0.01	U	0.12		0.22	01/18/08	02/08/08
Europium 154	0.0	U	0.086		0.32	01/18/08	02/08/08
Potassium 40	8.0		1.6		0.6	01/18/08	02/08/08
Radium (226)	0.46	J	0.15	1.00	0.10	01/18/08	02/08/08
Thorium 232	0.39		0.20		0.22	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 73
Thorium 228	0.33	J	0.13	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.50	J	0.16	1.00	0.06	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 80
Uranium 233/234	0.28	J	0.12	1.00	0.08	02/03/08	02/07/08
Uranium 235/236	0.025	U	0.039	1.00	0.059	02/03/08	02/07/08
Uranium 238	0.40	J	0.14	1.00	0.08	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-716

Radiochemistry

Lab Sample ID: F8A160127-013
Work Order: KFLH7
Matrix: SOLID

Date Collected: 12/17/07 0850
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8018250**		**Yld %**
Actinium 228	0.21	U	0.21		0.32	01/18/08	02/08/08
Americium 241	0.073	U	0.088		0.14	01/18/08	02/08/08
Cesium 137	-0.004	U	0.059	0.200	0.098	01/18/08	02/08/08
Cobalt 60	0.0	U	0.10		0.18	01/18/08	02/08/08
Europium 152	0.0	U	0.094		0.18	01/18/08	02/08/08
Europium 154	0.11	U	0.34		0.63	01/18/08	02/08/08
Potassium 40	10.6		1.8		0.5	01/18/08	02/08/08
Radium (226)	0.50	J	0.16	1.00	0.19	01/18/08	02/08/08
Thorium 232	0.21	U	0.21		0.32	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034016**		**Yld % 83**
Thorium 228	0.70	J	0.19	1.00	0.08	02/03/08	02/08/08
Thorium 230	0.58	J	0.16	1.00	0.03	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034014**		**Yld % 89**
Uranium 233/234	0.29	J	0.12	1.00	0.05	02/03/08	02/07/08
Uranium 235/236	0.026	U	0.037	1.00	0.036	02/03/08	02/07/08
Uranium 238	0.38	J	0.13	1.00	0.05	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-717

Radiochemistry

Lab Sample ID: F8A160127-014
Work Order: KFLH9
Matrix: SOLID

Date Collected: 12/17/07 0852
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.38		0.12		0.20	01/18/08	02/08/08
Americium 241	0.16	U	0.25		0.42	01/18/08	02/08/08
Cesium 137	0.017	U	0.031	0.200	0.053	01/18/08	02/08/08
Cobalt 60	0.020	U	0.034		0.058	01/18/08	02/08/08
Europium 152	-0.01	U	0.076		0.14	01/18/08	02/08/08
Europium 154	0.0	U	0.19		0.37	01/18/08	02/08/08
Potassium 40	10.6		1.3		0.5	01/18/08	02/08/08
Radium (226)	0.397	J	0.097	1.00	0.093	01/18/08	02/08/08
Thorium 232	0.38		0.12		0.20	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034016		Yld % 67
Thorium 228	0.24	J	0.12	1.00	0.1	02/03/08	02/10/08
Thorium 230	0.30	J	0.13	1.00	0.04	02/03/08	02/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034014		Yld % 86
Uranium 233/234	0.26	J	0.11	1.00	0.06	02/03/08	02/07/08
Uranium 235/236	0.009	U	0.029	1.00	0.068	02/03/08	02/07/08
Uranium 238	0.44	J	0.15	1.00	0.05	02/03/08	02/07/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-718

Radiochemistry

Lab Sample ID: F8A160127-015
Work Order: KFLJA
Matrix: SOLID

Date Collected: 12/17/07 0930
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8018250**		**Yld %**
Actinium 228	0.18	U	0.18		0.28	01/18/08	02/08/08
Americium 241	0.057	U	0.061		0.098	01/18/08	02/08/08
Cesium 137	0.028	U	0.047	0.200	0.079	01/18/08	02/08/08
Cobalt 60	0.001	U	0.048		0.093	01/18/08	02/08/08
Europium 152	-0.012	U	0.081		0.15	01/18/08	02/08/08
Europium 154	0.0	U	0.056		0.21	01/18/08	02/08/08
Potassium 40	8.8		1.4		0.4	01/18/08	02/08/08
Radium (226)	0.280	J	0.099	1.00	0.11	01/18/08	02/08/08
Thorium 232	0.18	U	0.18		0.28	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034016**		**Yld % 88**
Thorium 228	0.42	J	0.15	1.00	0.10	02/03/08	02/08/08
Thorium 230	0.43	J	0.14	1.00	0.08	02/03/08	02/08/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034014**		**Yld % 86**
Uranium 233/234	0.34	J	0.13	1.00	0.08	02/03/08	02/07/08
Uranium 235/236	0.0	U	0.012	1.00	0.037	02/03/08	02/07/08
Uranium 238	0.41	J	0.14	1.00	0.05	02/03/08	02/07/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8016309**		**Yld % 64**
Strontium 90	-0.17	U	0.29	3.00	0.52	01/16/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-719

Radiochemistry

Lab Sample ID: F8A160127-016
Work Order: KFLJC
Matrix: SOLID

Date Collected: 12/17/07 0933
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8018250**		**Yld %**
Actinium 228	0.36		0.18		0.23	01/18/08	02/08/08
Americium 241	0.052	U	0.082		0.14	01/18/08	02/08/08
Cesium 137	0.056	U	0.045	0.200	0.067	01/18/08	02/08/08
Cobalt 60	0.019	U	0.041		0.073	01/18/08	02/08/08
Europium 152	-0.002	U	0.093		0.17	01/18/08	02/08/08
Europium 154	0.07	U	0.27		0.51	01/18/08	02/08/08
Potassium 40	8.4		1.4		0.4	01/18/08	02/08/08
Radium (226)	0.46	J	0.14	1.00	0.12	01/18/08	02/08/08
Thorium 232	0.36		0.18		0.23	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034017**		**Yld % 81**
Thorium 228	0.95	J	0.23	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.77	J	0.20	1.00	0.07	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034015**		**Yld % 84**
Uranium 233/234	0.47	J	0.13	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.015	U	0.030	1.00	0.054	02/03/08	02/08/08
Uranium 238	0.45	J	0.13	1.00	0.05	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-719 DUP

Radiochemistry

Lab Sample ID: F8A160127-016X
Work Order: KFLJC
Matrix: SOLID

Date Collected: 12/17/07 0933
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034015**		**Yld % 91**
Uranium 233/234	**0.39**	J	**0.11**	1.00	**0.04**	**02/03/08**	**02/08/08**
Uranium 235/236	-0.0022	U	0.0045	1.00	0.041	02/03/08	02/08/08
Uranium 238	**0.249**	J	**0.088**	1.00	**0.033**	**02/03/08**	**02/08/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8034017**		**Yld % 80**
Thorium 228	**0.33**	J	**0.13**	1.00	**0.09**	**02/03/08**	**02/09/08**
Thorium 230	**0.53**	J	**0.16**	1.00	**0.06**	**02/03/08**	**02/09/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-722

Radiochemistry

Lab Sample ID: F8A160127-017
Work Order: KFLJE
Matrix: SOLID

Date Collected: 12/17/07 0947
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.50		0.16		0.20	01/18/08	02/08/08
Americium 241	0.02	U	0.10		0.18	01/18/08	02/08/08
Cesium 137	0.030	U	0.039	0.200	0.065	01/18/08	02/08/08
Cobalt 60	0.017	U	0.043		0.076	01/18/08	02/08/08
Europium 152	0.0004	U	0.096		0.17	01/18/08	02/08/08
Europium 154	-0.006	U	0.37		0.67	01/18/08	02/08/08
Potassium 40	11.0		1.5		0.3	01/18/08	02/08/08
Radium (226)	0.26	J	0.12	1.00	0.17	01/18/08	02/08/08
Thorium 232	0.50		0.16		0.20	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 90
Thorium 228	0.40	J	0.13	1.00	0.07	02/03/08	02/09/08
Thorium 230	0.61	J	0.16	1.00	0.06	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 89
Uranium 233/234	0.34	J	0.11	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.018	U	0.029	1.00	0.046	02/03/08	02/08/08
Uranium 238	0.44	J	0.13	1.00	0.04	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-723

Radiochemistry

Lab Sample ID: F8A160127-018
Work Order: KFLJF
Matrix: SOLID

Date Collected: 12/17/07 0950
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.43		0.15		0.19	01/18/08	02/08/08
Americium 241	-0.0005	U	0.090		0.16	01/18/08	02/08/08
Cesium 137	0.051	U	0.048	0.200	0.075	01/18/08	02/08/08
Cobalt 60	-0.013	U	0.064		0.11	01/18/08	02/08/08
Europium 152	-0.01	U	0.11		0.19	01/18/08	02/08/08
Europium 154	-0.01	U	0.32		0.59	01/18/08	02/08/08
Potassium 40	12.6		1.6		0.3	01/18/08	02/08/08
Radium (226)	0.38	J	0.12	1.00	0.16	01/18/08	02/08/08
Thorium 232	0.43		0.15		0.19	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 90
Thorium 228	0.56	J	0.16	1.00	0.07	02/03/08	02/09/08
Thorium 230	0.59	J	0.17	1.00	0.07	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 92
Uranium 233/234	0.39	J	0.12	1.00	0.06	02/03/08	02/08/08
Uranium 235/236	0.007	U	0.019	1.00	0.043	02/03/08	02/08/08
Uranium 238	0.33	J	0.11	1.00	0.06	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-750

Radiochemistry

Lab Sample ID: F8A160127-019
Work Order: KFLJG
Matrix: SOLID

Date Collected: 12/14/07 1302
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.53		0.27		0.34	01/18/08	02/08/08
Americium 241	0.0	U	0.12		0.22	01/18/08	02/08/08
Cesium 137	0.040	U	0.061	0.200	0.10	01/18/08	02/08/08
Cobalt 60	0.031	U	0.061		0.11	01/18/08	02/08/08
Europium 152	-0.0008	U	0.11		0.21	01/18/08	02/08/08
Europium 154	0.0	U	0.40		0.79	01/18/08	02/08/08
Potassium 40	10.3		1.9		0.6	01/18/08	02/08/08
Radium (226)	0.64	J	0.18	1.00	0.11	01/18/08	02/08/08
Thorium 232	0.53		0.27		0.34	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 88
Thorium 228	0.35	J	0.13	1.00	0.07	02/03/08	02/09/08
Thorium 230	0.64	J	0.17	1.00	0.05	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 82
Uranium 233/234	0.32	J	0.11	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.032	J	0.037	1.00	0.029	02/03/08	02/08/08
Uranium 238	0.38	J	0.12	1.00	0.04	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-751

Radiochemistry

Lab Sample ID: F8A160127-020
Work Order: KFLJH
Matrix: SOLID

Date Collected: 12/14/07 1303
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018250		Yld %
Actinium 228	0.34		0.23		0.33	01/18/08	02/08/08
Americium 241	-0.002	U	0.087		0.16	01/18/08	02/08/08
Cesium 137	0.011	U	0.065	0.200	0.13	01/18/08	02/08/08
Cobalt 60	-0.005	U	0.056		0.11	01/18/08	02/08/08
Europium 152	-0.005	U	0.12		0.23	01/18/08	02/08/08
Europium 154	-0.004	U	0.28		0.58	01/18/08	02/08/08
Potassium 40	12.9		2.1		0.6	01/18/08	02/08/08
Radium (226)	0.55	J	0.16	1.00	0.13	01/18/08	02/08/08
Thorium 232	0.34		0.23		0.33	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 84
Thorium 228	0.47	J	0.15	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.58	J	0.16	1.00	0.03	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 87
Uranium 233/234	0.50	J	0.14	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.046	U	0.047	1.00	0.055	02/03/08	02/08/08
Uranium 238	0.50	J	0.14	1.00	0.04	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-752

Radiochemistry

Lab Sample ID: F8A160127-021
Work Order: KFLJK
Matrix: SOLID

Date Collected: 12/14/07 1304
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.83		0.25		0.20	01/18/08	02/08/08
Americium 241	0.05	U	0.14		0.23	01/18/08	02/08/08
Cesium 137	0.069	U	0.076	0.200	0.12	01/18/08	02/08/08
Cobalt 60	-0.00005	U	0.055		0.11	01/18/08	02/08/08
Europium 152	-0.02	U	0.14		0.25	01/18/08	02/08/08
Europium 154	-0.08	U	0.48		0.86	01/18/08	02/08/08
Potassium 40	14.0		1.9		0.4	01/18/08	02/08/08
Radium (226)	0.56	J	0.18	1.00	0.23	01/18/08	02/08/08
Thorium 232	0.83		0.25		0.20	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 86
Thorium 228	0.58	J	0.17	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.74	J	0.19	1.00	0.05	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 87
Uranium 233/234	0.52	J	0.14	1.00	0.07	02/03/08	02/08/08
Uranium 235/236	0.051	J	0.045	1.00	0.027	02/03/08	02/08/08
Uranium 238	0.56	J	0.14	1.00	0.04	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-752 DUP

Radiochemistry

Lab Sample ID: F8A160127-021X
Work Order: KFLJK
Matrix: SOLID

Date Collected: 12/14/07 1304
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.83		0.28		0.33	01/18/08	02/08/08
Americium 241	0.05	U	0.11		0.18	01/18/08	02/08/08
Cesium 137	0.077	U	0.062	0.200	0.095	01/18/08	02/08/08
Cobalt 60	0.035	U	0.061		0.10	01/18/08	02/08/08
Europium 152	0.06	U	0.11		0.19	01/18/08	02/08/08
Europium 154	-0.10	U	0.47		0.84	01/18/08	02/08/08
Potassium 40	10.5		1.7		0.7	01/18/08	02/08/08
Radium (226)	0.39	J	0.15	1.00	0.22	01/18/08	02/08/08
Thorium 232	0.83		0.28		0.33	01/18/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-753

Radiochemistry

Lab Sample ID: F8A160127-022
Work Order: KFLJM
Matrix: SOLID

Date Collected: 12/14/07 1306
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.48		0.17		0.26	01/18/08	02/08/08
Americium 241	0.05	U	0.11		0.19	01/18/08	02/08/08
Cesium 137	0.048	U	0.048	0.200	0.077	01/18/08	02/08/08
Cobalt 60	0.011	U	0.049		0.090	01/18/08	02/08/08
Europium 152	-0.006	U	0.099		0.18	01/18/08	02/08/08
Europium 154	0.0	U	0.47		0.85	01/18/08	02/08/08
Potassium 40	12.2		1.6		0.3	01/18/08	02/08/08
Radium (226)	0.29	J	0.13	1.00	0.19	01/18/08	02/08/08
Thorium 232	0.48		0.17		0.26	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 88
Thorium 228	0.51	J	0.16	1.00	0.1	02/03/08	02/09/08
Thorium 230	0.54	J	0.16	1.00	0.07	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 45
Uranium 233/234	0.38	J	0.16	1.00	0.10	02/03/08	02/08/08
Uranium 235/236	0.014	U	0.039	1.00	0.086	02/03/08	02/08/08
Uranium 238	0.44	J	0.17	1.00	0.04	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-754

Radiochemistry

Lab Sample ID: F8A160127-023
Work Order: KFLJN
Matrix: SOLID

Date Collected: 12/14/07 1307
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.30	U	0.23		0.33	01/18/08	02/08/08
Americium 241	0.03	U	0.10		0.17	01/18/08	02/08/08
Cesium 137	0.074	U	0.065	0.200	0.10	01/18/08	02/08/08
Cobalt 60	0.0	U	0.015		0.056	01/18/08	02/08/08
Europium 152	0.006	U	0.12		0.23	01/18/08	02/08/08
Europium 154	-0.02	U	0.46		0.86	01/18/08	02/08/08
Potassium 40	9.6		1.8		0.6	01/18/08	02/08/08
Radium (226)	0.47	J	0.13	1.00	0.06	01/18/08	02/08/08
Thorium 232	0.30	U	0.23		0.33	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 91
Thorium 228	0.54	J	0.16	1.00	0.06	02/03/08	02/09/08
Thorium 230	0.62	J	0.17	1.00	0.03	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 92
Uranium 233/234	0.45	J	0.12	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.016	U	0.026	1.00	0.041	02/03/08	02/08/08
Uranium 238	0.278	J	0.093	1.00	0.038	02/03/08	02/08/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-755

Radiochemistry

Lab Sample ID: F8A160127-024
Work Order: KFLJQ
Matrix: SOLID

Date Collected: 12/14/07 1312
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.43		0.18		0.31	01/18/08	02/08/08
Americium 241	0.060	U	0.098		0.16	01/18/08	02/08/08
Cesium 137	0.029	U	0.058	0.200	0.11	01/18/08	02/08/08
Cobalt 60	0.006	U	0.053		0.10	01/18/08	02/08/08
Europium 152	-0.003	U	0.12		0.21	01/18/08	02/08/08
Europium 154	-0.009	U	0.34		0.66	01/18/08	02/08/08
Potassium 40	12.6		2.0		0.5	01/18/08	02/08/08
Radium (226)	0.45	J	0.16	1.00	0.17	01/18/08	02/08/08
Thorium 232	0.43		0.18		0.31	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 87
Thorium 228	0.51	J	0.16	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.62	J	0.17	1.00	0.05	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 85
Uranium 233/234	0.43	J	0.12	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	0.005	U	0.021	1.00	0.053	02/03/08	02/08/08
Uranium 238	0.35	J	0.11	1.00	0.06	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-756

Radiochemistry

Lab Sample ID: F8A160127-025
Work Order: KFLJV
Matrix: SOLID

Date Collected: 12/14/07 1313
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8018251		Yld %
Actinium 228	0.37		0.12		0.19	01/18/08	02/08/08
Americium 241	0.1	U	0.27		0.46	01/18/08	02/08/08
Cesium 137	0.058	U	0.040	0.200	0.060	01/18/08	02/08/08
Cobalt 60	-0.007	U	0.034		0.062	01/18/08	02/08/08
Europium 152	-0.046	U	0.091		0.16	01/18/08	02/08/08
Europium 154	0.05	U	0.24		0.43	01/18/08	02/08/08
Potassium 40	12.4		1.5		0.5	01/18/08	02/08/08
Radium (226)	0.45	J	0.11	1.00	0.11	01/18/08	02/08/08
Thorium 232	0.37		0.12		0.19	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8034017		Yld % 83
Thorium 228	0.45	J	0.15	1.00	0.09	02/03/08	02/09/08
Thorium 230	0.64	J	0.18	1.00	0.05	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8034015		Yld % 90
Uranium 233/234	0.36	J	0.11	1.00	0.06	02/03/08	02/08/08
Uranium 235/236	0.009	U	0.019	1.00	0.025	02/03/08	02/08/08
Uranium 238	0.36	J	0.11	1.00	0.05	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-757

Radiochemistry

Lab Sample ID: F8A160127-026
Work Order: KFLJX
Matrix: SOLID

Date Collected: 12/14/07 1345
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8018251		Yld %
Actinium 228	0.27		0.16		0.23	01/18/08	02/08/08
Americium 241	-0.016	U	0.085		0.15	01/18/08	02/08/08
Cesium 137	0.020	U	0.046	0.200	0.080	01/18/08	02/08/08
Cobalt 60	0.0	U	0.0096		0.035	01/18/08	02/08/08
Europium 152	-0.03	U	0.10		0.18	01/18/08	02/08/08
Europium 154	0.0	U	0.055		0.20	01/18/08	02/08/08
Potassium 40	8.7		1.5		0.9	01/18/08	02/08/08
Radium (226)	0.47	J	0.12	1.00	0.07	01/18/08	02/08/08
Thorium 232	0.27		0.16		0.23	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034017		Yld % 86
Thorium 228	0.58	J	0.16	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.74	J	0.18	1.00	0.05	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8034015		Yld % 84
Uranium 233/234	0.56	J	0.14	1.00	0.05	02/03/08	02/08/08
Uranium 235/236	-0.0024	U	0.0049	1.00	0.045	02/03/08	02/08/08
Uranium 238	0.63	J	0.15	1.00	0.05	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-758

Radiochemistry

Lab Sample ID: F8A160127-027
Work Order: KFLJ0
Matrix: SOLID

Date Collected: 12/14/07 1348
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8018251**	**Yld %**
Actinium 228	0.24		0.14		0.18	01/18/08	02/08/08
Americium 241	-0.06	U	0.10		0.17	01/18/08	02/08/08
Cesium 137	-0.01	U	0.047	0.200	0.085	01/18/08	02/08/08
Cobalt 60	0.0	U	0.10		0.18	01/18/08	02/08/08
Europium 152	0.0	U	0.11		0.19	01/18/08	02/08/08
Europium 154	-0.03	U	0.33		0.62	01/18/08	02/08/08
Potassium 40	10.8		1.7		0.4	01/18/08	02/08/08
Radium (226)	0.47	J	0.13	1.00	0.11	01/18/08	02/08/08
Thorium 232	0.24		0.14		0.18	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8034017**	**Yld % 80**
Thorium 228	0.58	J	0.17	1.00	0.09	02/03/08	02/09/08
Thorium 230	0.43	J	0.14	1.00	0.06	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8034015**	**Yld % 89**
Uranium 233/234	0.37	J	0.11	1.00	0.06	02/03/08	02/08/08
Uranium 235/236	0.012	U	0.028	1.00	0.057	02/03/08	02/08/08
Uranium 238	0.42	J	0.12	1.00	0.07	02/03/08	02/08/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8016309**	**Yld % 67**
Strontium 90	0.31	U	0.29	3.00	0.47	01/16/08	01/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-759

Radiochemistry

Lab Sample ID: F8A160127-028
Work Order: KFLJ1
Matrix: SOLID

Date Collected: 12/14/07 1350
Date Received: 01/16/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8018251		Yld %
Actinium 228	0.18	U	0.17		0.26	01/18/08	02/08/08
Americium 241	0.0006	U	0.089		0.15	01/18/08	02/08/08
Cesium 137	0.102	J	0.041	0.200	0.032	01/18/08	02/08/08
Cobalt 60	-0.006	U	0.042		0.077	01/18/08	02/08/08
Europium 152	-0.002	U	0.088		0.16	01/18/08	02/08/08
Europium 154	0.0	U	0.21		0.41	01/18/08	02/08/08
Potassium 40	7.4		1.1		0.3	01/18/08	02/08/08
Radium (226)	1.00		0.16	1.00	0.14	01/18/08	02/08/08
Thorium 232	0.18	U	0.17		0.26	01/18/08	02/08/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8034017		Yld % 91
Thorium 228	0.34	J	0.12	1.00	0.08	02/03/08	02/09/08
Thorium 230	0.30	J	0.11	1.00	0.04	02/03/08	02/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8034015		Yld % 87
Uranium 233/234	0.272	J	0.096	1.00	0.045	02/03/08	02/08/08
Uranium 235/236	0.005	U	0.020	1.00	0.051	02/03/08	02/08/08
Uranium 238	0.37	J	0.11	1.00	0.05	02/03/08	02/08/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-Dec-2007	15-377	F8A160127001	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-377	F8A160127001	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-377	F8A160127001	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-377DUP	F8A160127001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-377DUP	F8A160127001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-377DUP	F8A160127001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-378	F8A160127002	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-378	F8A160127002	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-378	F8A160127002	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-379	F8A160127003	EB	Gen Prep	903.0 MOD	3
11-Dec-2007	15-379	F8A160127003	EB	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-379	F8A160127003	EB	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-380	F8A160127004	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-380	F8A160127004	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-380	F8A160127004	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-380	F8A160127004	N	Gen Prep	)OE SR-03-RC MOI	3
11-Dec-2007	15-380DUP	F8A160127004DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
11-Dec-2007	15-381	F8A160127005	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-381	F8A160127005	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-381	F8A160127005	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-381	F8A160127005	N	Gen Prep	)OE SR-03-RC MOI	3
11-Dec-2007	15-382	F8A160127006	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-382	F8A160127006	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-382	F8A160127006	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-383	F8A160127007	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-383	F8A160127007	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-Dec-2007	15-383	F8A160127007	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-384	F8A160127008	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-384	F8A160127008	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-384	F8A160127008	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-385	F8A160127009	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-385	F8A160127009	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-385	F8A160127009	N	Gen Prep	DOE GA-01-R MOD	3
11-Dec-2007	15-386	F8A160127010	N	Gen Prep	)OE A-01-R TH MOI	3
11-Dec-2007	15-386	F8A160127010	N	Gen Prep	DOE A-01-R U MOD	3
11-Dec-2007	15-386	F8A160127010	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-750	F8A160127019	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-750	F8A160127019	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-750	F8A160127019	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-751	F8A160127020	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-751	F8A160127020	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-751	F8A160127020	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-752	F8A160127021	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-752	F8A160127021	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-752	F8A160127021	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-752DUP	F8A160127021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-753	F8A160127022	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-753	F8A160127022	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-753	F8A160127022	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-754	F8A160127023	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-754	F8A160127023	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-754	F8A160127023	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-755	F8A160127024	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-755	F8A160127024	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-755	F8A160127024	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-756	F8A160127025	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-756	F8A160127025	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-756	F8A160127025	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-757	F8A160127026	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-757	F8A160127026	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-757	F8A160127026	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-758	F8A160127027	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-758	F8A160127027	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-758	F8A160127027	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-758	F8A160127027	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-759	F8A160127028	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-759	F8A160127028	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-759	F8A160127028	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-714	F8A160127011	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-714	F8A160127011	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-714	F8A160127011	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-715	F8A160127012	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-715	F8A160127012	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-715	F8A160127012	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-716	F8A160127013	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-716	F8A160127013	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-716	F8A160127013	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-717	F8A160127014	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-717	F8A160127014	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-717	F8A160127014	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-718	F8A160127015	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-718	F8A160127015	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-718	F8A160127015	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-718	F8A160127015	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-719	F8A160127016	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-719	F8A160127016	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-719	F8A160127016	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-719DUP	F8A160127016DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-719DUP	F8A160127016DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-722	F8A160127017	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-722	F8A160127017	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-722	F8A160127017	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-723	F8A160127018	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-723	F8A160127018	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-723	F8A160127018	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A160127										
DOE A-01-R TH MOD	15-379	AQ	EB							
				THORIUM-230	1.00	0.39J	0.26	U	pCi/L	
DOE A-01-R TH MOD	15-717	SO	N							
				THORIUM-230	1.00	0.30J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-718	SO	N							
				THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-751	SO	N							
				THORIUM-230	1.00	0.58J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-753	SO	N							
				THORIUM-230	1.00	0.54J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-758	SO	N							
				THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-759	SO	N							
				THORIUM-230	1.00	0.30J	0.11	U	pCi/g	
DOE GA-01-R MOD	15-384	SO	N							
				RADIUM-226	1.00	0.34J	0.12	U	pCi/g	
DOE GA-01-R MOD	15-386	SO	N							
				RADIUM-226	1.00	0.32J	0.13	U	pCi/g	
DOE GA-01-R MOD	15-714	SO	N							
				RADIUM-226	1.00	0.31J	0.11	U	pCi/g	
DOE GA-01-R MOD	15-718	SO	N							
				RADIUM-226	1.00	0.280J	0.099	U	pCi/g	
DOE GA-01-R MOD	15-722	SO	N							
				RADIUM-226	1.00	0.26J	0.12	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A160127

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A160127	15-379	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-384	DOE GA-01-R MOD	13982633	U		RADIUM-226	Present in method blank
F8A160127	15-386	DOE GA-01-R MOD	13982633	U		RADIUM-226	Present in method blank
F8A160127	15-714	DOE GA-01-R MOD	13982633	U		RADIUM-226	Present in method blank
F8A160127	15-717	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-718	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-718	DOE GA-01-R MOD	13982633	U		RADIUM-226	Present in method blank
F8A160127	15-722	DOE GA-01-R MOD	13982633	U		RADIUM-226	Present in method blank
F8A160127	15-751	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-753	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-758	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A160127	15-759	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A160127	DOE A-01-R TH MOD	EB	AQ	12/11/2007 0:00	THORIUM-230	14269-63-7	0.39	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A160127

Method Blank Outlier Report

Lab Reporting Batch : F8A160127
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 01/23/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000117MB
Preparation Batch : 8018117

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.16**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-379	F8A160127003	1	0.39	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8A160127
Lab ID: TestAme
Analysis Method : DOE GA-01-R MOD
Analysis Date : 02/08/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A180000250MB
Preparation Batch : 8018250

RADIUM-226	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.073	1.00	pCi/g	J	

RADIUM-226 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-384	F8A160127008	1	0.34	J	pCi/g
15-386	F8A160127010	1	0.32	J	pCi/g
15-714	F8A160127011	1	0.31	J	pCi/g
15-718	F8A160127015	1	0.280	J	pCi/g
15-722	F8A160127017	1	0.26	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A160127
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/08/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B030000016MB
Preparation Batch : 8034016

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.087	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-717	F8A160127014	1	0.30	J	pCi/g
15-718	F8A160127015	1	0.43	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A160127
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8B030000017MB

Lab ID: TestAme
Analysis Date : 02/09/2008
Preparation Date :
Preparation Batch : 8034017

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.117	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-751	F8A160127020	1	0.58	J	pCi/g
15-753	F8A160127022	1	0.54	J	pCi/g
15-758	F8A160127027	1	0.43	J	pCi/g
15-759	F8A160127028	1	0.30	J	pCi/g

LDC #: 18448Y29 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08

SDG #: F8A160127 ADR Page: 1 of 1

Laboratory: Test America Reviewer: MG

2nd Reviewer:

Radium-226 (EPA 903.0 Mod) 9m2

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	None
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	15-379	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448Y35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08

SDG #: F8A160127 ADR Page: 1 of 1

Laboratory : Test America Reviewer: MG

2nd Reviewer:

gw

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07 through 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. or OK by diff.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

all soil

1 1	15-377	11 1	15-715	21 2	15-753	31 1	PBS1
2 1	15-378	12 1	15-716	22 2	15-754	32 2	PBS2
3 1	15-380	13 1	15-717	23 2	15-755	33	
4 1	15-381	14 1	15-718	24 2	15-756	34	
5 1	15-382	15 1	15-719	25 2	15-757	35	
6 1	15-383	16 1	15-722	26 2	15-758	36	
7 1	15-384	17 1	15-723	27 2	15-759	37	
8 1	15-385	18 1	15-750	28 1	15-377DUP	38	
9 1	15-386	19 1	15-751	29 2	15-752DUP	39	
10 1	15-714	20 2	15-752	30		40	

Notes:

LDC #: 18448Y59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08
SDG #: F8A160127 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07 through 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. or OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ ~~N~~ A	cv
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-377	S	11	1	15-714	S	21	2	15-752	S	31	1	PBS1
2	1	15-378	↓	12	1	15-715	↓	22	2	15-753	↓	32	2	PBS2
3	3	15-379	W	13	1	15-716		23	2	15-754		33	3	PBW
4	1	15-380	S	14	1	15-717		24	2	15-755		34		
5	1	15-381	↓	15	1	15-718		25	2	15-756		35		
6	1	15-382		16	2	15-719		26	2	15-757		36		
7	1	15-383		17	2	15-722		27	2	15-758		37		
8	1	15-384		18	2	15-723		28	2	15-759		38		
9	1	15-385		19	2	15-750		29	1	15-377DUP		39		
10	1	15-386	↓	20	2	15-751	↓	30	2	15-719DUP	↓	40		

Notes:

LDC #: 18448Y61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08
SDG #: F8A160127 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07 through 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ ~~N~~ A	LV
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-380	11		21		31	
2	15-381	12		22		32	
3	15-718	13		23		33	
4	15-758	14		24		34	
5	15-380DUP	15		25		35	
6	PBS	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448Y73
SDG #: F8A160127
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-11-07 through 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by difference)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	LL
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	—	ER = 3 (hit in Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-377 S	11	1	15-714 S	21	2	15-752 S	31	1	PBS1
2	1	15-378 ↓	12	1	15-715	22	2	15-753	32	2	PBS2
3	3	15-379 W	13	1	15-716	23	2	15-754	33	3	PBW
4	1	15-380 S	14	1	15-717	24	2	15-755	34		
5	1	15-381	15	1	15-718	25	2	15-756	35		
6	1	15-382	16	2	15-719	26	2	15-757	36		
7	1	15-383	17	2	15-722	27	2	15-758	37		
8	1	15-384	18	2	15-723	28	2	15-759	38		
9	1	15-385	19	2	15-750	29	1	15-377DUP	39		
10	1	15-386 ↓	20	2	15-751 ↓	30	2	15-719DUP ↓	40		

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37182

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 7895 1924
PROJECT CONTACT: S. Sunzko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 601/8 (Halocarbons)	Isotopic Thorium	Isotopic Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-893	12/20/07	9:14	1	X		S	21 DY	X	X	X		IR-13B-01b	2.5'	3'	N
15-894	12/20/07	9:20	1	X		S	21 DY	X	X	X		IR1-13A-01b	2.5'	3'	N
15-895	12/20/07	9:35	1	X		S	21 DY	X	X	X		IR-15-01b	2.5'	3'	N
15-896	12/20/07	9:43	1	X		S	21 DY	X	X	X		IR-17-01b	2.5'	3'	N
15-897	12/20/07	9:56	1	X		S	21 DY	X	X	X		IR-21-01b	2.5'	3'	N
15-898	12/20/07	10:00	1	X		S	21 DY	X	X	X		IR-22-01b	2.5'	3'	N
15-899	12/20/07	10:07	1	X		S	21 DY	X	X	X		IR-23-01b	2.5'	3'	N
15-900	12/20/07	10:12	1	X		S	21 DY	X	X	X		IR-24-01b	2.5'	3'	N
15-901	12/20/07	10:20	1	X		S	21 DY	X	X	X		IR-25-01b	2.5'	3'	N
15-902	12/20/07	8:25	1	X		S	21 DY	X	X	X		IR-AB1-01b	2.5'	3'	N

ANALYSES REQUIRED

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F8A170172

Project Information Section Do not submit to Laboratory

RELINQUISHED BY (Signature)	DATE 12/21/07	RECEIVED BY (Signature)	
COMPANY TtEC/Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 Dy Ingrowths

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31425

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 7895 1924
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): F8A170172

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m Gamma; Isotopic Thorium; Isotopic Uranium; SR90-00C Sr-01/Sr-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-903	1/15/08	13:20	1	X		S	21 DY		B1IR-B-3Aa	2'	2.5'	N
15-904	1/15/08	13:22	1	X		S	21 DY		B1IR-B3Ab	2.5'	3'	N
15-905	1/15/08	13:35	1	X		S	21 DY		B1IR-3Ba	2'	2.5'	N
15-906	1/15/08	13:37	1	X		S	21 DY		B1IR-3Bb	2.5'	3'	N
15-907	1/15/08	13:59	1	X		S	21 DY		1IR-19-01a	2'	2.5'	N
15-908	1/15/08	14:01	1	X		S	21 DY		1IR-19-01b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 1/16/08	RECEIVED BY (Signature)	
COMPANY TTSE/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 Dy Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-893

Radiochemistry

Lab Sample ID: F8A170172-001
Work Order: KFNP9
Matrix: SOLID

Date Collected: 12/20/07 0914
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8022194**		**Yld %**
Actinium 228	0.26	U	0.21		0.31	01/22/08	02/12/08
Americium 241	0.067	U	0.071		0.11	01/22/08	02/12/08
Cesium 137	-0.01	U	0.11	0.20	0.1	01/22/08	02/12/08
Cobalt 60	0.0	U	0.064		0.12	01/22/08	02/12/08
Europium 152	0.0	U	0.11		0.20	01/22/08	02/12/08
Europium 154	0.0	U	0.068		0.25	01/22/08	02/12/08
Potassium 40	6.3		1.4		1	01/22/08	02/12/08
Radium (226)	0.45	J	0.12	1.00	0.10	01/22/08	02/12/08
Thorium 232	0.26	U	0.21		0.31	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8027028**		**Yld % 86**
Thorium 228	0.34	J	0.13	1.00	0.08	01/27/08	02/06/08
Thorium 230	0.33	J	0.12	1.00	0.06	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8027029**		**Yld % 88**
Uranium 233/234	0.27	J	0.11	1.00	0.05	01/27/08	02/05/08
Uranium 235/236	0.035	U	0.044	1.00	0.054	01/27/08	02/05/08
Uranium 238	0.31	J	0.12	1.00	0.04	01/27/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-893 DUP

Radiochemistry

Lab Sample ID: F8A170172-001X
Work Order: KFNP9
Matrix: SOLID

Date Collected: 12/20/07 0914
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.51		0.14		0.07	01/22/08	02/12/08
Americium 241	-0.008	U	0.088		0.15	01/22/08	02/12/08
Cesium 137	-0.002	U	0.032	0.200	0.059	01/22/08	02/12/08
Cobalt 60	-0.009	U	0.051		0.092	01/22/08	02/12/08
Europium 152	-0.009	U	0.097		0.17	01/22/08	02/12/08
Europium 154	-0.03	U	0.31		0.57	01/22/08	02/12/08
Potassium 40	8.3		1.2		0.3	01/22/08	02/12/08
Radium (226)	0.37	J	0.12	1.00	0.15	01/22/08	02/12/08
Thorium 232	0.51		0.14		0.07	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 90
Thorium 228	0.27	J	0.11	1.00	0.09	01/27/08	02/06/08
Thorium 230	0.36	J	0.13	1.00	0.04	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 94
Uranium 233/234	0.30	J	0.11	1.00	0.03	01/27/08	02/05/08
Uranium 235/236	0.01	U	0.025	1.00	0.052	01/27/08	02/05/08
Uranium 238	0.30	J	0.11	1.00	0.03	01/27/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-894

Radiochemistry

Lab Sample ID: F8A170172-002
Work Order: KFNRN
Matrix: SOLID

Date Collected: 12/20/07 0920
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.217		0.089		0.14	01/22/08	02/12/08
Americium 241	0.12	U	0.24		0.40	01/22/08	02/12/08
Cesium 137	0.0	U	0.037	0.200	0.067	01/22/08	02/12/08
Cobalt 60	-0.003	U	0.026		0.050	01/22/08	02/12/08
Europium 152	-0.017	U	0.073		0.13	01/22/08	02/12/08
Europium 154	0.0	U	0.26		0.47	01/22/08	02/12/08
Potassium 40	8.3		1.1		0.4	01/22/08	02/12/08
Radium (226)	0.370	J	0.088	1.00	0.081	01/22/08	02/12/08
Thorium 232	0.217		0.089		0.14	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 93
Thorium 228	0.22	J	0.10	1.00	0.09	01/27/08	02/06/08
Thorium 230	0.35	J	0.12	1.00	0.03	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 83
Uranium 233/234	0.35	J	0.13	1.00	0.05	01/27/08	02/06/08
Uranium 235/236	0.022	U	0.039	1.00	0.067	01/27/08	02/06/08
Uranium 238	0.48	J	0.15	1.00	0.05	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-895

Radiochemistry

Lab Sample ID: F8A170172-003
Work Order: KFNRW
Matrix: SOLID

Date Collected: 12/20/07 0935
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.37		0.13		0.19	01/22/08	02/12/08
Americium 241	-0.034	U	0.087		0.15	01/22/08	02/12/08
Cesium 137	-0.009	U	0.046	0.200	0.083	01/22/08	02/12/08
Cobalt 60	-0.002	U	0.044		0.085	01/22/08	02/12/08
Europium 152	0.018	U	0.083		0.15	01/22/08	02/12/08
Europium 154	-0.02	U	0.27		0.50	01/22/08	02/12/08
Potassium 40	8.9		1.5		1.0	01/22/08	02/12/08
Radium (226)	0.24	J	0.10	1.00	0.13	01/22/08	02/12/08
Thorium 232	0.37		0.13		0.19	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 91
Thorium 228	0.49	J	0.15	1.00	0.07	01/27/08	02/06/08
Thorium 230	0.43	J	0.14	1.00	0.04	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 89
Uranium 233/234	0.40	J	0.14	1.00	0.03	01/27/08	02/06/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	01/27/08	02/06/08
Uranium 238	0.35	J	0.13	1.00	0.05	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-896

Radiochemistry

Lab Sample ID: F8A170172-004
Work Order: KFNR0
Matrix: SOLID

Date Collected: 12/20/07 0943
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.43		0.17		0.19	01/22/08	02/12/08
Americium 241	-0.015	U	0.098		0.17	01/22/08	02/12/08
Cesium 137	-0.011	U	0.049	0.200	0.087	01/22/08	02/12/08
Cobalt 60	-0.027	U	0.068		0.12	01/22/08	02/12/08
Europium 152	0.03	U	0.10		0.18	01/22/08	02/12/08
Europium 154	0.04	U	0.32		0.59	01/22/08	02/12/08
Potassium 40	10.7		1.5		0.3	01/22/08	02/12/08
Radium (226)	0.35	J	0.12	1.00	0.17	01/22/08	02/12/08
Thorium 232	0.43		0.17		0.19	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 88
Thorium 228	0.33	J	0.12	1.00	0.07	01/27/08	02/06/08
Thorium 230	0.28	J	0.11	1.00	0.03	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 85
Uranium 233/234	0.41	J	0.14	1.00	0.05	01/27/08	02/06/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	01/27/08	02/06/08
Uranium 238	0.37	J	0.13	1.00	0.03	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-897

Radiochemistry

Lab Sample ID: F8A170172-005
Work Order: KFNR3
Matrix: SOLID

Date Collected: 12/20/07 0956
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8022194**		**Yld %**
Actinium 228	0.23	U	0.23		0.37	01/22/08	02/12/08
Americium 241	-0.0036	U	0.0996		0.17	01/22/08	02/12/08
Cesium 137	0.0	U	0.054	0.200	0.10	01/22/08	02/12/08
Cobalt 60	0.004	U	0.044		0.089	01/22/08	02/12/08
Europium 152	-0.01	U	0.12		0.22	01/22/08	02/12/08
Europium 154	-0.11	U	0.40		0.74	01/22/08	02/12/08
Potassium 40	10.5		1.9		0.5	01/22/08	02/12/08
Radium (226)	0.67	J	0.15	1.00	0.06	01/22/08	02/12/08
Thorium 232	0.23	U	0.23		0.37	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8027028**		**Yld % 91**
Thorium 228	0.36	J	0.13	1.00	0.06	01/27/08	02/06/08
Thorium 230	0.46	J	0.14	1.00	0.04	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8027029**		**Yld % 77**
Uranium 233/234	0.40	J	0.14	1.00	0.06	01/27/08	02/06/08
Uranium 235/236	0.040	U	0.050	1.00	0.061	01/27/08	02/06/08
Uranium 238	0.41	J	0.14	1.00	0.05	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-898

Radiochemistry

Lab Sample ID: F8A170172-006
Work Order: KFNR5
Matrix: SOLID

Date Collected: 12/20/07 1000
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.26	U	0.21		0.31	01/22/08	02/12/08
Americium 241	0.028	U	0.074		0.13	01/22/08	02/12/08
Cesium 137	0.003	U	0.041	0.200	0.090	01/22/08	02/12/08
Cobalt 60	0.038	U	0.035		0.049	01/22/08	02/12/08
Europium 152	0.0093	U	0.0995		0.18	01/22/08	02/12/08
Europium 154	0.12	U	0.33		0.60	01/22/08	02/12/08
Potassium 40	7.0		1.5		0.6	01/22/08	02/12/08
Radium (226)	0.48	J	0.14	1.00	0.12	01/22/08	02/12/08
Thorium 232	0.26	U	0.21		0.31	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 88
Thorium 228	0.36	J	0.13	1.00	0.07	01/27/08	02/06/08
Thorium 230	0.32	J	0.12	1.00	0.07	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 88
Uranium 233/234	0.36	J	0.13	1.00	0.03	01/27/08	02/06/08
Uranium 235/236	0.024	U	0.037	1.00	0.056	01/27/08	02/06/08
Uranium 238	0.38	J	0.13	1.00	0.03	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-899

Radiochemistry

Lab Sample ID: F8A170172-007
Work Order: KFNR9
Matrix: SOLID

Date Collected: 12/20/07 1007
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.39		0.11		0.14	01/22/08	02/12/08
Americium 241	-0.04	U	0.25		0.44	01/22/08	02/12/08
Cesium 137	0.0	U	0.046	0.200	0.082	01/22/08	02/12/08
Cobalt 60	0.0	U	0.035		0.066	01/22/08	02/12/08
Europium 152	0.032	U	0.077		0.13	01/22/08	02/12/08
Europium 154	0.02	U	0.21		0.40	01/22/08	02/12/08
Potassium 40	8.8		1.2		0.5	01/22/08	02/12/08
Radium (226)	0.48	J	0.11	1.00	0.1	01/22/08	02/12/08
Thorium 232	0.39		0.11		0.14	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 81
Thorium 228	0.28	J	0.13	1.00	0.11	01/27/08	02/07/08
Thorium 230	0.43	J	0.15	1.00	0.09	01/27/08	02/07/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 88
Uranium 233/234	0.35	J	0.13	1.00	0.06	01/27/08	02/06/08
Uranium 235/236	0.034	U	0.046	1.00	0.064	01/27/08	02/06/08
Uranium 238	0.29	J	0.12	1.00	0.07	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-900

Radiochemistry

Lab Sample ID: F8A170172-008
Work Order: KFNTC
Matrix: SOLID

Date Collected: 12/20/07 1012
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.27		0.18		0.25	01/22/08	02/12/08
Americium 241	-0.0004	U	0.085		0.15	01/22/08	02/12/08
Cesium 137	0.012	U	0.046	0.200	0.082	01/22/08	02/12/08
Cobalt 60	-0.012	U	0.053		0.097	01/22/08	02/12/08
Europium 152	0.005	U	0.080		0.15	01/22/08	02/12/08
Europium 154	-0.04	U	0.34		0.63	01/22/08	02/12/08
Potassium 40	7.1		1.4		1.0	01/22/08	02/12/08
Radium (226)	0.49	J	0.12	1.00	0.1	01/22/08	02/12/08
Thorium 232	0.27		0.18		0.25	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 86
Thorium 228	0.26	J	0.11	1.00	0.08	01/27/08	02/06/08
Thorium 230	0.37	J	0.13	1.00	0.06	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 82
Uranium 233/234	0.21	J	0.10	1.00	0.07	01/27/08	02/06/08
Uranium 235/236	0.014	U	0.028	1.00	0.037	01/27/08	02/06/08
Uranium 238	0.20	J	0.10	1.00	0.07	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-901

Radiochemistry

Lab Sample ID: F8A170172-009
Work Order: KFNTG
Matrix: SOLID

Date Collected: 12/20/07 1020
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.21	U	0.19		0.30	01/22/08	02/12/08
Americium 241	0.05	U	0.11		0.18	01/22/08	02/12/08
Cesium 137	-0.018	U	0.062	0.200	0.11	01/22/08	02/12/08
Cobalt 60	0.018	U	0.046		0.085	01/22/08	02/12/08
Europium 152	0.022	U	0.090		0.16	01/22/08	02/12/08
Europium 154	0.09	U	0.35		0.64	01/22/08	02/12/08
Potassium 40	10.7		1.8		0.5	01/22/08	02/12/08
Radium (226)	0.42	J	0.14	1.00	0.16	01/22/08	02/12/08
Thorium 232	0.21	U	0.19		0.30	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 62
Thorium 228	0.48	J	0.18	1.00	0.11	01/27/08	02/06/08
Thorium 230	0.54	J	0.19	1.00	0.11	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 69
Uranium 233/234	0.35	J	0.14	1.00	0.08	01/27/08	02/06/08
Uranium 235/236	-0.0030	U	0.0061	1.00	0.069	01/27/08	02/06/08
Uranium 238	0.55	J	0.18	1.00	0.07	01/27/08	02/06/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-902

Radiochemistry

Lab Sample ID: F8A170172-010
Work Order: KFNTK
Matrix: SOLID

Date Collected: 12/20/07 0825
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.53		0.23		0.33	01/22/08	02/12/08
Americium 241	0.07	U	0.16		0.27	01/22/08	02/12/08
Cesium 137	-0.023	U	0.067	0.200	0.12	01/22/08	02/12/08
Cobalt 60	-0.014	U	0.065		0.11	01/22/08	02/12/08
Europium 152	0.30	U	0.15		0.37	01/22/08	02/12/08
Europium 154	0.01	U	0.39		0.71	01/22/08	02/12/08
Potassium 40	10.2		1.3		0.3	01/22/08	02/12/08
Radium (226)	6.60		0.53	1.00	0.16	01/22/08	02/12/08
Thorium 232	0.53		0.23		0.33	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 85
Thorium 228	0.54	J	0.16	1.00	0.07	01/27/08	02/06/08
Thorium 230	0.34	J	0.13	1.00	0.05	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 83
Uranium 233/234	0.50	J	0.16	1.00	0.08	01/27/08	02/06/08
Uranium 235/236	0.034	U	0.050	1.00	0.076	01/27/08	02/06/08
Uranium 238	0.39	J	0.14	1.00	0.09	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-903

Radiochemistry

Lab Sample ID: F8A170172-011
Work Order: KFNTQ
Matrix: SOLID

Date Collected: 12/20/07 1320
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.46		0.16		0.22	01/22/08	02/12/08
Americium 241	-0.03	U	0.11		0.18	01/22/08	02/12/08
Cesium 137	-0.006	U	0.046	0.200	0.083	01/22/08	02/12/08
Cobalt 60	-0.00002	U	0.045		0.085	01/22/08	02/12/08
Europium 152	-0.04	U	0.11		0.18	01/22/08	02/12/08
Europium 154	-0.12	U	0.37		0.65	01/22/08	02/12/08
Potassium 40	10.3		1.4		0.3	01/22/08	02/12/08
Radium (226)	0.38	J	0.13	1.00	0.17	01/22/08	02/12/08
Thorium 232	0.46		0.16		0.22	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 81
Thorium 228	0.44	J	0.15	1.00	0.08	01/27/08	02/06/08
Thorium 230	0.52	J	0.16	1.00	0.03	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 77
Uranium 233/234	0.73	J	0.20	1.00	0.06	01/27/08	02/06/08
Uranium 235/236	0.039	U	0.052	1.00	0.072	01/27/08	02/06/08
Uranium 238	0.60	J	0.18	1.00	0.07	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-904

Radiochemistry

Lab Sample ID: F8A170172-012
Work Order: KFNT1
Matrix: SOLID

Date Collected: 12/20/07 1322
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.47		0.25		0.32	01/22/08	02/12/08
Americium 241	0.0	U	0.12		0.21	01/22/08	02/12/08
Cesium 137	-0.014	U	0.067	0.200	0.12	01/22/08	02/12/08
Cobalt 60	0.0	U	0.015		0.055	01/22/08	02/12/08
Europium 152	0.0	U	0.15		0.27	01/22/08	02/12/08
Europium 154	0.0	U	0.38		0.74	01/22/08	02/12/08
Potassium 40	8.9		1.8		1.3	01/22/08	02/12/08
Radium (226)	0.65	J	0.15	1.00	0.06	01/22/08	02/12/08
Thorium 232	0.47		0.25		0.32	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 83
Thorium 228	0.40	J	0.14	1.00	0.08	01/27/08	02/07/08
Thorium 230	0.37	J	0.13	1.00	0.05	01/27/08	02/07/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 79
Uranium 233/234	0.55	J	0.16	1.00	0.06	01/27/08	02/06/08
Uranium 235/236	0.025	U	0.039	1.00	0.059	01/27/08	02/06/08
Uranium 238	0.40	J	0.14	1.00	0.05	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-905

Radiochemistry

Lab Sample ID: F8A170172-013
Work Order: KFNT2
Matrix: SOLID

Date Collected: 12/20/07 1335
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.39		0.24		0.32	01/22/08	02/12/08
Americium 241	0.042	U	0.075		0.13	01/22/08	02/12/08
Cesium 137	0.006	U	0.057	0.200	0.11	01/22/08	02/12/08
Cobalt 60	-0.009	U	0.076		0.14	01/22/08	02/12/08
Europium 152	-0.001	U	0.084		0.16	01/22/08	02/12/08
Europium 154	-0.04	U	0.41		0.78	01/22/08	02/12/08
Potassium 40	8.7		1.8		1.3	01/22/08	02/12/08
Radium (226)	0.64	J	0.17	1.00	0.13	01/22/08	02/12/08
Thorium 232	0.39		0.24		0.32	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 83
Thorium 228	0.42	J	0.15	1.00	0.09	01/27/08	02/06/08
Thorium 230	0.38	J	0.14	1.00	0.06	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 74
Uranium 233/234	0.43	J	0.16	1.00	0.07	01/27/08	02/06/08
Uranium 235/236	0.013	U	0.034	1.00	0.070	01/27/08	02/06/08
Uranium 238	0.55	J	0.18	1.00	0.06	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-906

Radiochemistry

Lab Sample ID: F8A170172-014
Work Order: KFNT4
Matrix: SOLID

Date Collected: 12/20/07 1337
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.39		0.12		0.17	01/22/08	02/12/08
Americium 241	-0.07	U	0.26		0.44	01/22/08	02/12/08
Cesium 137	0.145	J	0.044	0.200	0.033	01/22/08	02/12/08
Cobalt 60	0.0	U	0.0063		0.023	01/22/08	02/12/08
Europium 152	-0.012	U	0.087		0.15	01/22/08	02/12/08
Europium 154	-0.05	U	0.23		0.42	01/22/08	02/12/08
Potassium 40	9.5		1.2		0.5	01/22/08	02/12/08
Radium (226)	0.49	J	0.11	1.00	0.07	01/22/08	02/12/08
Thorium 232	0.39		0.12		0.17	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 72
Thorium 228	0.54	J	0.17	1.00	0.09	01/27/08	02/06/08
Thorium 230	0.51	J	0.17	1.00	0.03	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 76
Uranium 233/234	0.44	J	0.16	1.00	0.09	01/27/08	02/06/08
Uranium 235/236	0.058	U	0.061	1.00	0.065	01/27/08	02/06/08
Uranium 238	0.32	J	0.13	1.00	0.09	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-907

Radiochemistry

Lab Sample ID: F8A170172-015
Work Order: KFNT5
Matrix: SOLID

Date Collected: 12/20/07 1359
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.0	U	0.11		0.21	01/22/08	02/12/08
Americium 241	0.021	U	0.053		0.090	01/22/08	02/12/08
Cesium 137	-0.0005	U	0.040	0.200	0.075	01/22/08	02/12/08
Cobalt 60	-0.001	U	0.021		0.047	01/22/08	02/12/08
Europium 152	-0.015	U	0.082		0.15	01/22/08	02/12/08
Europium 154	-0.07	U	0.30		0.54	01/22/08	02/12/08
Potassium 40	6.7		1.2		0.5	01/22/08	02/12/08
Radium (226)	0.36	J	0.10	1.00	0.09	01/22/08	02/12/08
Thorium 232	0.0	U	0.11		0.21	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 92
Thorium 228	0.34	J	0.12	1.00	0.06	01/27/08	02/06/08
Thorium 230	0.31	J	0.12	1.00	0.04	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 92
Uranium 233/234	0.36	J	0.13	1.00	0.05	01/27/08	02/06/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	01/27/08	02/06/08
Uranium 238	0.34	J	0.12	1.00	0.04	01/27/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-908

Radiochemistry

Lab Sample ID: F8A170172-016
Work Order: KFNT7
Matrix: SOLID

Date Collected: 12/20/07 1401
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8022194		Yld %
Actinium 228	0.38		0.21		0.28	01/22/08	02/12/08
Americium 241	-0.06	U	0.10		0.17	01/22/08	02/12/08
Cesium 137	-0.016	U	0.048	0.200	0.086	01/22/08	02/12/08
Cobalt 60	-0.017	U	0.056		0.10	01/22/08	02/12/08
Europium 152	0.008	U	0.095		0.17	01/22/08	02/12/08
Europium 154	-0.08	U	0.43		0.78	01/22/08	02/12/08
Potassium 40	8.4		1.5		0.4	01/22/08	02/12/08
Radium (226)	0.23	J	0.11	1.00	0.16	01/22/08	02/12/08
Thorium 232	0.38		0.21		0.28	01/22/08	02/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027028		Yld % 89
Thorium 228	0.29	J	0.12	1.00	0.09	01/27/08	02/06/08
Thorium 230	0.37	J	0.13	1.00	0.05	01/27/08	02/06/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8027029		Yld % 84
Uranium 233/234	0.38	J	0.14	1.00	0.07	01/27/08	02/06/08
Uranium 235/236	-0.0054	U	0.0076	1.00	0.071	01/27/08	02/06/08
Uranium 238	0.34	J	0.13	1.00	0.06	01/27/08	02/06/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8018077		Yld % 71
Strontium 90	0.25	U	0.25	3.00	0.40	01/18/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-908 DUP

Radiochemistry

Lab Sample ID: F8A170172-016X
Work Order: KFNT7
Matrix: SOLID

Date Collected: 12/20/07 1401
Date Received: 01/17/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8018077**		**Yld % 73**
Strontium 90	0.20	U	0.22	3.00	0.35	01/18/08	01/28/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Dec-2007	15-893	F8A170172001	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-893	F8A170172001	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-893	F8A170172001	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-893DUP	F8A170172001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-893DUP	F8A170172001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-893DUP	F8A170172001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-894	F8A170172002	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-894	F8A170172002	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-894	F8A170172002	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-895	F8A170172003	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-895	F8A170172003	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-895	F8A170172003	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-896	F8A170172004	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-896	F8A170172004	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-896	F8A170172004	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-897	F8A170172005	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-897	F8A170172005	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-897	F8A170172005	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-898	F8A170172006	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-898	F8A170172006	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-898	F8A170172006	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-899	F8A170172007	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-899	F8A170172007	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-899	F8A170172007	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-900	F8A170172008	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-900	F8A170172008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Dec-2007	15-900	F8A170172008	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-901	F8A170172009	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-901	F8A170172009	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-901	F8A170172009	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-902	F8A170172010	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-902	F8A170172010	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-902	F8A170172010	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-903	F8A170172011	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-903	F8A170172011	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-903	F8A170172011	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-904	F8A170172012	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-904	F8A170172012	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-904	F8A170172012	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-905	F8A170172013	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-905	F8A170172013	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-905	F8A170172013	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-906	F8A170172014	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-906	F8A170172014	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-906	F8A170172014	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-907	F8A170172015	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-907	F8A170172015	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-907	F8A170172015	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-908	F8A170172016	N	Gen Prep	)OE A-01-R TH MOI	3
20-Dec-2007	15-908	F8A170172016	N	Gen Prep	DOE A-01-R U MOD	3
20-Dec-2007	15-908	F8A170172016	N	Gen Prep	DOE GA-01-R MOD	3
20-Dec-2007	15-908	F8A170172016	N	Gen Prep	)OE SR-03-RC MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Dec-2007	15-908DUP	F8A170172016DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A170172										
DOE A-01-R TH MOD	15-893	SO	N	THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-894	SO	N	THORIUM-230	1.00	0.35J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-896	SO	N	THORIUM-230	1.00	0.28J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-898	SO	N	THORIUM-230	1.00	0.32J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-900	SO	N	THORIUM-230	1.00	0.37J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-902	SO	N	THORIUM-230	1.00	0.34J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-904	SO	N	THORIUM-230	1.00	0.37J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-905	SO	N	THORIUM-230	1.00	0.38J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-907	SO	N	THORIUM-230	1.00	0.31J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-908	SO	N	THORIUM-230	1.00	0.37J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A170172

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A170172	15-893	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-894	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-896	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-898	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-900	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-902	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-904	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-905	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-907	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A170172	15-908	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A170172

Method Blank Outlier Report

Lab Reporting Batch : F8A170172
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/06/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A270000028MB
Preparation Batch : 8027028

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.079	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-893	F8A170172001	1	0.33	J	pCi/g
15-894	F8A170172002	1	0.35	J	pCi/g
15-896	F8A170172004	1	0.28	J	pCi/g
15-898	F8A170172006	1	0.32	J	pCi/g
15-900	F8A170172008	1	0.37	J	pCi/g
15-902	F8A170172010	1	0.34	J	pCi/g
15-904	F8A170172012	1	0.37	J	pCi/g
15-905	F8A170172013	1	0.38	J	pCi/g
15-907	F8A170172015	1	0.31	J	pCi/g
15-908	F8A170172016	1	0.37	J	pCi/g

LDC #: 18448Z35
SDG #: F8A170172
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9MY

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-20-07 through 1-15-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff, or both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-893	11	15-903	21		31	
2	15-894	12	15-904	22		32	
3	15-895	13	15-905	23		33	
4	15-896	14	15-906	24		34	
5	15-897	15	15-907	25		35	
6	15-898	16	15-908	26		36	
7	15-899	17	15-893DUP	27		37	
8	15-900	18	PBS	28		38	
9	15-901	19		29		39	
10	15-902	20		30		40	

Notes:

LDC #: 18448Z59
SDG #: F8A170172
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-20-07 through 1-15-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. for high RPD)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ ~~N~~ A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-893	11	15-903	21		31	
2	15-894	12	15-904	22		32	
3	15-895	13	15-905	23		33	
4	15-896	14	15-906	24		34	
5	15-897	15	15-907	25		35	
6	15-898	16	15-908	26		36	
7	15-899	17	15-893DUP	27		37	
8	15-900	18	PBS	28		38	
9	15-901	19		29		39	
10	15-902	20		30		40	

Notes:

LDC #: 18448Z61
SDG #: F8A170172
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9m4

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: ~~12-20-07~~ 1-15-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cc
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Soil

1	15-908	11		21		31	
2	15-908DUP	12		22		32	
3	PBS	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18448Z73
SDG #: F8A170172
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-20-07 through 1-15-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ N A	cc
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-893	11	15-903	21		31	
2	15-894	12	15-904	22		32	
3	15-895	13	15-905	23		33	
4	15-896	14	15-906	24		34	
5	15-897	15	15-907	25		35	
6	15-898	16	15-908	26		36	
7	15-899	17	15-893DUP	27		37	
8	15-900	18	PBS	28		38	
9	15-901	19		29		39	
10	15-902	20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25726

CHAIN-OF-CUSTODY RECORD

D 2-18

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO: 1000.029552
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7918 3588 2403
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1m GAMMA; ISOTOPIC THORIUM; ISOTOPIC URANIUM; Ra DOE SR-01/SR-02

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220112

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-865	12.19.07	8:45	1	X		S	21 DY		B2IR-344a	2'	2.5'	N
15-866	12.19.07	8:47	1	X		S	21 DY		B2IR-344b	2.5'	3'	N
15-867	12.19.07	8:58	2	X		W	21 DY	F8B120265 *	Equipment Rinsate	N/A	N/A	N
15-868	12.19.07	9:46	2	X		S	21 DY		B2IR-348a	2'	2.5'	N
15-869	12.19.07	9:49	1	X		S	21 DY		B2IR-348b	2.5'	3'	N
15-870	12.19.07	10:14	1	X		S	21 DY		B2IR-349a	2'	2.5'	N
15-871	12.19.07	10:17	1	X		S	21 DY		B2IR-349b	2.5'	3'	N
15-872	12.19.07	10:34	1	X		S	21 DY		2IR-349-01a	0"	6"	N
15-873	12.19.07	10:36	1	X		S	21 DY		2IR-349-01b	6"	12"	N
15-874	12.19.07	10:40	1	X		S	21 DY		2IR-349-02a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 1/21/08	RECEIVED BY (Signature)	
COMPANY Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUNDS

COMPOSITE DESCRIPTION: * Ra-226 via 903.0m 2-808 sv

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160593 23

Tetra Tech EC, Inc.

Client Sample ID: 15-865

Radiochemistry

Lab Sample ID: F8A220112-001
Work Order: KFWNJ
Matrix: SOLID

Date Collected: 12/19/07 0845
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.42		0.16		0.26	01/24/08	02/14/08
Americium 241	0.05	U	0.10		0.17	01/24/08	02/14/08
Cesium 137	-0.004	U	0.034	0.200	0.064	01/24/08	02/14/08
Cobalt 60	-0.007	U	0.048		0.089	01/24/08	02/14/08
Europium 152	-0.03	U	0.10		0.18	01/24/08	02/14/08
Europium 154	-0.10	U	0.36		0.64	01/24/08	02/14/08
Potassium 40	10.3		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.57	J	0.15	1.00	0.14	01/24/08	02/14/08
Thorium 232	0.42		0.16		0.26	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 91**
Thorium 228	0.38	J	0.13	1.00	0.08	02/07/08	02/14/08
Thorium 230	0.51	J	0.15	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 84**
Uranium 233/234	0.32	J	0.12	1.00	0.05	02/07/08	02/14/08
Uranium 235/236	0.049	U	0.055	1.00	0.067	02/07/08	02/14/08
Uranium 238	0.34	J	0.13	1.00	0.05	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-865 DUP

Radiochemistry

Lab Sample ID: F8A220112-001X
Work Order: KFWNJ
Matrix: SOLID

Date Collected: 12/19/07 0845
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.36		0.20		0.25	01/24/08	02/14/08
Americium 241	0.0008	U	0.096		0.17	01/24/08	02/14/08
Cesium 137	-0.003	U	0.034	0.200	0.065	01/24/08	02/14/08
Cobalt 60	0.0	U	0.060		0.12	01/24/08	02/14/08
Europium 152	-0.003	U	0.092		0.17	01/24/08	02/14/08
Europium 154	0.02	U	0.23		0.45	01/24/08	02/14/08
Potassium 40	9.6		1.6		0.4	01/24/08	02/14/08
Radium (226)	0.50	J	0.13	1.00	0.11	01/24/08	02/14/08
Thorium 232	0.36		0.20		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 90**
Thorium 228	0.40	J	0.14	1.00	0.09	02/07/08	02/14/08
Thorium 230	0.41	J	0.14	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 89**
Uranium 233/234	0.41	J	0.14	1.00	0.03	02/07/08	02/14/08
Uranium 235/236	0.013	U	0.027	1.00	0.037	02/07/08	02/14/08
Uranium 238	0.40	J	0.14	1.00	0.05	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-866

Radiochemistry

Lab Sample ID: F8A220112-002
Work Order: KFWNL
Matrix: SOLID

Date Collected: 12/19/07 0847
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024266		Yld %
Actinium 228	0.46		0.20		0.25	01/24/08	02/14/08
Americium 241	0.0208	U	0.0996		0.17	01/24/08	02/14/08
Cesium 137	0.034	U	0.038	0.200	0.061	01/24/08	02/14/08
Cobalt 60	-0.009	U	0.055		0.10	01/24/08	02/14/08
Europium 152	-0.03	U	0.12		0.21	01/24/08	02/14/08
Europium 154	-0.03	U	0.34		0.63	01/24/08	02/14/08
Potassium 40	11.0		1.5		0.3	01/24/08	02/14/08
Radium (226)	0.48	J	0.12	1.00	0.10	01/24/08	02/14/08
Thorium 232	0.46		0.20		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038295		Yld % 92
Thorium 228	0.57	J	0.16	1.00	0.07	02/07/08	02/14/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8049152		Yld % 88
Uranium 233/234	0.49	J	0.15	1.00	0.06	02/18/08	02/20/08
Uranium 235/236	-0.0048	U	0.0068	1.00	0.063	02/18/08	02/20/08
Uranium 238	0.44	J	0.14	1.00	0.07	02/18/08	02/20/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-866 DUP

Radiochemistry

Lab Sample ID: F8A220112-002X
Work Order: KFWNL
Matrix: SOLID

Date Collected: 12/19/07 0847
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8049152		Yld % 87
Uranium 233/234	0.39	J	0.14	1.00	0.07	02/18/08	02/20/08
Uranium 235/236	0.052	J	0.052	1.00	0.035	02/18/08	02/20/08
Uranium 238	0.33	J	0.12	1.00	0.07	02/18/08	02/20/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-869

Radiochemistry

Lab Sample ID: F8A220112-005
Work Order: KFWPA
Matrix: SOLID

Date Collected: 12/19/07 0949
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.61		0.12		0.06	01/24/08	02/14/08
Americium 241	-0.01	U	0.21		0.38	01/24/08	02/14/08
Cesium 137	0.039	U	0.031	0.200	0.047	01/24/08	02/14/08
Cobalt 60	-0.0001	U	0.030		0.057	01/24/08	02/14/08
Europium 152	-0.013	U	0.075		0.13	01/24/08	02/14/08
Europium 154	0.0	U	0.25		0.47	01/24/08	02/14/08
Potassium 40	9.0		1.2		0.5	01/24/08	02/14/08
Radium (226)	0.49	J	0.11	1.00	0.08	01/24/08	02/14/08
Thorium 232	0.61		0.12		0.06	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 88**
Thorium 228	0.39	J	0.14	1.00	0.09	02/07/08	02/14/08
Thorium 230	0.32	J	0.12	1.00	0.04	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 100**
Uranium 233/234	0.33	J	0.11	1.00	0.03	02/07/08	02/14/08
Uranium 235/236	-0.0022	U	0.0043	1.00	0.049	02/07/08	02/14/08
Uranium 238	0.222	J	0.093	1.00	0.025	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-870

Radiochemistry

Lab Sample ID: F8A220112-006
Work Order: KFWPC
Matrix: SOLID

Date Collected: 12/19/07 1014
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.39		0.13		0.22	01/24/08	02/14/08
Americium 241	0.032	U	0.071		0.12	01/24/08	02/14/08
Cesium 137	0.004	U	0.038	0.200	0.069	01/24/08	02/14/08
Cobalt 60	-0.01	U	0.046		0.085	01/24/08	02/14/08
Europium 152	0.0	U	0.089		0.16	01/24/08	02/14/08
Europium 154	0.03	U	0.27		0.51	01/24/08	02/14/08
Potassium 40	7.5		1.3		0.7	01/24/08	02/14/08
Radium (226)	0.39	J	0.12	1.00	0.14	01/24/08	02/14/08
Thorium 232	0.39		0.13		0.22	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 97**
Thorium 228	0.37	J	0.13	1.00	0.08	02/07/08	02/14/08
Thorium 230	0.32	J	0.12	1.00	0.03	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 90**
Uranium 233/234	0.37	J	0.13	1.00	0.07	02/07/08	02/14/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	02/07/08	02/14/08
Uranium 238	0.27	J	0.11	1.00	0.06	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-871

Radiochemistry

Lab Sample ID: F8A220112-007
Work Order: KFWPD
Matrix: SOLID

Date Collected: 12/19/07 1017
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.36		0.15		0.25	01/24/08	02/14/08
Americium 241	0.030	U	0.077		0.13	01/24/08	02/14/08
Cesium 137	0.013	U	0.040	0.200	0.070	01/24/08	02/14/08
Cobalt 60	0.0	U	0.050		0.094	01/24/08	02/14/08
Europium 152	0.008	U	0.087		0.16	01/24/08	02/14/08
Europium 154	0.1	U	0.29		0.51	01/24/08	02/14/08
Potassium 40	9.5		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.28	J	0.12	1.00	0.17	01/24/08	02/14/08
Thorium 232	0.36		0.15		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 84**
Thorium 228	1.27		0.26	1.00	0.07	02/07/08	02/18/08
Thorium 230	0.62	J	0.18	1.00	0.07	02/07/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 87**
Uranium 233/234	0.32	J	0.12	1.00	0.06	02/07/08	02/14/08
Uranium 235/236	0.023	U	0.037	1.00	0.055	02/07/08	02/14/08
Uranium 238	0.39	J	0.13	1.00	0.06	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-872

Radiochemistry

Lab Sample ID: F8A220112-008
Work Order: KFWPG
Matrix: SOLID

Date Collected: 12/19/07 1024
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.14	U	0.15		0.24	01/24/08	02/14/08
Americium 241	0.018	U	0.084		0.14	01/24/08	02/14/08
Cesium 137	0.014	U	0.033	0.200	0.057	01/24/08	02/14/08
Cobalt 60	-0.005	U	0.047		0.086	01/24/08	02/14/08
Europium 152	0.001	U	0.083		0.15	01/24/08	02/14/08
Europium 154	-0.02	U	0.28		0.52	01/24/08	02/14/08
Potassium 40	7.9		1.2		0.3	01/24/08	02/14/08
Radium (226)	0.35	J	0.11	1.00	0.14	01/24/08	02/14/08
Thorium 232	0.14	U	0.15		0.24	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038295**		**Yld % 87**
Thorium 228	0.36	J	0.13	1.00	0.07	02/07/08	02/14/08
Thorium 230	0.45	J	0.14	1.00	0.03	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038294**		**Yld % 94**
Uranium 233/234	0.214	J	0.097	1.00	0.067	02/07/08	02/14/08
Uranium 235/236	0.005	U	0.026	1.00	0.066	02/07/08	02/14/08
Uranium 238	0.37	J	0.13	1.00	0.08	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-873

Radiochemistry

Lab Sample ID: F8A220112-009
Work Order: KFWPH
Matrix: SOLID

Date Collected: 12/19/07 1026
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024266		Yld %
Actinium 228	0.28	U	0.16		0.28	01/24/08	02/14/08
Americium 241	-0.040	U	0.081		0.14	01/24/08	02/14/08
Cesium 137	0.013	U	0.051	0.200	0.092	01/24/08	02/14/08
Cobalt 60	0.01	U	0.044		0.085	01/24/08	02/14/08
Europium 152	-0.02	U	0.10		0.19	01/24/08	02/14/08
Europium 154	-0.07	U	0.38		0.71	01/24/08	02/14/08
Potassium 40	7.9		1.5		0.8	01/24/08	02/14/08
Radium (226)	0.43	J	0.11	1.00	0.05	01/24/08	02/14/08
Thorium 232	0.28	U	0.16		0.28	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038295		Yld % 90
Thorium 228	0.49	J	0.15	1.00	0.06	02/07/08	02/14/08
Thorium 230	0.58	J	0.16	1.00	0.04	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038294		Yld % 84
Uranium 233/234	0.38	J	0.13	1.00	0.06	02/07/08	02/14/08
Uranium 235/236	0.022	U	0.040	1.00	0.067	02/07/08	02/14/08
Uranium 238	0.44	J	0.15	1.00	0.06	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-874

Radiochemistry

Lab Sample ID: F8A220112-010
Work Order: KFWPJ
Matrix: SOLID

Date Collected: 12/19/07 1040
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024266		Yld %
Actinium 228	0.09	U	0.16		0.28	01/24/08	02/14/08
Americium 241	0.001	U	0.083		0.15	01/24/08	02/14/08
Cesium 137	0.035	U	0.048	0.200	0.088	01/24/08	02/14/08
Cobalt 60	0.009	U	0.048		0.091	01/24/08	02/14/08
Europium 152	0.061	U	0.098		0.17	01/24/08	02/14/08
Europium 154	0.0	U	0.069		0.25	01/24/08	02/14/08
Potassium 40	**9.1**		**1.6**		**0.5**	**01/24/08**	**02/14/08**
Radium (226)	**0.49**	**J**	0.15	1.00	**0.13**	**01/24/08**	**02/14/08**
Thorium 232	0.09	U	0.16		0.28	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038295		Yld % 92
Thorium 228	**0.43**	**J**	0.14	1.00	0.07	02/07/08	02/14/08
Thorium 230	**0.34**	**J**	0.12	1.00	0.06	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038294		Yld % 89
Uranium 233/234	**0.47**	**J**	0.15	1.00	0.06	02/07/08	02/14/08
Uranium 235/236	0.011	U	0.028	1.00	0.059	02/07/08	02/14/08
Uranium 238	**0.40**	**J**	0.14	1.00	0.05	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-865	F8A220112001	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-865	F8A220112001	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-865	F8A220112001	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-865DUP	F8A220112001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-865DUP	F8A220112001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-865DUP	F8A220112001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-866	F8A220112002	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-866	F8A220112002	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-866	F8A220112002	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-866DUP	F8A220112002DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-867	F8A220112003	EB	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-867	F8A220112003	EB	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-867	F8A220112003	EB	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-867DUP	F8A220112003DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-868	F8A220112004	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-868	F8A220112004	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-868	F8A220112004	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-868	F8A220112004	N	Gen Prep	)OE SR-03-RC MOI	3
19-Dec-2007	15-868DUP	F8A220112004DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
19-Dec-2007	15-869	F8A220112005	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-869	F8A220112005	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-869	F8A220112005	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-870	F8A220112006	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-870	F8A220112006	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-870	F8A220112006	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-871	F8A220112007	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Dec-2007	15-871	F8A220112007	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-871	F8A220112007	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-872	F8A220112008	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-872	F8A220112008	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-872	F8A220112008	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-873	F8A220112009	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-873	F8A220112009	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-873	F8A220112009	N	Gen Prep	DOE GA-01-R MOD	3
19-Dec-2007	15-874	F8A220112010	N	Gen Prep	)OE A-01-R TH MOI	3
19-Dec-2007	15-874	F8A220112010	N	Gen Prep	DOE A-01-R U MOD	3
19-Dec-2007	15-874	F8A220112010	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A220112										
DOE A-01-R TH MOD	15-867	AQ	EB	THORIUM-230	1.00	0.19J	0.14	U	pCi/L	

N = Normal Sample *TB = Trip Blank*

FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A220112

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected	Non Detected Qualifier	Analyte Name	Reason
F8A220112	15-867	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte	Client Analyte ID	Lab Result	Units	Lab Qualifiers	Reporting Limit
F8A220112	DOE A-01-R TH MOD	EB	AQ	12/19/2007 0:00	THORIUM-230	14269-63-7	0.19	pCi/L	J	1.00

Quality Control
Outlier Reports

F8A220112

Method Blank Outlier Report

Lab Reporting Batch : F8A220112
Lab ID: TestAme
Analysis Method : DOE GA-01-R MOD
Analysis Date : 01/24/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A230000398MB
Preparation Batch : 8023398

	Result	Reporting Limit	Units	Lab Qual	Comments
THORIUM-232					
Method Blank Result:	0.0		pCi/L		

THORIUM-232 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A220112
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8B110000181MB

Lab ID: TestAme
Analysis Date : 02/13/2008
Preparation Date :
Preparation Batch : 8042181

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.29**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-867	F8A220112003	1	0.19	J	pCi/L

LDC #: 18450A35
SDG #: F8A220112
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

MG

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (both N.D. for high RPD)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-865 S	11	15-865DUP	21		31	
2	15-866	12 2	15-867DUP W	22		32	
3 2	15-867 W	13 1	PBS	23		33	
4	15-868	14 2	PBW	24		34	
5	15-869	15		25		35	
6	15-870	16		26		36	
7	15-871	17		27		37	
8	15-872	18		28		38	
9	15-873	19		29		39	
10	15-874	20		30		40	

Notes:

LDC #: 18450A59
SDG #: F8A220112
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff, or both N.D.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-865	11 1	15-865DUP	21		31	
2 2	15-866	12 2	15-866DUP	22		32	
3 3	15-867 W	13 1	PBS1	23		33	
4 1	15-868	14 2	PBS2	24		34	
5 1	15-869	15 3	PBW	25		35	
6 1	15-870	16		26		36	
7 1	15-871	17		27		37	
8 1	15-872	18		28		38	
9 1	15-873	19		29		39	
10 1	15-874	20		30		40	

Notes:

LDC #: 18450A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-28-08
SDG #: F8A220112 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D.)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	ok
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	~~ER=3~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil

1	15-868	11		21		31	
2	15-868DUP	12		22		32	
3	PBS	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450A73
SDG #: F8A220112
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-19-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	—	ER = 3 (hit for Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-865	11	15-865DUP	21		31	
2	15-866	12 1	PBS	22		32	
3 2	15-867 W	13 2	PBW	23		33	
4	15-868	14		24		34	
5	15-869	15		25		35	
6	15-870	16		26		36	
7	15-871	17		27		37	
8	15-872	18		28		38	
9	15-873	19		29		39	
10	15-874	20		30		40	

Notes: _____

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25725

ENTERED

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO: 106.6795 52
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7918 3588 2414
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1 m Gamma; 1SOTOPIC Thorium; 1SOTOPIC URANIUM 95/52 DOE 52-01/52-02

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA22027

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-781	12-14-07	10:28	2	X		W	21 DY	FBB120265*	Equipment Rinsate	N/A	N/A	N
15-782	12-14-07	11:03	1	X		S	21 DY		B2IR-278a	2'	2.5'	N
15-783	12-14-07	11:06	1	X		S	21 DY		B2IR-278b	2.5'	3'	N
15-784	12-14-07	11:24	1	X		S	21 DY		2IR-278-01a	0"	6"	N
15-785	12-14-07	11:26	1	X		S	21 DY		2IR-278-01b	6"	12"	N
15-786	12-14-07	11:32	1	X		S	21 DY		2IR-278-02a	0"	6"	N
15-787	12-14-07	11:35	1	X		S	21 DY		2IR-278-02b	6"	12"	N
15-788	12-14-07	12:51	2	X		S	21 DY		2IR-278-03a	0"	6"	N
15-789	12-14-07	12:53	1	X		S	21 DY		2IR-278-03b	6"	12"	N
15-790	12-14-07	12:59	1	X		S	21 DY		2IR-278-04a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 1/21/08	RECEIVED BY (Signature)	
COMPANY Tt EC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTHS

COMPOSITE DESCRIPTION: # Ra-226 via 9030m 2-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= INSTALLATION Restoration

SL

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160579324

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25723

CHAIN-OF-CUSTODY RECORD

D 2-18

ENTERED

PROJECT NAME: IR sites 1, 2 3 32	PURCHASE ORDER NO: 106.629552
PROJECT LOCATION: Alameda, CA	PROJECT NO: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7918 3588 2414
PROJECT CONTACT: S. Sudekd	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 6010M (GAMMA SPECTROSCOPIC Th232 w/1); ISOTOPIC URANIUM

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220127

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-639	12-14-07	8:17	1	X		S	21 DY		B-1IR-97a	2'	2.5'	N
15-640	12-14-07	8:15	1	X		S	21 DY		B-1IR-97b	2.5'	3'	N
15-641	12-14-07	9:24	1	X		S	21 DY		B-1IR 114a	2'	2.5'	N
15-642	12-14-07	9:18	1	X		S	21 DY		B-1IR-114b	2.5'	3'	N
15-643	12-14-07	9:40	1	X		S	21 DY		B-1IR-AB1a	1'	1.5'	N
15-644	12-14-07	9:41	1	X		S	21 DY		B-1IR-AB1b	1.5'	2'	N
15-645	12-14-07	9:49	1	X		S	21 DY		1IR-AB1-02a	0'	6"	N
15-644	12-14-07	9:51	1	X		S	21 DY		1IR-AB1-02b	6"	12"	N

RELINQUISHED BY (Signature)	DATE 1/21/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUNDS
COMPANY TEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160593 24

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25724

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.6295.52
PROJECT LOCATION: Alameda CA	PROJECT NO: 3710.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7915 3578 2403
PROJECT CONTACT: S. Sudeko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA220127

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic U/Pu/Am	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-779	12-14-07	1016	1	X		S	21 DY	X	X	X		B-2IR-232a	2.5'	3'	N
15-780	12-14-07	1017	1	X		S	21 DY	X	X	X		B-2IR-232b	3'	3.5'	N

Project Information Section
Do not submit to Laboratory

RELINQUISHED BY (Signature): [signature]	DATE: 12/21/07	RECEIVED BY (Signature):	
COMPANY: Tt EC / Tetra	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160599324

Tetra Tech EC, Inc.

Client Sample ID: 15-782

Radiochemistry

Lab Sample ID: F8A220127-002
Work Order: KFWP8
Matrix: SOLID

Date Collected: 12/14/07 1103
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.48		0.18		0.27	01/24/08	02/14/08
Americium 241	0.12	U	0.32		0.55	01/24/08	02/14/08
Cesium 137	0.032	U	0.043	0.200	0.071	01/24/08	02/14/08
Cobalt 60	-0.008	U	0.041		0.078	01/24/08	02/14/08
Europium 152	0.008	U	0.079		0.15	01/24/08	02/14/08
Europium 154	-0.08	U	0.34		0.61	01/24/08	02/14/08
Potassium 40	7.6		1.4		0.9	01/24/08	02/14/08
Radium (226)	0.37	J	0.13	1.00	0.15	01/24/08	02/14/08
Thorium 232	0.48		0.18		0.27	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 78**
Thorium 228	0.40	J	0.15	1.00	0.1	02/08/08	02/16/08
Thorium 230	0.41	J	0.14	1.00	0.06	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 89**
Uranium 233/234	0.39	J	0.13	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.059	J	0.055	1.00	0.052	02/08/08	02/15/08
Uranium 238	0.32	J	0.12	1.00	0.04	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-782 DUP

Radiochemistry

Lab Sample ID: F8A220127-002X
Work Order: KFWP8
Matrix: SOLID

Date Collected: 12/14/07 1103
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 81**
Thorium 228	**0.51**	**J**	**0.16**	1.00	**0.1**	**02/08/08**	**02/16/08**
Thorium 230	**0.47**	**J**	**0.15**	1.00	**0.05**	**02/08/08**	**02/16/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 89**
Uranium 233/234	**0.34**	**J**	**0.13**	1.00	**0.06**	**02/08/08**	**02/15/08**
Uranium 235/236	-0.0026	U	0.0052	1.00	0.059	02/08/08	02/15/08
Uranium 238	**0.33**	**J**	**0.12**	1.00	**0.05**	**02/08/08**	**02/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-783

Radiochemistry

Lab Sample ID: F8A220127-003
Work Order: KFWP9
Matrix: SOLID

Date Collected: 12/14/07 1106
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.24	U	0.25		0.39	01/24/08	02/14/08
Americium 241	0.05	U	0.11		0.19	01/24/08	02/14/08
Cesium 137	0.048	U	0.075	0.200	0.13	01/24/08	02/14/08
Cobalt 60	-0.024	U	0.094		0.17	01/24/08	02/14/08
Europium 152	0.02	U	0.15		0.28	01/24/08	02/14/08
Europium 154	0.0	U	0.55		1.1	01/24/08	02/14/08
Potassium 40	7.2		1.8		0.8	01/24/08	02/14/08
Radium (226)	0.30	J	0.15	1.00	0.18	01/24/08	02/14/08
Thorium 232	0.24	U	0.25		0.39	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 83**
Thorium 228	0.40	J	0.15	1.00	0.1	02/08/08	02/16/08
Thorium 230	0.38	J	0.14	1.00	0.03	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 88**
Uranium 233/234	0.32	J	0.12	1.00	0.08	02/08/08	02/15/08
Uranium 235/236	0.024	U	0.038	1.00	0.056	02/08/08	02/15/08
Uranium 238	0.39	J	0.14	1.00	0.07	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-784

Radiochemistry

Lab Sample ID: F8A220127-004
Work Order: KFWQA
Matrix: SOLID

Date Collected: 12/14/07 1124
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.43		0.19		0.25	01/24/08	02/14/08
Americium 241	0.0	U	0.11		0.18	01/24/08	02/14/08
Cesium 137	0.033	U	0.042	0.200	0.070	01/24/08	02/14/08
Cobalt 60	0.0	U	0.049		0.091	01/24/08	02/14/08
Europium 152	-0.03	U	0.12		0.20	01/24/08	02/14/08
Europium 154	0.0	U	0.43		0.77	01/24/08	02/14/08
Potassium 40	10.3		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.36	J	0.12	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.43		0.19		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 85**
Thorium 228	0.45	J	0.14	1.00	0.08	02/08/08	02/18/08
Thorium 230	0.57	J	0.16	1.00	0.03	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 89**
Uranium 233/234	0.41	J	0.14	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.053	J	0.053	1.00	0.036	02/08/08	02/15/08
Uranium 238	0.43	J	0.14	1.00	0.04	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-785

Radiochemistry

Lab Sample ID: F8A220127-005
Work Order: KFWQD
Matrix: SOLID

Date Collected: 12/14/07 1126
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024266		Yld %
Actinium 228	0.58		0.18		0.27	01/24/08	02/14/08
Americium 241	0.004	U	0.10		0.18	01/24/08	02/14/08
Cesium 137	0.200	J	0.052	0.200	0.024	01/24/08	02/14/08
Cobalt 60	0.0	U	0.0092		0.034	01/24/08	02/14/08
Europium 152	-0.05	U	0.11		0.20	01/24/08	02/14/08
Europium 154	0.05	U	0.36		0.66	01/24/08	02/14/08
Potassium 40	13.2		1.7		0.3	01/24/08	02/14/08
Radium (226)	0.29	J	0.12	1.00	0.18	01/24/08	02/14/08
Thorium 232	0.58		0.18		0.27	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039145		Yld % 79
Thorium 228	0.62	J	0.18	1.00	0.08	02/08/08	02/16/08
Thorium 230	0.76	J	0.20	1.00	0.03	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039146		Yld % 88
Uranium 233/234	0.51	J	0.16	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.022	U	0.039	1.00	0.067	02/08/08	02/15/08
Uranium 238	0.42	J	0.14	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-786

Radiochemistry

Lab Sample ID: F8A220127-006
Work Order: KFWQE
Matrix: SOLID

Date Collected: 12/14/07 1132
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.86		0.29		0.40	01/24/08	02/14/08
Americium 241	-0.003	U	0.12		0.22	01/24/08	02/14/08
Cesium 137	0.105	U	0.076	0.200	0.11	01/24/08	02/14/08
Cobalt 60	-0.0005	U	0.072		0.14	01/24/08	02/14/08
Europium 152	-0.03	U	0.15		0.28	01/24/08	02/14/08
Europium 154	0.0	U	0.63		1.2	01/24/08	02/14/08
Potassium 40	13.5		2.3		0.7	01/24/08	02/14/08
Radium (226)	0.81	J	0.21	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.86		0.29		0.40	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 82**
Thorium 228	0.60	J	0.17	1.00	0.07	02/08/08	02/16/08
Thorium 230	0.79	J	0.20	1.00	0.07	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 88**
Uranium 233/234	0.45	J	0.14	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/08/08	02/15/08
Uranium 238	0.55	J	0.16	1.00	0.03	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-787

Radiochemistry

Lab Sample ID: F8A220127-007
Work Order: KFWQH
Matrix: SOLID

Date Collected: 12/14/07 1135
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8024266**	**Yld %**
Actinium 228	0.50		0.19		0.34	01/24/08	02/14/08
Americium 241	0.0007	U	0.097		0.17	01/24/08	02/14/08
Cesium 137	-0.01	U	0.12	0.20	0.13	01/24/08	02/14/08
Cobalt 60	0.039	U	0.070		0.12	01/24/08	02/14/08
Europium 152	-0.01	U	0.13		0.23	01/24/08	02/14/08
Europium 154	-0.10	U	0.46		0.83	01/24/08	02/14/08
Potassium 40	12.2		2.0		0.6	01/24/08	02/14/08
Radium (226)	0.27	J	0.13	1.00	0.18	01/24/08	02/14/08
Thorium 232	0.50		0.19		0.34	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039145**	**Yld % 79**
Thorium 228	0.56	J	0.17	1.00	0.09	02/08/08	02/16/08
Thorium 230	0.76	J	0.20	1.00	0.06	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039146**	**Yld % 83**
Uranium 233/234	0.37	J	0.13	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	02/08/08	02/15/08
Uranium 238	0.54	J	0.16	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-788

Radiochemistry

Lab Sample ID: F8A220127-008
Work Order: KFWQJ
Matrix: SOLID

Date Collected: 12/14/07 1251
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.48		0.14		0.14	01/24/08	02/14/08
Americium 241	0.0	U	0.27		0.47	01/24/08	02/14/08
Cesium 137	0.015	U	0.032	0.200	0.055	01/24/08	02/14/08
Cobalt 60	-0.007	U	0.031		0.057	01/24/08	02/14/08
Europium 152	-0.014	U	0.076		0.13	01/24/08	02/14/08
Europium 154	-0.004	U	0.23		0.42	01/24/08	02/14/08
Potassium 40	10		1.2		0.5	01/24/08	02/14/08
Radium (226)	0.478	J	0.0998	1.00	0.085	01/24/08	02/14/08
Thorium 232	0.48		0.14		0.14	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 81**
Thorium 228	0.36	J	0.14	1.00	0.09	02/08/08	02/16/08
Thorium 230	0.69	J	0.19	1.00	0.06	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 85**
Uranium 233/234	0.46	J	0.15	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	02/08/08	02/15/08
Uranium 238	0.42	J	0.14	1.00	0.06	02/08/08	02/15/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8022260**		**Yld % 54**
Strontium 90	-0.003	U	0.34	3.00	0.60	01/22/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-789

Radiochemistry

Lab Sample ID: F8A220127-009
Work Order: KFWQK
Matrix: SOLID

Date Collected: 12/14/07 1253
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.41		0.15		0.26	01/24/08	02/14/08
Americium 241	-0.036	U	0.091		0.15	01/24/08	02/14/08
Cesium 137	0.01	U	0.038	0.200	0.069	01/24/08	02/14/08
Cobalt 60	0.0	U	0.0099		0.036	01/24/08	02/14/08
Europium 152	0.019	U	0.086		0.15	01/24/08	02/14/08
Europium 154	-0.1	U	0.38		0.67	01/24/08	02/14/08
Potassium 40	8.2		1.4		0.8	01/24/08	02/14/08
Radium (226)	0.57	J	0.12	1.00	0.04	01/24/08	02/14/08
Thorium 232	0.41		0.15		0.26	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 68**
Thorium 228	0.62	J	0.20	1.00	0.1	02/08/08	02/16/08
Thorium 230	0.73	J	0.21	1.00	0.1	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 81**
Uranium 233/234	0.66	J	0.18	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.009	U	0.029	1.00	0.068	02/08/08	02/15/08
Uranium 238	0.43	J	0.14	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-790

Radiochemistry

Lab Sample ID: F8A220127-010
Work Order: KFWQL
Matrix: SOLID

Date Collected: 12/14/07 1259
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8024266**	**Yld %**
Actinium 228	0.45		0.14		0.23	01/24/08	02/14/08
Americium 241	0.003	U	0.087		0.15	01/24/08	02/14/08
Cesium 137	0.031	U	0.041	0.200	0.068	01/24/08	02/14/08
Cobalt 60	0.010	U	0.039		0.071	01/24/08	02/14/08
Europium 152	-0.03	U	0.11		0.18	01/24/08	02/14/08
Europium 154	0.08	U	0.28		0.51	01/24/08	02/14/08
Potassium 40	11.5		1.5		0.3	01/24/08	02/14/08
Radium (226)	0.33	J	0.11	1.00	0.15	01/24/08	02/14/08
Thorium 232	0.45		0.14		0.23	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039145**	**Yld % 82**
Thorium 228	0.62	J	0.18	1.00	0.07	02/08/08	02/16/08
Thorium 230	0.56	J	0.17	1.00	0.06	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039146**	**Yld % 96**
Uranium 233/234	0.29	J	0.11	1.00	0.03	02/08/08	02/15/08
Uranium 235/236	0.0	U	0.011	1.00	0.034	02/08/08	02/15/08
Uranium 238	0.34	J	0.12	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-639

Radiochemistry

Lab Sample ID: F8A220127-011
Work Order: KFWQM
Matrix: SOLID

Date Collected: 12/14/07 0812
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.52		0.14		0.23	01/24/08	02/14/08
Americium 241	0.024	U	0.096		0.16	01/24/08	02/14/08
Cesium 137	0.006	U	0.038	0.200	0.067	01/24/08	02/14/08
Cobalt 60	0.0007	U	0.041		0.078	01/24/08	02/14/08
Europium 152	-0.0008	U	0.089		0.16	01/24/08	02/14/08
Europium 154	0.10	U	0.28		0.50	01/24/08	02/14/08
Potassium 40	11.0		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.44	J	0.12	1.00	0.14	01/24/08	02/14/08
Thorium 232	0.52		0.14		0.23	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 76**
Thorium 228	0.78	J	0.21	1.00	0.09	02/08/08	02/18/08
Thorium 230	0.78	J	0.21	1.00	0.06	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 92**
Uranium 233/234	0.42	J	0.14	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	02/08/08	02/15/08
Uranium 238	0.238	J	0.099	1.00	0.027	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-640

Radiochemistry

Lab Sample ID: F8A220127-012
Work Order: KFWQN
Matrix: SOLID

Date Collected: 12/14/07 0815
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024266**		**Yld %**
Actinium 228	0.25	U	0.23		0.37	01/24/08	02/14/08
Americium 241	-0.027	U	0.098		0.17	01/24/08	02/14/08
Cesium 137	0.002	U	0.045	0.200	0.084	01/24/08	02/14/08
Cobalt 60	0.010	U	0.042		0.081	01/24/08	02/14/08
Europium 152	-0.03	U	0.12		0.22	01/24/08	02/14/08
Europium 154	0.0	U	0.48		0.89	01/24/08	02/14/08
Potassium 40	**10.0**		1.7		**0.5**	**01/24/08**	**02/14/08**
Radium (226)	**0.62**	**J**	0.14	1.00	**0.05**	**01/24/08**	**02/14/08**
Thorium 232	0.25	U	0.23		0.37	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 83**
Thorium 228	**0.59**	**J**	0.18	1.00	**0.08**	**02/08/08**	**02/16/08**
Thorium 230	**0.42**	**J**	0.15	1.00	**0.05**	**02/08/08**	**02/16/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 82**
Uranium 233/234	**0.31**	**J**	0.12	1.00	**0.05**	**02/08/08**	**02/15/08**
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/08/08	02/15/08
Uranium 238	**0.42**	**J**	0.14	1.00	**0.05**	**02/08/08**	**02/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-641

Radiochemistry

Lab Sample ID: F8A220127-013
Work Order: KFWQP
Matrix: SOLID

Date Collected: 12/14/07 0908
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.19	U	0.36		0.60	01/24/08	02/14/08
Americium 241	0.13	U	0.27		0.45	01/24/08	02/14/08
Cesium 137	-0.13	U	0.13	0.20	0.20	01/24/08	02/14/08
Cobalt 60	-0.005	U	0.092		0.16	01/24/08	02/14/08
Europium 152	**1.16**		**0.30**		**0.55**	**01/24/08**	**02/14/08**
Europium 154	0.0	U	0.87		1.5	01/24/08	02/14/08
Potassium 40	**8.2**		**1.6**		**1.7**	**01/24/08**	**02/14/08**
Radium (226)	**23.8**		**1.6**	1.0	**0.3**	**01/24/08**	**02/14/08**
Thorium 232	0.19	U	0.36		0.60	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 91**
Thorium 228	**0.55**	**J**	**0.16**	1.00	**0.1**	**02/08/08**	**02/16/08**
Thorium 230	**0.46**	**J**	**0.15**	1.00	**0.07**	**02/08/08**	**02/16/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 94**
Uranium 233/234	**0.28**	**J**	**0.11**	1.00	**0.03**	**02/08/08**	**02/15/08**
Uranium 235/236	0.035	U	0.043	1.00	0.052	02/08/08	02/15/08
Uranium 238	**0.34**	**J**	**0.12**	1.00	**0.03**	**02/08/08**	**02/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-641 DUP

Radiochemistry

Lab Sample ID: F8A220127-013X
Work Order: KFWQP
Matrix: SOLID

Date Collected: 12/14/07 0908
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.01	U	0.32		0.55	01/24/08	02/14/08
Americium 241	0.008	U	0.28		0.46	01/24/08	02/14/08
Cesium 137	-0.14	U	0.14	0.20	0.22	01/24/08	02/14/08
Cobalt 60	-0.017	U	0.093		0.16	01/24/08	02/14/08
Europium 152	**1.07**		**0.31**		**0.62**	**01/24/08**	**02/14/08**
Europium 154	-0.03	U	0.85		1.5	01/24/08	02/14/08
Potassium 40	**10**		**1.9**		**1.3**	**01/24/08**	**02/14/08**
Radium (226)	**22.1**		**1.5**	1.0	**0.3**	**01/24/08**	**02/14/08**
Thorium 232	0.01	U	0.32		0.55	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-642

Radiochemistry

Lab Sample ID: F8A220127-014
Work Order: KFWQQ
Matrix: SOLID

Date Collected: 12/14/07 0918
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.23	U	0.22		0.35	01/24/08	02/14/08
Americium 241	-0.06	U	0.17		0.28	01/24/08	02/14/08
Cesium 137	-0.036	U	0.072	0.200	0.12	01/24/08	02/14/08
Cobalt 60	0.010	U	0.048		0.087	01/24/08	02/14/08
Europium 152	0.06	U	0.16		0.27	01/24/08	02/14/08
Europium 154	0.07	U	0.43		0.77	01/24/08	02/14/08
Potassium 40	7.0		1.3		1.2	01/24/08	02/14/08
Radium (226)	5.30		0.51	1.00	0.20	01/24/08	02/14/08
Thorium 232	0.23	U	0.22		0.35	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 87**
Thorium 228	0.27	J	0.11	1.00	0.07	02/08/08	02/16/08
Thorium 230	0.58	J	0.17	1.00	0.03	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 84**
Uranium 233/234	0.32	J	0.12	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.009	U	0.028	1.00	0.067	02/08/08	02/15/08
Uranium 238	0.26	J	0.11	1.00	0.07	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-643

Radiochemistry

Lab Sample ID: F8A220127-015
Work Order: KFWQR
Matrix: SOLID

Date Collected: 12/14/07 0940
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.35		0.21		0.28	01/24/08	02/14/08
Americium 241	-0.017	U	0.082		0.14	01/24/08	02/14/08
Cesium 137	0.015	U	0.051	0.200	0.093	01/24/08	02/14/08
Cobalt 60	0.0	U	0.015		0.054	01/24/08	02/14/08
Europium 152	0.04	U	0.10		0.18	01/24/08	02/14/08
Europium 154	0.12	U	0.33		0.61	01/24/08	02/14/08
Potassium 40	9.7		1.8		0.5	01/24/08	02/14/08
Radium (226)	0.42	J	0.13	1.00	0.08	01/24/08	02/14/08
Thorium 232	0.35		0.21		0.28	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 78**
Thorium 228	0.55	J	0.17	1.00	0.12	02/08/08	02/18/08
Thorium 230	0.51	J	0.17	1.00	0.09	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 88**
Uranium 233/234	0.27	J	0.11	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.038	J	0.044	1.00	0.035	02/08/08	02/15/08
Uranium 238	0.37	J	0.13	1.00	0.06	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-644

Radiochemistry

Lab Sample ID: F8A220127-016
Work Order: KFWQT
Matrix: SOLID

Date Collected: 12/14/07 0941
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.29	U	0.24		0.36	01/24/08	02/14/08
Americium 241	0.043	U	0.085		0.14	01/24/08	02/14/08
Cesium 137	-0.011	U	0.098	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.031	U	0.053		0.090	01/24/08	02/14/08
Europium 152	0.006	U	0.091		0.17	01/24/08	02/14/08
Europium 154	0.03	U	0.37		0.70	01/24/08	02/14/08
Potassium 40	**10.7**		**1.8**		**0.5**	**01/24/08**	**02/14/08**
Radium (226)	**0.51**	**J**	0.14	1.00	**0.11**	**01/24/08**	**02/14/08**
Thorium 232	0.29	U	0.24		0.36	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 90**
Thorium 228	**0.58**	**J**	0.17	1.00	**0.09**	**02/08/08**	**02/16/08**
Thorium 230	**0.49**	**J**	0.15	1.00	**0.05**	**02/08/08**	**02/16/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 88**
Uranium 233/234	**0.28**	**J**	0.11	1.00	**0.06**	**02/08/08**	**02/15/08**
Uranium 235/236	0.010	U	0.026	1.00	0.055	02/08/08	02/15/08
Uranium 238	**0.25**	**J**	0.11	1.00	**0.06**	**02/08/08**	**02/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-645

Radiochemistry

Lab Sample ID: F8A220127-017
Work Order: KFWQW
Matrix: SOLID

Date Collected: 12/14/07 0949
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.57		0.16		0.15	01/24/08	02/14/08
Americium 241	0.03	U	0.27		0.46	01/24/08	02/14/08
Cesium 137	0.147	J	0.048	0.200	0.055	01/24/08	02/14/08
Cobalt 60	0.002	U	0.033		0.063	01/24/08	02/14/08
Europium 152	-0.025	U	0.068		0.12	01/24/08	02/14/08
Europium 154	-0.05	U	0.22		0.40	01/24/08	02/14/08
Potassium 40	10.2		1.3		0.5	01/24/08	02/14/08
Radium (226)	0.38	J	0.10	1.00	0.1	01/24/08	02/14/08
Thorium 232	0.57		0.16		0.15	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 85**
Thorium 228	0.58	J	0.17	1.00	0.07	02/08/08	02/18/08
Thorium 230	0.43	J	0.14	1.00	0.03	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 86**
Uranium 233/234	0.44	J	0.15	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.006	U	0.028	1.00	0.073	02/08/08	02/15/08
Uranium 238	0.47	J	0.15	1.00	0.09	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-646

Radiochemistry

Lab Sample ID: F8A220127-018
Work Order: KFWQX
Matrix: SOLID

Date Collected: 12/14/07 0951
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8024271**	**Yld %**
Actinium 228	0.29		0.13		0.22	01/24/08	02/14/08
Americium 241	0.042	U	0.071		0.12	01/24/08	02/14/08
Cesium 137	-0.005	U	0.039	0.200	0.071	01/24/08	02/14/08
Cobalt 60	-0.008	U	0.039		0.075	01/24/08	02/14/08
Europium 152	0.010	U	0.086		0.16	01/24/08	02/14/08
Europium 154	0.09	U	0.25		0.45	01/24/08	02/14/08
Potassium 40	7.5		1.3		0.4	01/24/08	02/14/08
Radium (226)	0.193	J	0.090	1.00	0.12	01/24/08	02/14/08
Thorium 232	0.29		0.13		0.22	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039145**	**Yld % 81**
Thorium 228	0.33	J	0.13	1.00	0.09	02/08/08	02/16/08
Thorium 230	0.43	J	0.15	1.00	0.06	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039146**	**Yld % 86**
Uranium 233/234	0.27	J	0.11	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.035	U	0.047	1.00	0.065	02/08/08	02/15/08
Uranium 238	0.30	J	0.12	1.00	0.06	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-779

Radiochemistry

Lab Sample ID: F8A220127-019
Work Order: KFWQ0
Matrix: SOLID

Date Collected: 12/14/07 1016
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.34		0.13		0.24	01/24/08	02/14/08
Americium 241	0.059	U	0.090		0.15	01/24/08	02/14/08
Cesium 137	-0.000007	U	0.037	0.200	0.069	01/24/08	02/14/08
Cobalt 60	0.0	U	0.0081		0.030	01/24/08	02/14/08
Europium 152	0.019	U	0.083		0.15	01/24/08	02/14/08
Europium 154	0.18	U	0.33		0.57	01/24/08	02/14/08
Potassium 40	10.8		1.5		0.3	01/24/08	02/14/08
Radium (226)	0.32	J	0.12	1.00	0.17	01/24/08	02/14/08
Thorium 232	0.34		0.13		0.24	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 80**
Thorium 228	0.36	J	0.14	1.00	0.09	02/08/08	02/18/08
Thorium 230	0.43	J	0.15	1.00	0.07	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 84**
Uranium 233/234	0.36	J	0.13	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	-0.0024	U	0.0049	1.00	0.055	02/08/08	02/15/08
Uranium 238	0.34	J	0.12	1.00	0.04	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-780

Radiochemistry

Lab Sample ID: F8A220127-020
Work Order: KFWQ1
Matrix: SOLID

Date Collected: 12/14/07 1017
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.18	U	0.16		0.24	01/24/08	02/14/08
Americium 241	0.054	U	0.083		0.14	01/24/08	02/14/08
Cesium 137	0.018	U	0.052	0.200	0.092	01/24/08	02/14/08
Cobalt 60	-0.006	U	0.041		0.081	01/24/08	02/14/08
Europium 152	0.045	U	0.099		0.17	01/24/08	02/14/08
Europium 154	-0.07	U	0.33		0.62	01/24/08	02/14/08
Potassium 40	7.5		1.4		0.5	01/24/08	02/14/08
Radium (226)	0.51	J	0.15	1.00	0.11	01/24/08	02/14/08
Thorium 232	0.18	U	0.16		0.24	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039145**		**Yld % 80**
Thorium 228	0.47	J	0.16	1.00	0.10	02/08/08	02/16/08
Thorium 230	0.53	J	0.16	1.00	0.03	02/08/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039146**		**Yld % 80**
Uranium 233/234	0.28	J	0.12	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.043	U	0.054	1.00	0.066	02/08/08	02/15/08
Uranium 238	0.31	J	0.13	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-781	F8A220127001	EB	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-781	F8A220127001	EB	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-781	F8A220127001	EB	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-782	F8A220127002	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-782	F8A220127002	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-782	F8A220127002	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-782DUP	F8A220127002DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-782DUP	F8A220127002DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-783	F8A220127003	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-783	F8A220127003	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-783	F8A220127003	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-784	F8A220127004	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-784	F8A220127004	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-784	F8A220127004	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-785	F8A220127005	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-785	F8A220127005	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-785	F8A220127005	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-786	F8A220127006	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-786	F8A220127006	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-786	F8A220127006	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-787	F8A220127007	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-787	F8A220127007	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-787	F8A220127007	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-788	F8A220127008	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-788	F8A220127008	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-788	F8A220127008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-788	F8A220127008	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-789	F8A220127009	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-789	F8A220127009	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-789	F8A220127009	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-790	F8A220127010	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-790	F8A220127010	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-790	F8A220127010	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-639	F8A220127011	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-639	F8A220127011	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-639	F8A220127011	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-640	F8A220127012	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-640	F8A220127012	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-640	F8A220127012	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-641	F8A220127013	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-641	F8A220127013	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-641	F8A220127013	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-641DUP	F8A220127013DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-642	F8A220127014	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-642	F8A220127014	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-642	F8A220127014	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-643	F8A220127015	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-643	F8A220127015	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-643	F8A220127015	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-644	F8A220127016	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-644	F8A220127016	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-644	F8A220127016	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-645	F8A220127017	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-645	F8A220127017	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-645	F8A220127017	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-646	F8A220127018	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-646	F8A220127018	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-646	F8A220127018	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-779	F8A220127019	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-779	F8A220127019	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-779	F8A220127019	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-780	F8A220127020	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-780	F8A220127020	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-780	F8A220127020	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A220127										
DOE A-01-R TH MOD	15-639	SO	N	THORIUM-230	1.00	0.78J	0.21	U	pCi/g	
DOE A-01-R TH MOD	15-640	SO	N	THORIUM-230	1.00	0.42J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-641	SO	N	THORIUM-230	1.00	0.46J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-642	SO	N	THORIUM-230	1.00	0.58J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-643	SO	N	THORIUM-230	1.00	0.51J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-644	SO	N	THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-645	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-646	SO	N	THORIUM-230	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-779	SO	N	THORIUM-230	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-780	SO	N	THORIUM-230	1.00	0.53J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-781	AQ	EB	THORIUM-230	1.00	0.14J	0.13	U	pCi/L	
DOE A-01-R TH MOD	15-782	SO	N	THORIUM-230	1.00	0.41J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-783	SO	N	THORIUM-230	1.00	0.38J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-784	SO	N	THORIUM-230	1.00	0.57J	0.16	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A220127										
DOE A-01-R TH MOD	15-785	SO	N							
				THORIUM-230	1.00	0.76J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-786	SO	N							
				THORIUM-230	1.00	0.79J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-787	SO	N							
				THORIUM-230	1.00	0.76J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-788	SO	N							
				THORIUM-230	1.00	0.69J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-789	SO	N							
				THORIUM-230	1.00	0.73J	0.21	U	pCi/g	
DOE A-01-R TH MOD	15-790	SO	N							
				THORIUM-230	1.00	0.56J	0.17	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A220127

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A220127	15-639	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-640	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-641	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-642	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-643	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-644	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-645	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-646	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-779	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-780	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-781	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-782	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-783	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-784	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-785	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-786	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-787	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-788	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-789	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A220127	15-790	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte	Client Analyte ID	Lab Result	Units	Lab Qualifiers	Reporting Limit
F8A220127	DOE A-01-R TH MOD	EB	AQ	12/14/2007 0:00	THORIUM-230	14269-63-7	0.14	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A220127

Method Blank Outlier Report

Lab Reporting Batch : F8A220127
Lab ID: TestAme
Analysis Method : DOE GA-01-R MOD
Analysis Date : 01/24/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A230000398MB
Preparation Batch : 8023398

THORIUM-232	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.0		pCi/L		

THORIUM-232 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A220127 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 02/18/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8B080000145MB **Preparation Batch :** 8039145

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.68**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-639	F8A220127011	1	0.78	J	pCi/g
15-640	F8A220127012	1	0.42	J	pCi/g
15-641	F8A220127013	1	0.46	J	pCi/g
15-642	F8A220127014	1	0.58	J	pCi/g
15-643	F8A220127015	1	0.51	J	pCi/g
15-644	F8A220127016	1	0.49	J	pCi/g
15-645	F8A220127017	1	0.43	J	pCi/g
15-646	F8A220127018	1	0.43	J	pCi/g
15-779	F8A220127019	1	0.43	J	pCi/g
15-780	F8A220127020	1	0.53	J	pCi/g
15-782	F8A220127002	1	0.41	J	pCi/g
15-783	F8A220127003	1	0.38	J	pCi/g
15-784	F8A220127004	1	0.57	J	pCi/g
15-785	F8A220127005	1	0.76	J	pCi/g
15-786	F8A220127006	1	0.79	J	pCi/g
15-787	F8A220127007	1	0.76	J	pCi/g
15-788	F8A220127008	1	0.69	J	pCi/g
15-789	F8A220127009	1	0.73	J	pCi/g
15-790	F8A220127010	1	0.56	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A220127
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8B110000181MB

Lab ID: TestAme
Analysis Date : 02/13/2008
Preparation Date :
Preparation Batch : 8042181

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.29	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-781	F8A220127001	1	0.14	J	pCi/L

LDC #: 18450B35
SDG #: F8A220127
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A220112) high RPDs are both N.D.
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	3	15-781 W	11	1	15-639 S	21	2	15-641DUP S	31	
2	1	15-782 S	12	1	15-640	22	1	PBS1	32	
3	1	15-783	13	2	15-641	23	2	PBS2	33	
4	1	15-784	14	2	15-642	24	3	PBW	34	
5	1	15-785	15	2	15-643	25			35	
6	1	15-786	16	2	15-644	26			36	
7	1	15-787	17	2	15-645	27			37	
8	1	15-788	18	2	15-646	28			38	
9	1	15-789	19	2	15-779	29			39	
10	1	15-790	20	2	15-780	30			40	

Notes:

LDC #: 18450B59
SDG #: F8A220127
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (ok by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER=1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-781 W	11	15-639 S	21	15-782DUP S	31	
2	15-782 S	12	15-640	22	PBW	32	
3	15-783	13	15-641	23	PBS	33	
4	15-784	14	15-642	24		34	
5	15-785	15	15-643	25		35	
6	15-786	16	15-644	26		36	
7	15-787	17	15-645	27		37	
8	15-788	18	15-646	28		38	
9	15-789	19	15-779	29		39	
10	15-790	20	15-780	30		40	

Notes:

LDC #: 18450B61
SDG #: F8A220127
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

3 9m2

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A220112) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	cv
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
soil

1	15-788	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450B73
SDG #: F8A220127
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP ~~(SDG: F8A220112)~~
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ N	cN
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	~	ER = 1 (hit for Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 2	15-781 W	11	15-639 S	21	15-782DUP S	31	
2	15-782 S	12	15-640	22 1	PB S	32	
3	15-783	13	15-641	23 2	PBW	33	
4	15-784	14	15-642	24		34	
5	15-785	15	15-643	25		35	
6	15-786	16	15-644	26		36	
7	15-787	17	15-645	27		37	
8	15-788	18	15-646	28		38	
9	15-789	19	15-779	29		39	
10	15-790	20	15-780	30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25729

D2-18

PROJECT NAME: JR Sites 1,2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.029D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7924 9157 3829
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220133

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 6010B Gamma	Isotopic Thorium	Isotopic Uranium	9/2 DLC SE-01 1/2-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-804	12.17.07	1342	1	X		S	21 DY	X	X	X			B2IR-279a	1.5'	2'	N
15-805	12.17.07	1344	1	X		S	21 DY	X	X	X			B2IR-279b	2'	2.5'	N
15-806	12.17.07	1411	1	X		S	21 DY	X	X	X			B2IR-282a	1'	1.5'	N
15-807	12.17.07	1413	1	X		S	21 DY	X	X	X			B2IR-282b	1.5'	2'	N
15-808	12.17.07	1425	2	X		S	21 DY	X	X	X	X		2IR-282-01a	0"	6"	N
15-809	12.17.07	1428	1	X		S	21 DY	X	X	X			2IR-282-01b	6"	12"	N
15-810	12.17.07	1433	1	X		S	21 DY	X	X	X			2IR-282-02a	0"	6"	N
15-811	12.17.07	1435	1	X		S	21 DY	X	X	X			2IR-282-02b	6"	12"	N
15-812	12.17.07	1437	1	X		S	21 DY	X	X	X			2IR-282-03a	0"	6"	N
15-813	12.17.07	1439	1	X		S	21 DY	X	X	X			2IR-282-03b	6"	12"	N

RELINQUISHED BY (Signature)	DATE 12/21/07	RECEIVED BY (Signature)
COMPANY TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaths

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160593 25

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25730

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7992 5864 1241
PROJECT CONTACT: S Suokko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220133

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	9SR SR DOE SR 01/SR02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-818	12.17.07	1234	1	X		S	21 DY	X	X	X	X		B2IR-341a	1'	1.5'	N
15-819	12.17.07	1236	1	X		S	21 DY	X	X	X			B2IR-341b	1.5'	2'	N
15-820	12.17.07	1242	2	X		W	21 DY	X	X	X		F8B120265 #	Equipment Rinsate	N/A	N/A	N
15-821	12.17.07	1255	1	X		S	21 DY	X	X	X			B2IR-342a	1'	1.5'	N
15-822	12.17.07	1257	1	X		S	21 DY	X	X	X			B2IR-342b	1.5'	2'	N
15-823	12.17.07	1300	1	X		S	21 DY	X	X	X			2IR-342-01a	0"	6"	N
15-824	12.17.07	1302	1	X		S	21 DY	X	X	X			2IR-342-01b	6"	12"	N
15-825	12.17.07	1305	1	X		S	21 DY	X	X	X			2IR-342-02a	0"	6"	N
15-826	12.17.07	1307	1	X		S	21 DY	X	X	X			2IR-342-02b	6"	12"	N
15-827	12.17.07	1311	1	X		S	21 DY	X	X	X			2IR-342-03a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 12/21/07	RECEIVED BY (Signature)	
COMPANY TTEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION: # Ra-226 via 903.0m 2-8-08 SV

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059325

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25732

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.0125D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7924 9157 3829
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220133

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	40 CFR DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-838	12.17.07	1344	2	X		S	21 DY	X	X	X	X		2IR-342-08b	6"	12"	N
15-839	12.17.07	1347	1	X		S	21 DY	X	X	X			2IR-342-09a	0"	6"	N
15-840	12.17.07	1349	1	X		S	21 DY	X	X	X			2IR-342-09b	6"	12"	N
15-841	12.17.07	1355	1	X		S	21 DY	X	X	X			2IR-342-10a	0"	6"	N
15-842	12.17.07	1357	1	X		S	21 DY	X	X	X			2IR-342-10b	6"	12"	N
15-843	12.17.07	1407	1	X		S	21 DY	X	X	X			B2IR-343a	1.5'	2'	N
15-844	12.17.07	1409	1	X		S	21 DY	X	X	X			B2IR-343b	2'	2.5'	N
15-845	12.17.07	1416	1	X		S	21 DY	X	X	X			2IR-343-01a	0"	6"	N
15-846	12.17.07	1418	1	X		S	21 DY	X	X	X			2IR-343-01b	6"	12"	N
15-847	12.17.07	1425	1	X		S	21 DY	X	X	X			2IR-343-02a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 1/31/08	RECEIVED BY (Signature)
COMPANY TT&C/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUNDS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160593.25

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25731

ENGINEERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7992 5864 1241
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220133

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Gamma Isotopic	Thorium Isotopic	Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-892	12.17.07	1250	1	X		S	21 DY	X	X	X		IR-18-ABC-046	2.5'	3'	N

RELINQUISHED BY (Signature): [signature]	DATE: 1/2/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths
COMPANY: TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

gd

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

160593325

Tetra Tech EC, Inc.

Client Sample ID: 15-804

Radiochemistry

Lab Sample ID: F8A220133-001
Work Order: KFWRW
Matrix: SOLID

Date Collected: 12/17/07 1342
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.34	U	0.17		0.36	01/24/08	02/14/08
Americium 241	-0.07	U	0.11		0.18	01/24/08	02/14/08
Cesium 137	0.047	U	0.067	0.200	0.12	01/24/08	02/14/08
Cobalt 60	0.019	U	0.055		0.10	01/24/08	02/14/08
Europium 152	-0.001	U	0.11		0.20	01/24/08	02/14/08
Europium 154	-0.11	U	0.47		0.86	01/24/08	02/14/08
Potassium 40	7.2		1.6		1.1	01/24/08	02/14/08
Radium (226)	0.43	J	0.14	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.34	U	0.17		0.36	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 75
Thorium 228	0.73	J	0.20	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.77	J	0.21	1.00	0.08	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 94
Uranium 233/234	0.34	J	0.12	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.034	U	0.045	1.00	0.063	02/08/08	02/14/08
Uranium 238	0.62	J	0.17	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-804 DUP

Radiochemistry

Lab Sample ID: F8A220133-001X
Work Order: KFWRW
Matrix: SOLID

Date Collected: 12/17/07 1342
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039191**	**Yld % 83**
Thorium 228	**0.59**	**J**	**0.17**	1.00	**0.09**	**02/08/08**	**02/15/08**
Thorium 230	**0.65**	**J**	**0.18**	1.00	**0.06**	**02/08/08**	**02/15/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039188**	**Yld % 89**
Uranium 233/234	**0.45**	**J**	**0.15**	1.00	**0.07**	**02/08/08**	**02/14/08**
Uranium 235/236	-0.0025	U	0.0049	1.00	0.056	02/08/08	02/14/08
Uranium 238	**0.41**	**J**	**0.14**	1.00	**0.03**	**02/08/08**	**02/14/08**

NOTE(S)

Data are incomplete without the case narrative.

[illegible] is determined by instrument performance only.
[illegible]d results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-805

Radiochemistry

Lab Sample ID: F8A220133-002
Work Order: KFWTK
Matrix: SOLID

Date Collected: 12/17/07 1344
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	1.24		0.25		0.34	01/24/08	02/14/08
Americium 241	-0.01	U	0.32		0.57	01/24/08	02/14/08
Cesium 137	0.058	U	0.058	0.200	0.091	01/24/08	02/14/08
Cobalt 60	0.0	U	0.012		0.045	01/24/08	02/14/08
Europium 152	-0.02	U	0.12		0.22	01/24/08	02/14/08
Europium 154	0.0	U	0.64		1.1	01/24/08	02/14/08
Potassium 40	7.0		1.4		1	01/24/08	02/14/08
Radium (226)	0.52	J	0.17	1.00	0.21	01/24/08	02/14/08
Thorium 232	1.24		0.25		0.34	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 79
Thorium 228	1.55		0.30	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.79	J	0.20	1.00	0.06	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 85
Uranium 233/234	0.57	J	0.16	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.077	J	0.065	1.00	0.056	02/08/08	02/14/08
Uranium 238	0.47	J	0.15	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-806

Radiochemistry

Lab Sample ID: F8A220133-003
Work Order: KFWTM
Matrix: SOLID

Date Collected: 12/17/07 1411
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.28		0.17		0.22	01/24/08	02/14/08
Americium 241	-0.03	U	0.10		0.17	01/24/08	02/14/08
Cesium 137	-0.0007	U	0.041	0.200	0.077	01/24/08	02/14/08
Cobalt 60	-0.01	U	0.041		0.079	01/24/08	02/14/08
Europium 152	-0.02	U	0.11		0.19	01/24/08	02/14/08
Europium 154	0.04	U	0.24		0.46	01/24/08	02/14/08
Potassium 40	5.9		1.3		0.7	01/24/08	02/14/08
Radium (226)	0.57	J	0.16	1.00	0.14	01/24/08	02/14/08
Thorium 232	0.28		0.17		0.22	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039191**		**Yld % 87**
Thorium 228	0.54	J	0.16	1.00	0.08	02/08/08	02/18/08
Thorium 230	0.38	J	0.13	1.00	0.05	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039188**		**Yld % 87**
Uranium 233/234	0.27	J	0.11	1.00	0.05	02/08/08	02/14/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/08/08	02/14/08
Uranium 238	0.30	J	0.12	1.00	0.06	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-807

Radiochemistry

Lab Sample ID: F8A220133-004
Work Order: KFWTP
Matrix: SOLID

Date Collected: 12/17/07 1413
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.57		0.17		0.25	01/24/08	02/14/08
Americium 241	-0.03	U	0.10		0.18	01/24/08	02/14/08
Cesium 137	-0.005	U	0.050	0.200	0.090	01/24/08	02/14/08
Cobalt 60	-0.0006	U	0.047		0.089	01/24/08	02/14/08
Europium 152	0.056	U	0.095		0.16	01/24/08	02/14/08
Europium 154	0.06	U	0.32		0.59	01/24/08	02/14/08
Potassium 40	9.8		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.52	J	0.14	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.57		0.17		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 87
Thorium 228	0.49	J	0.15	1.00	0.07	02/08/08	02/15/08
Thorium 230	0.62	J	0.17	1.00	0.06	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 86
Uranium 233/234	0.31	J	0.12	1.00	0.05	02/08/08	02/14/08
Uranium 235/236	0.008	U	0.027	1.00	0.065	02/08/08	02/14/08
Uranium 238	0.31	J	0.12	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-808

Radiochemistry

Lab Sample ID: F8A220133-005
Work Order: KFWTQ
Matrix: SOLID

Date Collected: 12/17/07 1425
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.37		0.17		0.20	01/24/08	02/14/08
Americium 241	-0.025	U	0.097		0.17	01/24/08	02/14/08
Cesium 137	0.029	U	0.041	0.200	0.068	01/24/08	02/14/08
Cobalt 60	0.0002	U	0.049		0.092	01/24/08	02/14/08
Europium 152	0.0	U	0.13		0.22	01/24/08	02/14/08
Europium 154	-0.01	U	0.30		0.56	01/24/08	02/14/08
Potassium 40	9.4		1.4		0.3	01/24/08	02/14/08
Radium (226)	0.30	J	0.12	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.37		0.17		0.20	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 85
Thorium 228	0.35	J	0.13	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.34	J	0.12	1.00	0.03	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 91
Uranium 233/234	0.32	J	0.12	1.00	0.03	02/08/08	02/14/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	02/08/08	02/14/08
Uranium 238	0.23	J	0.10	1.00	0.05	02/08/08	02/14/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8022260		Yld % 49
Strontium 90	-0.20	U	0.32	3.00	0.60	01/22/08	02/05/08

NOTE(S)

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Bold results are greater than the MDC

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-809

Radiochemistry

Lab Sample ID: F8A220133-006
Work Order: KFWTV
Matrix: SOLID

Date Collected: 12/17/07 1428
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.31		0.19		0.24	01/24/08	02/14/08
Americium 241	0.017	U	0.088		0.15	01/24/08	02/14/08
Cesium 137	0.0	U	0.094	0.200	0.17	01/24/08	02/14/08
Cobalt 60	-0.011	U	0.054		0.10	01/24/08	02/14/08
Europium 152	-0.04	U	0.13		0.23	01/24/08	02/14/08
Europium 154	-0.03	U	0.42		0.79	01/24/08	02/14/08
Potassium 40	7.6		1.6		0.8	01/24/08	02/14/08
Radium (226)	0.39	J	0.12	1.00	0.06	01/24/08	02/14/08
Thorium 232	0.31		0.19		0.24	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 90
Thorium 228	0.56	J	0.17	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 44
Uranium 233/234	0.42	J	0.19	1.00	0.10	02/08/08	02/14/08
Uranium 235/236	-0.0048	U	0.0096	1.00	0.11	02/08/08	02/14/08
Uranium 238	0.53	J	0.21	1.00	0.06	02/08/08	02/14/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-810

Radiochemistry

Lab Sample ID: F8A220133-007
Work Order: KFWT2
Matrix: SOLID

Date Collected: 12/17/07 1433
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024271**		**Yld %**
Actinium 228	0.33		0.20		0.27	01/24/08	02/14/08
Americium 241	0.085	U	0.092		0.15	01/24/08	02/14/08
Cesium 137	0.030	U	0.056	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.074		0.14	01/24/08	02/14/08
Europium 152	0.03	U	0.12		0.21	01/24/08	02/14/08
Europium 154	0.0	U	0.65		1.2	01/24/08	02/14/08
Potassium 40	8.3		1.6		0.5	01/24/08	02/14/08
Radium (226)	0.46	J	0.16	1.00	0.15	01/24/08	02/14/08
Thorium 232	0.33		0.20		0.27	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039191**		**Yld % 86**
Thorium 228	0.98	J	0.23	1.00	0.10	02/08/08	02/15/08
Thorium 230	0.40	J	0.14	1.00	0.08	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039188**		**Yld % 77**
Uranium 233/234	0.57	J	0.17	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.041	U	0.051	1.00	0.062	02/08/08	02/14/08
Uranium 238	0.41	J	0.14	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-811

Radiochemistry

Lab Sample ID: F8A220133-008
Work Order: KFWT4
Matrix: SOLID

Date Collected: 12/17/07 1435
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024271		Yld %
Actinium 228	0.38		0.14		0.15	01/24/08	02/14/08
Americium 241	-0.01	U	0.25		0.44	01/24/08	02/14/08
Cesium 137	0.007	U	0.028	0.200	0.050	01/24/08	02/14/08
Cobalt 60	-0.016	U	0.040		0.071	01/24/08	02/14/08
Europium 152	0.012	U	0.083		0.15	01/24/08	02/14/08
Europium 154	-0.09	U	0.26		0.47	01/24/08	02/14/08
Potassium 40	9.1		1.2		0.5	01/24/08	02/14/08
Radium (226)	0.395	J	0.096	1.00	0.070	01/24/08	02/14/08
Thorium 232	0.38		0.14		0.15	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8039191		Yld % 92
Thorium 228	0.32	J	0.12	1.00	0.06	02/08/08	02/15/08
Thorium 230	0.36	J	0.12	1.00	0.03	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8039188		Yld % 95
Uranium 233/234	0.223	J	0.095	1.00	0.026	02/08/08	02/14/08
Uranium 235/236	0.01	U	0.025	1.00	0.051	02/08/08	02/14/08
Uranium 238	0.213	J	0.092	1.00	0.026	02/08/08	02/14/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-812

Radiochemistry

Lab Sample ID: F8A220133-009
Work Order: KFWT5
Matrix: SOLID

Date Collected: 12/17/07 1437
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.24	U	0.18		0.26	01/24/08	02/14/08
Americium 241	-0.04	U	0.11		0.19	01/24/08	02/14/08
Cesium 137	0.044	U	0.038	0.200	0.056	01/24/08	02/14/08
Cobalt 60	-0.016	U	0.053		0.095	01/24/08	02/14/08
Europium 152	0.0	U	0.11		0.20	01/24/08	02/14/08
Europium 154	0.11	U	0.34		0.61	01/24/08	02/14/08
Potassium 40	8.3		1.5		1	01/24/08	02/14/08
Radium (226)	0.92	J	0.17	1.00	0.08	01/24/08	02/14/08
Thorium 232	0.24	U	0.18		0.26	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 90
Thorium 228	0.46	J	0.15	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.37	J	0.13	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 90
Uranium 233/234	0.46	J	0.14	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.033	U	0.044	1.00	0.062	02/08/08	02/15/08
Uranium 238	0.35	J	0.13	1.00	0.06	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-813

Radiochemistry

Lab Sample ID: F8A220133-010
Work Order: KFWT8
Matrix: SOLID

Date Collected: 12/17/07 1439
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.43		0.19		0.25	01/24/08	02/14/08
Americium 241	0.01	U	0.10		0.18	01/24/08	02/14/08
Cesium 137	0.018	U	0.043	0.200	0.074	01/24/08	02/14/08
Cobalt 60	0.0009	U	0.043		0.082	01/24/08	02/14/08
Europium 152	-0.03	U	0.10		0.18	01/24/08	02/14/08
Europium 154	0.02	U	0.30		0.55	01/24/08	02/14/08
Potassium 40	10.3		1.4		0.3	01/24/08	02/14/08
Radium (226)	1.09		0.18	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.43		0.19		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 84
Thorium 228	0.35	J	0.13	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.51	J	0.16	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 88
Uranium 233/234	0.33	J	0.12	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	02/08/08	02/15/08
Uranium 238	0.37	J	0.13	1.00	0.07	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-818

Radiochemistry

Lab Sample ID: F8A220133-011
Work Order: KFWVA
Matrix: SOLID

Date Collected: 12/17/07 1234
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.25		0.16		0.24	01/24/08	02/14/08
Americium 241	0.0	U	0.11		0.18	01/24/08	02/14/08
Cesium 137	0.0004	U	0.038	0.200	0.069	01/24/08	02/14/08
Cobalt 60	0.007	U	0.046		0.084	01/24/08	02/14/08
Europium 152	-0.04	U	0.11		0.19	01/24/08	02/14/08
Europium 154	0.11	U	0.28		0.48	01/24/08	02/14/08
Potassium 40	15.9		1.7		0.3	01/24/08	02/14/08
Radium (226)	0.44	J	0.11	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.25		0.16		0.24	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 83
Thorium 228	0.97	J	0.22	1.00	0.08	02/08/08	02/18/08
Thorium 230	0.72	J	0.19	1.00	0.06	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 81
Uranium 233/234	0.52	J	0.16	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.011	U	0.028	1.00	0.059	02/08/08	02/15/08
Uranium 238	0.46	J	0.15	1.00	0.06	02/08/08	02/15/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8022260		Yld % 68
Strontium 90	-0.16	U	0.25	3.00	0.47	01/22/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-819

Radiochemistry

Lab Sample ID: F8A220133-012
Work Order: KFWVC
Matrix: SOLID

Date Collected: 12/17/07 1236
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024271		Yld %
Actinium 228	0.44		0.24		0.32	01/24/08	02/14/08
Americium 241	0.0	U	0.11		0.18	01/24/08	02/14/08
Cesium 137	0.014	U	0.058	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.012		0.044	01/24/08	02/14/08
Europium 152	0.003	U	0.096		0.18	01/24/08	02/14/08
Europium 154	-0.07	U	0.45		0.82	01/24/08	02/14/08
Potassium 40	15.2		2.1		0.4	01/24/08	02/14/08
Radium (226)	0.71	J	0.16	1.00	0.09	01/24/08	02/14/08
Thorium 232	0.44		0.24		0.32	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 74
Thorium 228	0.75	J	0.21	1.00	0.09	02/08/08	02/18/08
Thorium 230	0.82	J	0.22	1.00	0.09	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 79
Uranium 233/234	0.43	J	0.15	1.00	0.08	02/08/08	02/15/08
Uranium 235/236	0.006	U	0.031	1.00	0.079	02/08/08	02/15/08
Uranium 238	0.46	J	0.16	1.00	0.1	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-821

Radiochemistry

Lab Sample ID: F8A220133-014
Work Order: KFWVT
Matrix: SOLID

Date Collected: 12/17/07 1255
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.31		0.18		0.23	01/24/08	02/14/08
Americium 241	-0.006	U	0.085		0.15	01/24/08	02/14/08
Cesium 137	-0.005	U	0.072	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.012		0.045	01/24/08	02/14/08
Europium 152	-0.002	U	0.089		0.17	01/24/08	02/14/08
Europium 154	-0.05	U	0.35		0.64	01/24/08	02/14/08
Potassium 40	7.9		1.5		0.5	01/24/08	02/14/08
Radium (226)	0.31	J	0.12	1.00	0.12	01/24/08	02/14/08
Thorium 232	0.31		0.18		0.23	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 86
Thorium 228	0.33	J	0.12	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.39	J	0.13	1.00	0.03	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 79
Uranium 233/234	0.23	J	0.11	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.038	U	0.051	1.00	0.071	02/08/08	02/15/08
Uranium 238	0.41	J	0.14	1.00	0.07	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-821 DUP

Radiochemistry

Lab Sample ID: F8A220133-014X
Work Order: KFWVT
Matrix: SOLID

Date Collected: 12/17/07 1255
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.33		0.11		0.16	01/24/08	02/14/08
Americium 241	0.15	U	0.22		0.36	01/24/08	02/14/08
Cesium 137	0.030	U	0.030	0.200	0.047	01/24/08	02/14/08
Cobalt 60	-0.004	U	0.032		0.060	01/24/08	02/14/08
Europium 152	0.032	U	0.063		0.11	01/24/08	02/14/08
Europium 154	0.05	U	0.16		0.29	01/24/08	02/14/08
Potassium 40	8.0		1.1		0.5	01/24/08	02/14/08
Radium (226)	0.385	J	0.086	1.00	0.055	01/24/08	02/14/08
Thorium 232	0.33		0.11		0.16	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-822

Radiochemistry

Lab Sample ID: F8A220133-015
Work Order: KFWVV
Matrix: SOLID

Date Collected: 12/17/07 1257
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.40		0.14		0.20	01/24/08	02/14/08
Americium 241	-0.05	U	0.27		0.46	01/24/08	02/14/08
Cesium 137	0.039	U	0.033	0.200	0.050	01/24/08	02/14/08
Cobalt 60	-0.002	U	0.036		0.067	01/24/08	02/14/08
Europium 152	0.004	U	0.080		0.14	01/24/08	02/14/08
Europium 154	0.05	U	0.22		0.40	01/24/08	02/14/08
Potassium 40	9.2		1.2		0.5	01/24/08	02/14/08
Radium (226)	0.44	J	0.11	1.00	0.08	01/24/08	02/14/08
Thorium 232	0.40		0.14		0.20	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 84
Thorium 228	0.44	J	0.15	1.00	0.07	02/08/08	02/15/08
Thorium 230	0.53	J	0.16	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 80
Uranium 233/234	0.50	J	0.16	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.011	U	0.028	1.00	0.059	02/08/08	02/15/08
Uranium 238	0.42	J	0.14	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-823

Radiochemistry

Lab Sample ID: F8A220133-016
Work Order: KFWVX
Matrix: SOLID

Date Collected: 12/17/07 1300
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.33	U	0.24		0.36	01/24/08	02/14/08
Americium 241	0.046	U	0.093		0.16	01/24/08	02/14/08
Cesium 137	0.0009	U	0.056	0.200	0.11	01/24/08	02/14/08
Cobalt 60	0.021	U	0.053		0.095	01/24/08	02/14/08
Europium 152	0.006	U	0.096		0.18	01/24/08	02/14/08
Europium 154	-0.09	U	0.36		0.66	01/24/08	02/14/08
Potassium 40	**9.4**		**1.8**		**0.8**	**01/24/08**	**02/14/08**
Radium (226)	**0.56**	**J**	0.15	1.00	**0.11**	**01/24/08**	**02/14/08**
Thorium 232	0.33	U	0.24		0.36	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 86
Thorium 228	**0.40**	**J**	0.14	1.00	0.07	02/08/08	02/15/08
Thorium 230	**0.60**	**J**	0.17	1.00	0.07	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 83
Uranium 233/234	0.43	J	0.15	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	-0.0028	U	0.0056	1.00	0.063	02/08/08	02/15/08
Uranium 238	**0.72**	**J**	0.20	1.00	0.05	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-824

Radiochemistry

Lab Sample ID: F8A220133-017
Work Order: KFWV1
Matrix: SOLID

Date Collected: 12/17/07 1302
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.29		0.13		0.21	01/24/08	02/14/08
Americium 241	0.038	U	0.076		0.13	01/24/08	02/14/08
Cesium 137	0.0	U	0.038	0.200	0.073	01/24/08	02/14/08
Cobalt 60	-0.009	U	0.057		0.11	01/24/08	02/14/08
Europium 152	0.056	U	0.084		0.14	01/24/08	02/14/08
Europium 154	-0.06	U	0.34		0.63	01/24/08	02/14/08
Potassium 40	8.9		1.5		0.4	01/24/08	02/14/08
Radium (226)	0.43	J	0.12	1.00	0.10	01/24/08	02/14/08
Thorium 232	0.29		0.13		0.21	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 85
Thorium 228	0.70	J	0.19	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.64	J	0.18	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 81
Uranium 233/234	0.45	J	0.15	1.00	0.09	02/08/08	02/15/08
Uranium 235/236	0.054	U	0.057	1.00	0.060	02/08/08	02/15/08
Uranium 238	0.40	J	0.14	1.00	0.08	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-825

Radiochemistry

Lab Sample ID: F8A220133-018
Work Order: KFWV8
Matrix: SOLID

Date Collected: 12/17/07 1305
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024273**		**Yld %**
Actinium 228	0.42		0.16		0.29	01/24/08	02/14/08
Americium 241	0.007	U	0.099		0.17	01/24/08	02/14/08
Cesium 137	0.032	U	0.052	0.200	0.096	01/24/08	02/14/08
Cobalt 60	0.006	U	0.057		0.11	01/24/08	02/14/08
Europium 152	0.0008	U	0.073		0.14	01/24/08	02/14/08
Europium 154	0.0002	U	0.40		0.76	01/24/08	02/14/08
Potassium 40	9.5		1.6		0.4	01/24/08	02/14/08
Radium (226)	0.62	J	0.17	1.00	0.15	01/24/08	02/14/08
Thorium 232	0.42		0.16		0.29	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039191**		**Yld % 84**
Thorium 228	1.00		0.22	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.50	J	0.15	1.00	0.06	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039188**		**Yld % 89**
Uranium 233/234	0.46	J	0.15	1.00	0.05	02/08/08	02/15/08
Uranium 235/236	0.013	U	0.026	1.00	0.036	02/08/08	02/15/08
Uranium 238	0.50	J	0.15	1.00	0.04	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-826

Radiochemistry

Lab Sample ID: F8A220133-019
Work Order: KFWV9
Matrix: SOLID

Date Collected: 12/17/07 1307
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.54		0.12		0.17	01/24/08	02/14/08
Americium 241	0.002	U	0.26		0.45	01/24/08	02/14/08
Cesium 137	0.050	J	0.033	0.200	0.047	01/24/08	02/14/08
Cobalt 60	-0.003	U	0.031		0.059	01/24/08	02/14/08
Europium 152	0.052	U	0.070		0.12	01/24/08	02/14/08
Europium 154	0.12	U	0.18		0.30	01/24/08	02/14/08
Potassium 40	8.9		1.1		0.5	01/24/08	02/14/08
Radium (226)	0.48	J	0.11	1.00	0.1	01/24/08	02/14/08
Thorium 232	0.54		0.12		0.17	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 90
Thorium 228	0.57	J	0.16	1.00	0.07	02/08/08	02/15/08
Thorium 230	0.47	J	0.15	1.00	0.07	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 87
Uranium 233/234	0.65	J	0.18	1.00	0.06	02/08/08	02/15/08
Uranium 235/236	0.022	U	0.040	1.00	0.068	02/08/08	02/15/08
Uranium 238	0.48	J	0.15	1.00	0.05	02/08/08	02/15/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8022260		Yld % 59
Strontium 90	-0.11	U	0.29	3.00	0.53	01/22/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-827

Radiochemistry

Lab Sample ID: F8A220133-020
Work Order: KFWWC
Matrix: SOLID

Date Collected: 12/17/07 1311
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.47		0.16		0.29	01/24/08	02/14/08
Americium 241	0.027	U	0.077		0.13	01/24/08	02/14/08
Cesium 137	0.027	U	0.039	0.200	0.066	01/24/08	02/14/08
Cobalt 60	0.0	U	0.052		0.099	01/24/08	02/14/08
Europium 152	-0.029	U	0.099		0.17	01/24/08	02/14/08
Europium 154	0.02	U	0.31		0.57	01/24/08	02/14/08
Potassium 40	8.2		1.4		0.8	01/24/08	02/14/08
Radium (226)	0.45	J	0.12	1.00	0.11	01/24/08	02/14/08
Thorium 232	0.47		0.16		0.29	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039191		Yld % 80
Thorium 228	0.56	J	0.17	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.57	J	0.17	1.00	0.06	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039188		Yld % 88
Uranium 233/234	0.40	J	0.14	1.00	0.07	02/08/08	02/15/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	02/08/08	02/15/08
Uranium 238	0.56	J	0.16	1.00	0.03	02/08/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-838

Radiochemistry

Lab Sample ID: F8A220133-021
Work Order: KFWWD
Matrix: SOLID

Date Collected: 12/17/07 1344
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024273**		**Yld %**
Actinium 228	0.45		0.15		0.21	01/24/08	02/14/08
Americium 241	0.0	U	0.097		0.17	01/24/08	02/14/08
Cesium 137	-0.009	U	0.041	0.200	0.075	01/24/08	02/14/08
Cobalt 60	0.006	U	0.040		0.077	01/24/08	02/14/08
Europium 152	-0.017	U	0.089		0.16	01/24/08	02/14/08
Europium 154	0.06	U	0.31		0.58	01/24/08	02/14/08
Potassium 40	8.0		1.4		0.4	01/24/08	02/14/08
Radium (226)	0.46	J	0.11	1.00	0.08	01/24/08	02/14/08
Thorium 232	0.45		0.15		0.21	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039266**		**Yld % 85**
Thorium 228	0.59	J	0.17	1.00	0.11	02/08/08	02/15/08
Thorium 230	0.42	J	0.14	1.00	0.08	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8039267**		**Yld % 88**
Uranium 233/234	0.32	J	0.12	1.00	0.07	02/08/08	02/14/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	02/08/08	02/14/08
Uranium 238	0.42	J	0.14	1.00	0.07	02/08/08	02/14/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8022260**		**Yld % 51**
Strontium 90	-0.30	U	0.30	3.00	0.59	01/22/08	02/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-838 DUP

Radiochemistry

Lab Sample ID: F8A220133-021X
Work Order: KFWWD
Matrix: SOLID

Date Collected: 12/17/07 1344
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039266**	**Yld % 90**
Thorium 228	**0.52**	**J**	**0.16**	1.00	**0.07**	**02/08/08**	**02/15/08**
Thorium 230	**0.66**	**J**	**0.18**	1.00	**0.03**	**02/08/08**	**02/15/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8039267**	**Yld % 89**
Uranium 233/234	**0.48**	**J**	**0.15**	1.00	**0.06**	**02/08/08**	**02/14/08**
Uranium 235/236	-0.0024	U	0.0047	1.00	0.054	02/08/08	02/14/08
Uranium 238	**0.52**	**J**	**0.15**	1.00	**0.05**	**02/08/08**	**02/14/08**

NOTE(S)

Data are incomplete without the case narrative.

RL is determined by instrument performance only.
Detected results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-839

Radiochemistry

Lab Sample ID: F8A220133-022
Work Order: KFWWE
Matrix: SOLID

Date Collected: 12/17/07 1347
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.41		0.16		0.26	01/24/08	02/14/08
Americium 241	0.058	U	0.074		0.12	01/24/08	02/14/08
Cesium 137	-0.05	U	0.22	0.20	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.046		0.092	01/24/08	02/14/08
Europium 152	0.003	U	0.10		0.19	01/24/08	02/14/08
Europium 154	-0.06	U	0.37		0.69	01/24/08	02/14/08
Potassium 40	10.1		1.7		0.4	01/24/08	02/14/08
Radium (226)	0.32	J	0.13	1.00	0.17	01/24/08	02/14/08
Thorium 232	0.41		0.16		0.26	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 82
Thorium 228	0.50	J	0.16	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.56	J	0.17	1.00	0.06	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 92
Uranium 233/234	0.35	J	0.12	1.00	0.07	02/08/08	02/14/08
Uranium 235/236	0.031	U	0.044	1.00	0.068	02/08/08	02/14/08
Uranium 238	0.30	J	0.12	1.00	0.08	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-840

Radiochemistry

Lab Sample ID: F8A220133-023
Work Order: KFWWF
Matrix: SOLID

Date Collected: 12/17/07 1349
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.66		0.13		0.15	01/24/08	02/14/08
Americium 241	0.0	U	0.25		0.44	01/24/08	02/14/08
Cesium 137	0.022	U	0.033	0.200	0.054	01/24/08	02/14/08
Cobalt 60	-0.012	U	0.035		0.062	01/24/08	02/14/08
Europium 152	0.008	U	0.071		0.13	01/24/08	02/14/08
Europium 154	0.09	U	0.21		0.37	01/24/08	02/14/08
Potassium 40	10.1		1.2		0.5	01/24/08	02/14/08
Radium (226)	0.484	J	0.097	1.00	0.060	01/24/08	02/14/08
Thorium 232	0.66		0.13		0.15	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 88
Thorium 228	0.40	J	0.14	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.44	J	0.14	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 85
Uranium 233/234	0.54	J	0.16	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.036	U	0.048	1.00	0.067	02/08/08	02/14/08
Uranium 238	0.45	J	0.15	1.00	0.06	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-841

Radiochemistry

Lab Sample ID: F8A220133-024
Work Order: KFWWH
Matrix: SOLID

Date Collected: 12/17/07 1355
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.40		0.20		0.25	01/24/08	02/14/08
Americium 241	-0.001	U	0.097		0.17	01/24/08	02/14/08
Cesium 137	0.029	U	0.050	0.200	0.085	01/24/08	02/14/08
Cobalt 60	0.022	U	0.048		0.085	01/24/08	02/14/08
Europium 152	0.028	U	0.098		0.17	01/24/08	02/14/08
Europium 154	-0.1	U	0.39		0.69	01/24/08	02/14/08
Potassium 40	11.2		1.7		0.4	01/24/08	02/14/08
Radium (226)	0.51	J	0.12	1.00	0.05	01/24/08	02/14/08
Thorium 232	0.40		0.20		0.25	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 92
Thorium 228	0.36	J	0.13	1.00	0.07	02/08/08	02/15/08
Thorium 230	0.44	J	0.14	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 93
Uranium 233/234	0.38	J	0.13	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.008	U	0.026	1.00	0.061	02/08/08	02/14/08
Uranium 238	0.28	J	0.11	1.00	0.06	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-842

Radiochemistry

Lab Sample ID: F8A220133-025
Work Order: KFWWJ
Matrix: SOLID

Date Collected: 12/17/07 1357
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.40		0.15		0.27	01/24/08	02/14/08
Americium 241	-0.013	U	0.085		0.15	01/24/08	02/14/08
Cesium 137	0.007	U	0.037	0.200	0.068	01/24/08	02/14/08
Cobalt 60	-0.005	U	0.029		0.059	01/24/08	02/14/08
Europium 152	0.017	U	0.077		0.14	01/24/08	02/14/08
Europium 154	0.0	U	0.060		0.22	01/24/08	02/14/08
Potassium 40	8.1		1.4		0.4	01/24/08	02/14/08
Radium (226)	0.27	J	0.12	1.00	0.17	01/24/08	02/14/08
Thorium 232	0.40		0.15		0.27	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 89
Thorium 228	0.55	J	0.16	1.00	0.08	02/08/08	02/15/08
Thorium 230	0.57	J	0.16	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 93
Uranium 233/234	0.46	J	0.15	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/08/08	02/14/08
Uranium 238	0.46	J	0.15	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-843

Radiochemistry

Lab Sample ID: F8A220133-026
Work Order: KFWWK
Matrix: SOLID

Date Collected: 12/17/07 1407
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8024273	Yld %
Actinium 228	0.25	U	0.22		0.35	01/24/08	02/14/08
Americium 241	-0.03	U	0.10		0.17	01/24/08	02/14/08
Cesium 137	0.014	U	0.057	0.200	0.11	01/24/08	02/14/08
Cobalt 60	-0.015	U	0.061		0.11	01/24/08	02/14/08
Europium 152	0.009	U	0.12		0.21	01/24/08	02/14/08
Europium 154	0.0	U	0.42		0.80	01/24/08	02/14/08
Potassium 40	9.7		1.8		0.6	01/24/08	02/14/08
Radium (226)	0.65	J	0.17	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.25	U	0.22		0.35	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8039266	Yld % 89
Thorium 228	0.73	J	0.19	1.00	0.06	02/08/08	02/15/08
Thorium 230	0.40	J	0.13	1.00	0.04	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8039267	Yld % 86
Uranium 233/234	0.42	J	0.14	1.00	0.08	02/08/08	02/14/08
Uranium 235/236	0.024	U	0.038	1.00	0.057	02/08/08	02/14/08
Uranium 238	0.55	J	0.16	1.00	0.08	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-844

Radiochemistry

Lab Sample ID: F8A220133-027
Work Order: KFWWL
Matrix: SOLID

Date Collected: 12/17/07 1409
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.43		0.22		0.29	01/24/08	02/14/08
Americium 241	0.013	U	0.093		0.16	01/24/08	02/14/08
Cesium 137	0.089	J	0.050	0.200	0.066	01/24/08	02/14/08
Cobalt 60	-0.019	U	0.063		0.11	01/24/08	02/14/08
Europium 152	0.071	U	0.092		0.15	01/24/08	02/14/08
Europium 154	-0.16	U	0.43		0.75	01/24/08	02/14/08
Potassium 40	11.6		1.8		0.4	01/24/08	02/14/08
Radium (226)	0.37	J	0.13	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.43		0.22		0.29	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 84
Thorium 228	0.77	J	0.20	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.52	J	0.16	1.00	0.05	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 85
Uranium 233/234	0.38	J	0.14	1.00	0.07	02/08/08	02/14/08
Uranium 235/236	0.009	U	0.030	1.00	0.070	02/08/08	02/14/08
Uranium 238	0.45	J	0.15	1.00	0.06	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-845

Radiochemistry

Lab Sample ID: F8A220133-028
Work Order: KFWWM
Matrix: SOLID

Date Collected: 12/17/07 1416
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.39		0.15		0.26	01/24/08	02/14/08
Americium 241	0.034	U	0.087		0.15	01/24/08	02/14/08
Cesium 137	0.040	U	0.046	0.200	0.075	01/24/08	02/14/08
Cobalt 60	0.016	U	0.029		0.050	01/24/08	02/14/08
Europium 152	-0.03	U	0.10		0.18	01/24/08	02/14/08
Europium 154	0.0	U	0.43		0.77	01/24/08	02/14/08
Potassium 40	11.9		1.6		0.3	01/24/08	02/14/08
Radium (226)	0.36	J	0.12	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.39		0.15		0.26	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 91
Thorium 228	0.39	J	0.14	1.00	0.09	02/08/08	02/15/08
Thorium 230	0.39	J	0.13	1.00	0.03	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 89
Uranium 233/234	0.47	J	0.15	1.00	0.05	02/08/08	02/14/08
Uranium 235/236	0.040	J	0.046	1.00	0.036	02/08/08	02/14/08
Uranium 238	0.53	J	0.16	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-846

Radiochemistry

Lab Sample ID: F8A220133-029
Work Order: KFWWP
Matrix: SOLID

Date Collected: 12/17/07 1418
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.42		0.21		0.39	01/24/08	02/14/08
Americium 241	0.05	U	0.13		0.22	01/24/08	02/14/08
Cesium 137	0.061	U	0.069	0.200	0.11	01/24/08	02/14/08
Cobalt 60	0.0	U	0.016		0.058	01/24/08	02/14/08
Europium 152	0.04	U	0.11		0.19	01/24/08	02/14/08
Europium 154	-0.08	U	0.52		0.95	01/24/08	02/14/08
Potassium 40	9.8		1.9		1.1	01/24/08	02/14/08
Radium (226)	0.35	J	0.14	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.42		0.21		0.39	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 88
Thorium 228	0.51	J	0.15	1.00	0.07	02/08/08	02/18/08
Thorium 230	0.47	J	0.15	1.00	0.05	02/08/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 84
Uranium 233/234	0.43	J	0.14	1.00	0.07	02/08/08	02/14/08
Uranium 235/236	0.039	U	0.049	1.00	0.059	02/08/08	02/14/08
Uranium 238	0.39	J	0.14	1.00	0.03	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-847

Radiochemistry

Lab Sample ID: F8A220133-030
Work Order: KFWWT
Matrix: SOLID

Date Collected: 12/17/07 1425
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024273		Yld %
Actinium 228	0.33		0.21		0.29	01/24/08	02/14/08
Americium 241	0.072	U	0.067		0.11	01/24/08	02/14/08
Cesium 137	0.051	U	0.059	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.013		0.049	01/24/08	02/14/08
Europium 152	-0.05	U	0.11		0.20	01/24/08	02/14/08
Europium 154	0.04	U	0.38		0.71	01/24/08	02/14/08
Potassium 40	11.9		1.9		0.5	01/24/08	02/14/08
Radium (226)	0.51	J	0.14	1.00	0.12	01/24/08	02/14/08
Thorium 232	0.33		0.21		0.29	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039266		Yld % 93
Thorium 228	0.37	J	0.13	1.00	0.06	02/08/08	02/15/08
Thorium 230	0.42	J	0.13	1.00	0.04	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8039267		Yld % 84
Uranium 233/234	0.52	J	0.16	1.00	0.06	02/08/08	02/14/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	02/08/08	02/14/08
Uranium 238	0.38	J	0.13	1.00	0.05	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-892

Radiochemistry

Lab Sample ID: F8A220133-031
Work Order: KFWWV
Matrix: SOLID

Date Collected: 12/17/07 1250
Date Received: 01/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024273		Yld %
Actinium 228	0.44		0.23		0.31	01/24/08	02/14/08
Americium 241	0.026	U	0.087		0.15	01/24/08	02/14/08
Cesium 137	-0.008	U	0.042	0.200	0.078	01/24/08	02/14/08
Cobalt 60	-0.013	U	0.056		0.10	01/24/08	02/14/08
Europium 152	0.012	U	0.098		0.18	01/24/08	02/14/08
Europium 154	0.20	U	0.34		0.57	01/24/08	02/14/08
Potassium 40	7.8		1.5		0.5	01/24/08	02/14/08
Radium (226)	0.40	J	0.13	1.00	0.13	01/24/08	02/14/08
Thorium 232	0.44		0.23		0.31	01/24/08	02/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8039266		Yld % 88
Thorium 228	0.32	J	0.12	1.00	0.07	02/08/08	02/15/08
Thorium 230	0.54	J	0.16	1.00	0.07	02/08/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8039267		Yld % 93
Uranium 233/234	0.74	J	0.18	1.00	0.05	02/08/08	02/14/08
Uranium 235/236	0.035	U	0.043	1.00	0.052	02/08/08	02/14/08
Uranium 238	0.68	J	0.18	1.00	0.06	02/08/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Tetra Tech EC Database Qualification Summary
- Attachment IV — Field Blank Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-804	F8A220133001	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-804	F8A220133001	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-804	F8A220133001	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-804DUP	F8A220133001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-804DUP	F8A220133001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-805	F8A220133002	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-805	F8A220133002	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-805	F8A220133002	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-806	F8A220133003	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-806	F8A220133003	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-806	F8A220133003	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-807	F8A220133004	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-807	F8A220133004	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-807	F8A220133004	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-808	F8A220133005	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-808	F8A220133005	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-808	F8A220133005	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-808	F8A220133005	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-809	F8A220133006	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-809	F8A220133006	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-809	F8A220133006	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-810	F8A220133007	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-810	F8A220133007	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-810	F8A220133007	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-811	F8A220133008	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-811	F8A220133008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-811	F8A220133008	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-812	F8A220133009	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-812	F8A220133009	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-812	F8A220133009	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-813	F8A220133010	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-813	F8A220133010	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-813	F8A220133010	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-818	F8A220133011	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-818	F8A220133011	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-818	F8A220133011	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-818	F8A220133011	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-819	F8A220133012	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-819	F8A220133012	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-819	F8A220133012	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-820	F8A220133013	EB	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-820	F8A220133013	EB	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-820	F8A220133013	EB	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-821	F8A220133014	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-821	F8A220133014	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-821	F8A220133014	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-821DUP	F8A220133014DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-822	F8A220133015	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-822	F8A220133015	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-822	F8A220133015	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-823	F8A220133016	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-823	F8A220133016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-823	F8A220133016	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-824	F8A220133017	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-824	F8A220133017	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-824	F8A220133017	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-825	F8A220133018	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-825	F8A220133018	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-825	F8A220133018	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-826	F8A220133019	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-826	F8A220133019	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-826	F8A220133019	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-826	F8A220133019	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-827	F8A220133020	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-827	F8A220133020	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-827	F8A220133020	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-838	F8A220133021	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-838	F8A220133021	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-838	F8A220133021	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-838	F8A220133021	N	Gen Prep	)OE SR-03-RC MOI	3
17-Dec-2007	15-838DUP	F8A220133021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-838DUP	F8A220133021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-839	F8A220133022	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-839	F8A220133022	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-839	F8A220133022	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-840	F8A220133023	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-840	F8A220133023	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-840	F8A220133023	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Dec-2007	15-841	F8A220133024	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-841	F8A220133024	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-841	F8A220133024	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-842	F8A220133025	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-842	F8A220133025	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-842	F8A220133025	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-843	F8A220133026	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-843	F8A220133026	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-843	F8A220133026	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-844	F8A220133027	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-844	F8A220133027	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-844	F8A220133027	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-845	F8A220133028	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-845	F8A220133028	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-845	F8A220133028	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-846	F8A220133029	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-846	F8A220133029	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-846	F8A220133029	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-847	F8A220133030	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-847	F8A220133030	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-847	F8A220133030	N	Gen Prep	DOE GA-01-R MOD	3
17-Dec-2007	15-892	F8A220133031	N	Gen Prep	)OE A-01-R TH MOI	3
17-Dec-2007	15-892	F8A220133031	N	Gen Prep	DOE A-01-R U MOD	3
17-Dec-2007	15-892	F8A220133031	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A220133										
DOE A-01-R TH MOD	15-820	AQ	EB	THORIUM-230	1.00	0.19J	0.14	U	pCi/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tech

Reason for Qualified Results

SDG Nos. : F8A220133

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A220133	15-820	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A220133	DOE A-01-R TH MOD	EB	AQ	12/17/2007 0:00	THORIUM-230	14269-63-7	0.19	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A220133

Method Blank Outlier Report

Lab Reporting Batch : F8A220133
Lab ID: TestAme
Analysis Method : DOE GA-01-R MOD
Analysis Date : 01/24/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8A230000398MB
Preparation Batch : 8023398

THORIUM-232	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.0		pCi/L		

THORIUM-232 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A220133
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8B080000191MB

Lab ID: TestAme
Analysis Date : 02/15/2008
Preparation Date :
Preparation Batch : 8039191

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.059	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A220133
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/18/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B080000266MB
Preparation Batch : 8039266

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.055	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A220133 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 02/13/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8B110000181MB **Preparation Batch :** 8042181

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.29**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-820	F8A220133013	1	0.19	J	pCi/L

LDC #: 18450C35
SDG #: F8A220133
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

mG

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: g

DoE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901~~.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A~~N~~	DUP (SDG: F8A220127, F8A220112) high RPD's are both N.D.
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	ND	ER = 13

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-804	11 1	15-818	21 2	15-838	31 2	15-892
2 1	15-805	12 1	15-819	22 2	15-839	32 2	15-821DUP
3 1	15-806	13 3	15-820 W	23 2	15-840	33 1	PBS1
4 1	15-807	14 2	15-821	24 2	15-841	34 2	PBS2
5 1	15-808	15 2	15-822	25 2	15-842	35 3	PBW
6 1	15-809	16 2	15-823	26 2	15-843	36	
7 1	15-810	17 2	15-824	27 2	15-844	37	
8 1	15-811	18 2	15-825	28 2	15-845	38	
9 1	15-812	19 2	15-826	29 2	15-846	39	
10 1	15-813	20 2	15-827	30 2	15-847	40	

Notes:

LDC #: 18450C59
SDG #: F8A220133
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. for high RPD)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 13

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-804	S	11	1	15-818	S	21	2	15-838	S
2	1	15-805		12	1	15-819		22	2	15-839	
3	1	15-806		13	3	15-820	W	23	2	15-840	
4	1	15-807		14	1	15-821	S	24	2	15-841	
5	1	15-808		15	1	15-822		25	2	15-842	
6	1	15-809		16	1	15-823		26	2	15-843	
7	1	15-810		17	1	15-824		27	2	15-844	
8	1	15-811		18	1	15-825		28	2	15-845	
9	1	15-812		19	1	15-826		29	2	15-846	
10	1	15-813		20	1	15-827		30	2	15-847	

31	2	15-892	S
32	1	15-804DUP	
33	2	15-838DUP	
34	1	PBS1	
35	2	PBS2	
36	3	PBW	
37			
38			
39			
40			

Notes:

LDC #: 18450C61
SDG #: F8A220133
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A220112) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-808	11		21		31	
2	15-818	12		22		32	
3	15-826	13		23		33	
4	15-838	14		24		34	
5	PBS	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450C73
SDG #: F8A220133
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-28-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-17-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by difference)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	–	ER = 13 (hit for Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-804	S	11	1	15-818	S	21	2	15-838	S
2	1	15-805		12	1	15-819		22	2	15-839	
3	1	15-806		13	3	15-820	W	23	2	15-840	
4	1	15-807		14	1	15-821	S	24	2	15-841	
5	1	15-808		15	1	15-822		25	2	15-842	
6	1	15-809		16	1	15-823		26	2	15-843	
7	1	15-810		17	1	15-824		27	2	15-844	
8	1	15-811		18	1	15-825		28	2	15-845	
9	1	15-812		19	1	15-826		29	2	15-846	
10	1	15-813		20	1	15-827		30	2	15-847	

31	2	15-892	S
32	1	15-804DUP	
33	2	15-838DUP	
34	1	PBS1	
35	2	PBS2	
36	3	PBW	
37			
38			
39			
40			

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25734

D 2-18 ENTERED

PROJECT NAME	PURCHASE ORDER NO.
IR sites 1, 2 & 32	106-6029552
PROJECT LOCATION	**PROJECT NO.**
Alameda CA	3210.028D
SAMPLER NAME	**AIRBILL NUMBER**
V Richards	7988 5667 7423
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**
S. Sudoko	949-756-7545

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A230222

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Isotopic Thorium	Isotopic Uranium	Ra DOE SR-01/SR-02						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-698	12.14.07	1315	2	X		S	21 DY	X	X	X	X							2IR-12-04b	6"	12"	N
15-699	12.14.07	1317	1	X		S	21 DY	X	X	X								2IR-12-05a	0"	6"	N
15-700	12.14.07	1319	1	X		S	21 DY	X	X	X								2IR-12-05b	6"	12"	N
15-701	12.14.07	1335	1	X		S	21 DY	X	X	X								B2IR-13a	2'	2.5'	N
15-702	12.14.07	1335	1	X		S	21 DY	X	X	X								B2IR-13b	2.5'	3'	N
15-704	12.14.07	1345	1	X		S	21 DY	X	X	X								2IR-13-01a	0"	6"	N
15-705	12.14.07	1347	1	X		S	21 DY	X	X	X								2IR-13-01b	6"	12"	N
15-706	12.14.07	1353	1	X		S	21 DY	X	X	X								2IR-13-02a	2'	2.5'	N
15-707	12.14.07	1355	1	X		S	21 DY	X	X	X								2IR-13-02b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/22/08	
COMPANY: TtEC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Restoration

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25735

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7988 5667 7423
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A230222

Project Information Section Do not submit to Laboratory

6

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	Pb-210 per DOE SR-01/32-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-708	12.14.07	1410	2	X		S	21 DY	X	X	X	X		B2IR-160a	2'	2.5'	N
15-709	12.14.07	1412	1	X		S	21 DY	X	X	X			B2IR-160b	2.5'	3'	N
15-710	12.14.07	1425	1	X		S	21 DY	X	X	X			B2IR-171a	2'	2.5'	N
15-711	12.14.07	1427	1	X		S	21 DY	X	X	X			B2IR-171b	2.5'	3'	N
15-712	12.14.07	1430	1	X		S	21 DY	X	X	X			B2IR-172a	2'	2.5'	N
15-713	12.14.07	1433	1	X		S	21 DY	X	X	X			B2IR-172b	2.5'	3'	N

Accrued $1611
w/e 1-25-08
0804.91015

RELINQUISHED BY (Signature): V Richards	DATE: 1/22/08	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUND
COMPANY: TT/Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY:	TIME:	COMPANY:	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File: Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-698

Radiochemistry

Lab Sample ID: F8A230222-001
Work Order: KF1A9
Matrix: SOLID

Date Collected: 12/14/07 1315
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040046**		**Yld % 90**
Thorium 228	0.41	J	0.14	1.00	0.06	02/09/08	02/16/08
Thorium 230	0.32	J	0.12	1.00	0.04	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040045**		**Yld % 86**
Uranium 233/234	0.32	J	0.12	1.00	0.07	02/09/08	02/15/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	02/09/08	02/15/08
Uranium 238	0.22	J	0.10	1.00	0.07	02/09/08	02/15/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8023456**		**Yld % 74**
Strontium 90	0.21	U	0.28	3.00	0.47	01/23/08	02/05/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024435**		**Yld %**
Actinium 228	0.19	U	0.17		0.25	01/24/08	02/14/08
Americium 241	-0.018	U	0.078		0.14	01/24/08	02/14/08
Cesium 137	-0.009	U	0.095	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.0	U	0.012		0.043	01/24/08	02/14/08
Europium 152	0.008	U	0.085		0.16	01/24/08	02/14/08
Europium 154	0.05	U	0.30		0.56	01/24/08	02/14/08
Potassium 40	7.1		1.4		0.4	01/24/08	02/14/08
Radium (226)	0.29	J	0.12	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.19	U	0.17		0.25	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-698 DUP

Radiochemistry

Lab Sample ID: F8A230222-001X
Work Order: KF1A9
Matrix: SOLID

Date Collected: 12/14/07 1315
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8023456		Yld % 70
Strontium 90	0.08	U	0.29	3.00	0.49	01/23/08	02/05/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.26		0.16		0.22	01/24/08	02/14/08
Americium 241	0.006	U	0.053		0.094	01/24/08	02/14/08
Cesium 137	0.011	U	0.036	0.200	0.063	01/24/08	02/14/08
Cobalt 60	-0.009	U	0.045		0.082	01/24/08	02/14/08
Europium 152	-0.023	U	0.095		0.17	01/24/08	02/14/08
Europium 154	0.02	U	0.22		0.42	01/24/08	02/14/08
Potassium 40	8.0		1.2		0.3	01/24/08	02/14/08
Radium (226)	0.25	J	0.11	1.00	0.16	01/24/08	02/14/08
Thorium 232	0.26		0.16		0.22	01/24/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 84
Uranium 233/234	0.28	J	0.11	1.00	0.07	02/09/08	02/15/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	02/09/08	02/15/08
Uranium 238	0.38	J	0.13	1.00	0.06	02/09/08	02/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 88
Thorium 228	0.38	J	0.13	1.00	0.07	02/09/08	02/15/08
Thorium 230	0.49	J	0.15	1.00	0.05	02/09/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-699

Radiochemistry

Lab Sample ID: F8A230222-002
Work Order: KF1CA
Matrix: SOLID

Date Collected: 12/14/07 1317
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040046		Yld % 88
Thorium 228	0.40	J	0.13	1.00	0.07	02/09/08	02/15/08
Thorium 230	0.66	J	0.17	1.00	0.03	02/09/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040045		Yld % 88
Uranium 233/234	0.46	J	0.15	1.00	0.07	02/09/08	02/15/08
Uranium 235/236	0.031	U	0.046	1.00	0.070	02/09/08	02/15/08
Uranium 238	0.34	J	0.13	1.00	0.09	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024435		Yld %
Actinium 228	0.46		0.20		0.24	01/24/08	02/14/08
Americium 241	0.045	U	0.081		0.14	01/24/08	02/14/08
Cesium 137	0.022	U	0.039	0.200	0.066	01/24/08	02/14/08
Cobalt 60	-0.008	U	0.050		0.094	01/24/08	02/14/08
Europium 152	-0.0001	U	0.089		0.16	01/24/08	02/14/08
Europium 154	0.03	U	0.32		0.60	01/24/08	02/14/08
Potassium 40	9.6		1.6		0.4	01/24/08	02/14/08
Radium (226)	0.59	J	0.15	1.00	0.12	01/24/08	02/14/08
Thorium 232	0.46		0.20		0.24	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-700

Radiochemistry

Lab Sample ID: F8A230222-003
Work Order: KF1CC
Matrix: SOLID

Date Collected: 12/14/07 1319
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 88
Thorium 228	0.56	J	0.16	1.00	0.06	02/09/08	02/15/08
Thorium 230	0.45	J	0.14	1.00	0.04	02/09/08	02/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 89
Uranium 233/234	0.31	J	0.12	1.00	0.06	02/09/08	02/15/08
Uranium 235/236	0.021	U	0.037	1.00	0.063	02/09/08	02/15/08
Uranium 238	0.32	J	0.12	1.00	0.06	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.39		0.14		0.21	01/24/08	02/14/08
Americium 241	0.021	U	0.093		0.16	01/24/08	02/14/08
Cesium 137	0.013	U	0.037	0.200	0.065	01/24/08	02/14/08
Cobalt 60	0.0	U	0.0076		0.028	01/24/08	02/14/08
Europium 152	-0.002	U	0.10		0.18	01/24/08	02/14/08
Europium 154	0.12	U	0.24		0.42	01/24/08	02/14/08
Potassium 40	11.4		1.5		0.3	01/24/08	02/14/08
Radium (226)	0.64	J	0.14	1.00	0.15	01/24/08	02/14/08
Thorium 232	0.39		0.14		0.21	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-701

Radiochemistry

Lab Sample ID: F8A230222-004
Work Order: KF1CD
Matrix: SOLID

Date Collected: 12/14/07 1335
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 85
Thorium 228	0.49	J	0.15	1.00	0.07	02/09/08	02/16/08
Thorium 230	0.50	J	0.15	1.00	0.07	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 89
Uranium 233/234	0.43	J	0.13	1.00	0.05	02/09/08	02/15/08
Uranium 235/236	0.01	U	0.024	1.00	0.050	02/09/08	02/15/08
Uranium 238	0.44	J	0.13	1.00	0.04	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.39	U	0.26		0.39	01/24/08	02/14/08
Americium 241	0.004	U	0.12		0.21	01/24/08	02/14/08
Cesium 137	-0.003	U	0.053	0.200	0.098	01/24/08	02/14/08
Cobalt 60	0.0	U	0.013		0.048	01/24/08	02/14/08
Europium 152	-0.02	U	0.12		0.22	01/24/08	02/14/08
Europium 154	0.0	U	0.67		1.2	01/24/08	02/14/08
Potassium 40	7.5		1.5		0.9	01/24/08	02/14/08
Radium (226)	1.66		0.24	1.00	0.05	01/24/08	02/14/08
Thorium 232	0.39	U	0.26		0.39	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-702

Radiochemistry

Lab Sample ID: F8A230222-005
Work Order: KF1CE
Matrix: SOLID

Date Collected: 12/14/07 1335
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040046		Yld % 82
Thorium 228	0.47	J	0.15	1.00	0.08	02/09/08	02/16/08
Thorium 230	0.46	J	0.15	1.00	0.05	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040045		Yld % 101
Uranium 233/234	0.225	J	0.096	1.00	0.052	02/09/08	02/15/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	02/09/08	02/15/08
Uranium 238	0.36	J	0.12	1.00	0.04	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024435		Yld %
Actinium 228	0.33		0.17		0.21	01/24/08	02/14/08
Americium 241	0.079	U	0.082		0.13	01/24/08	02/14/08
Cesium 137	-0.005	U	0.071	0.200	0.10	01/24/08	02/14/08
Cobalt 60	0.021	U	0.046		0.082	01/24/08	02/14/08
Europium 152	0.02	U	0.11		0.20	01/24/08	02/14/08
Europium 154	-0.002	U	0.32		0.62	01/24/08	02/14/08
Potassium 40	7.5		1.5		0.7	01/24/08	02/14/08
Radium (226)	0.97	J	0.18	1.00	0.11	01/24/08	02/14/08
Thorium 232	0.33		0.17		0.21	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-704

Radiochemistry

Lab Sample ID: F8A230222-006
Work Order: KF1CF
Matrix: SOLID

Date Collected: 12/14/07 1345
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8040046**	**Yld % 78**
Thorium 228	0.49	J	0.16	1.00	0.09	02/09/08	02/16/08
Thorium 230	0.52	J	0.16	1.00	0.06	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8040045**	**Yld % 80**
Uranium 233/234	0.33	J	0.13	1.00	0.09	02/09/08	02/15/08
Uranium 235/236	-0.0026	U	0.0053	1.00	0.060	02/09/08	02/15/08
Uranium 238	0.31	J	0.12	1.00	0.08	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8024435**	**Yld %**
Actinium 228	0.20	U	0.16		0.24	01/24/08	02/14/08
Americium 241	0.040	U	0.078		0.13	01/24/08	02/14/08
Cesium 137	0.045	U	0.051	0.200	0.083	01/24/08	02/14/08
Cobalt 60	0.0	U	0.011		0.042	01/24/08	02/14/08
Europium 152	-0.05	U	0.13		0.22	01/24/08	02/14/08
Europium 154	0.007	U	0.26		0.51	01/24/08	02/14/08
Potassium 40	**7.3**		**1.4**		**0.9**	01/24/08	02/14/08
Radium (226)	**0.70**	J	**0.14**	1.00	**0.09**	01/24/08	02/14/08
Thorium 232	0.20	U	0.16		0.24	01/24/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-705

Radiochemistry

Lab Sample ID: F8A230222-007
Work Order: KF1CG
Matrix: SOLID

Date Collected: 12/14/07 1347
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 91
Thorium 228	0.41	J	0.14	1.00	0.07	02/09/08	02/16/08
Thorium 230	0.40	J	0.14	1.00	0.07	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 95
Uranium 233/234	0.205	J	0.093	1.00	0.049	02/09/08	02/15/08
Uranium 235/236	0.037	J	0.043	1.00	0.034	02/09/08	02/15/08
Uranium 238	0.29	J	0.11	1.00	0.04	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.15	U	0.17		0.27	01/24/08	02/15/08
Americium 241	0.028	U	0.082		0.14	01/24/08	02/15/08
Cesium 137	0.043	U	0.054	0.200	0.089	01/24/08	02/15/08
Cobalt 60	-0.001	U	0.043		0.082	01/24/08	02/15/08
Europium 152	-0.04	U	0.11		0.20	01/24/08	02/15/08
Europium 154	-0.09	U	0.35		0.62	01/24/08	02/15/08
Potassium 40	8.9		1.3		0.3	01/24/08	02/15/08
Radium (226)	0.71	J	0.16	1.00	0.18	01/24/08	02/15/08
Thorium 232	0.15	U	0.17		0.27	01/24/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-706

Radiochemistry

Lab Sample ID: F8A230222-008
Work Order: KF1CH
Matrix: SOLID

Date Collected: 12/14/07 1353
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 87
Thorium 228	0.62	J	0.17	1.00	0.07	02/09/08	02/16/08
Thorium 230	0.53	J	0.16	1.00	0.05	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 87
Uranium 233/234	0.44	J	0.15	1.00	0.06	02/09/08	02/15/08
Uranium 235/236	0.009	U	0.028	1.00	0.067	02/09/08	02/15/08
Uranium 238	0.41	J	0.14	1.00	0.05	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.15	U	0.14		0.21	01/24/08	02/15/08
Americium 241	0.031	U	0.085		0.14	01/24/08	02/15/08
Cesium 137	-0.005	U	0.039	0.200	0.070	01/24/08	02/15/08
Cobalt 60	0.002	U	0.036		0.069	01/24/08	02/15/08
Europium 152	0.036	U	0.085		0.15	01/24/08	02/15/08
Europium 154	0.0	U	0.38		0.68	01/24/08	02/15/08
Potassium 40	7.0		1.1		0.7	01/24/08	02/15/08
Radium (226)	0.74	J	0.13	1.00	0.09	01/24/08	02/15/08
Thorium 232	0.15	U	0.14		0.21	01/24/08	02/15/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-707

Radiochemistry

Lab Sample ID: F8A230222-009
Work Order: KF1CJ
Matrix: SOLID

Date Collected: 12/14/07 1355
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8040046**	**Yld % 84**
Thorium 228	0.51	J	0.16	1.00	0.08	02/09/08	02/16/08
Thorium 230	0.36	J	0.13	1.00	0.03	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8040045**	**Yld % 83**
Uranium 233/234	0.29	J	0.12	1.00	0.07	02/09/08	02/15/08
Uranium 235/236	0.011	U	0.029	1.00	0.060	02/09/08	02/15/08
Uranium 238	0.214	J	0.0996	1.00	0.030	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8024435**	**Yld %**
Actinium 228	0.0	U	0.071		0.15	01/24/08	02/15/08
Americium 241	0.023	U	0.085		0.15	01/24/08	02/15/08
Cesium 137	0.011	U	0.036	0.200	0.066	01/24/08	02/15/08
Cobalt 60	0.002	U	0.039		0.076	01/24/08	02/15/08
Europium 152	0.025	U	0.081		0.14	01/24/08	02/15/08
Europium 154	0.03	U	0.32		0.60	01/24/08	02/15/08
Potassium 40	**8.9**		1.5		0.6	01/24/08	02/15/08
Radium (226)	**0.82**	J	0.16	1.00	0.11	01/24/08	02/15/08
Thorium 232	0.0	U	0.071		0.15	01/24/08	02/15/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-708

Radiochemistry

Lab Sample ID: F8A230222-010
Work Order: KF1CK
Matrix: SOLID

Date Collected: 12/14/07 1410
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040046**		**Yld % 93**
Thorium 228	0.42	J	0.14	1.00	0.07	02/09/08	02/16/08
Thorium 230	0.35	J	0.13	1.00	0.04	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040045**		**Yld % 87**
Uranium 233/234	0.37	J	0.13	1.00	0.06	02/09/08	02/15/08
Uranium 235/236	-0.0024	U	0.0047	1.00	0.054	02/09/08	02/15/08
Uranium 238	0.36	J	0.13	1.00	0.05	02/09/08	02/15/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8023456**		**Yld % 57**
Strontium 90	0.14	U	0.35	3.00	0.60	01/23/08	02/05/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024435**		**Yld %**
Actinium 228	0.38		0.20		0.28	01/24/08	02/15/08
Americium 241	-0.017	U	0.096		0.17	01/24/08	02/15/08
Cesium 137	0.043	U	0.043	0.200	0.068	01/24/08	02/15/08
Cobalt 60	-0.018	U	0.064		0.11	01/24/08	02/15/08
Europium 152	-0.03	U	0.11		0.20	01/24/08	02/15/08
Europium 154	0.0	U	0.26		0.51	01/24/08	02/15/08
Potassium 40	7.9		1.3		0.3	01/24/08	02/15/08
Radium (226)	0.44	J	0.13	1.00	0.16	01/24/08	02/15/08
Thorium 232	0.38		0.20		0.28	01/24/08	02/15/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-709

Radiochemistry

Lab Sample ID: F8A230222-011
Work Order: KF1CL
Matrix: SOLID

Date Collected: 12/14/07 1412
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040046**		**Yld % 90**
Thorium 228	0.52	J	0.16	1.00	0.10	02/09/08	02/16/08
Thorium 230	0.45	J	0.14	1.00	0.07	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040045**		**Yld % 85**
Uranium 233/234	0.37	J	0.13	1.00	0.05	02/09/08	02/15/08
Uranium 235/236	0.038	U	0.047	1.00	0.057	02/09/08	02/15/08
Uranium 238	0.44	J	0.14	1.00	0.06	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024435**		**Yld %**
Actinium 228	0.13	U	0.13		0.20	01/24/08	02/15/08
Americium 241	0.032	U	0.072		0.12	01/24/08	02/15/08
Cesium 137	0.024	U	0.041	0.200	0.069	01/24/08	02/15/08
Cobalt 60	0.0	U	0.046		0.087	01/24/08	02/15/08
Europium 152	-0.014	U	0.060		0.11	01/24/08	02/15/08
Europium 154	0.0	U	0.046		0.17	01/24/08	02/15/08
Potassium 40	**6.9**		1.1		0.3	01/24/08	02/15/08
Radium (226)	0.25	J	0.11	1.00	0.15	01/24/08	02/15/08
Thorium 232	0.13	U	0.13		0.20	01/24/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-710

Radiochemistry

Lab Sample ID: F8A230222-012
Work Order: KF1CM
Matrix: SOLID

Date Collected: 12/14/07 1425
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040046		Yld % 88
Thorium 228	0.34	J	0.13	1.00	0.07	02/09/08	02/16/08
Thorium 230	0.37	J	0.13	1.00	0.03	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8040045		Yld % 89
Uranium 233/234	0.26	J	0.11	1.00	0.05	02/09/08	02/15/08
Uranium 235/236	0.021	U	0.037	1.00	0.062	02/09/08	02/15/08
Uranium 238	0.32	J	0.12	1.00	0.05	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8024435		Yld %
Actinium 228	0.14	U	0.17		0.27	01/24/08	02/15/08
Americium 241	-0.020	U	0.070		0.12	01/24/08	02/15/08
Cesium 137	0.010	U	0.037	0.200	0.067	01/24/08	02/15/08
Cobalt 60	0.0	U	0.0094		0.035	01/24/08	02/15/08
Europium 152	0.014	U	0.072		0.13	01/24/08	02/15/08
Europium 154	0.0	U	0.32		0.60	01/24/08	02/15/08
Potassium 40	6.6		1.2		0.6	01/24/08	02/15/08
Radium (226)	0.130	J	0.083	1.00	0.12	01/24/08	02/15/08
Thorium 232	0.14	U	0.17		0.27	01/24/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-711

Radiochemistry

Lab Sample ID: F8A230222-013
Work Order: KF1CN
Matrix: SOLID

Date Collected: 12/14/07 1427
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040046**		**Yld % 91**
Thorium 228	0.46	J	0.15	1.00	0.08	02/09/08	02/16/08
Thorium 230	0.53	J	0.16	1.00	0.05	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8040045**		**Yld % 85**
Uranium 233/234	0.37	J	0.13	1.00	0.03	02/09/08	02/15/08
Uranium 235/236	0.056	J	0.057	1.00	0.038	02/09/08	02/15/08
Uranium 238	0.42	J	0.14	1.00	0.06	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8024435**		**Yld %**
Actinium 228	0.37		0.17		0.18	01/24/08	02/15/08
Americium 241	-0.048	U	0.097		0.16	01/24/08	02/15/08
Cesium 137	0.007	U	0.046	0.200	0.083	01/24/08	02/15/08
Cobalt 60	-0.013	U	0.050		0.093	01/24/08	02/15/08
Europium 152	0.058	U	0.089		0.15	01/24/08	02/15/08
Europium 154	0.11	U	0.29		0.52	01/24/08	02/15/08
Potassium 40	9.1		1.5		0.4	01/24/08	02/15/08
Radium (226)	0.36	J	0.13	1.00	0.12	01/24/08	02/15/08
Thorium 232	0.37		0.17		0.18	01/24/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-712

Radiochemistry

Lab Sample ID: F8A230222-014
Work Order: KF1CP
Matrix: SOLID

Date Collected: 12/14/07 1430
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 84
Thorium 228	0.32	J	0.13	1.00	0.09	02/09/08	02/16/08
Thorium 230	0.56	J	0.17	1.00	0.06	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 87
Uranium 233/234	0.36	J	0.13	1.00	0.05	02/09/08	02/15/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	02/09/08	02/15/08
Uranium 238	0.30	J	0.11	1.00	0.03	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.50		0.12		0.06	01/24/08	02/15/08
Americium 241	-0.001	U	0.23		0.40	01/24/08	02/15/08
Cesium 137	0.0	U	0.029	0.200	0.054	01/24/08	02/15/08
Cobalt 60	-0.00006	U	0.015		0.033	01/24/08	02/15/08
Europium 152	0.0	U	0.081		0.15	01/24/08	02/15/08
Europium 154	-0.05	U	0.20		0.36	01/24/08	02/15/08
Potassium 40	8.8		1.1		0.5	01/24/08	02/15/08
Radium (226)	0.437	J	0.093	1.00	0.054	01/24/08	02/15/08
Thorium 232	0.50		0.12		0.06	01/24/08	02/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-713

Radiochemistry

Lab Sample ID: F8A230222-015
Work Order: KF1CQ
Matrix: SOLID

Date Collected: 12/14/07 1433
Date Received: 01/23/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040046		Yld % 88
Thorium 228	0.38	J	0.13	1.00	0.08	02/09/08	02/16/08
Thorium 230	0.45	J	0.14	1.00	0.06	02/09/08	02/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8040045		Yld % 79
Uranium 233/234	0.37	J	0.13	1.00	0.06	02/09/08	02/15/08
Uranium 235/236	0.025	U	0.040	1.00	0.059	02/09/08	02/15/08
Uranium 238	0.28	J	0.11	1.00	0.05	02/09/08	02/15/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8024435		Yld %
Actinium 228	0.24	U	0.13		0.24	01/24/08	02/15/08
Americium 241	-0.016	U	0.086		0.15	01/24/08	02/15/08
Cesium 137	0.035	U	0.039	0.200	0.063	01/24/08	02/15/08
Cobalt 60	-0.0002	U	0.024		0.049	01/24/08	02/15/08
Europium 152	-0.002	U	0.079		0.14	01/24/08	02/15/08
Europium 154	0.01	U	0.23		0.43	01/24/08	02/15/08
Potassium 40	7.6		1.2		0.3	01/24/08	02/15/08
Radium (226)	0.34	J	0.11	1.00	0.15	01/24/08	02/15/08
Thorium 232	0.24	U	0.13		0.24	01/24/08	02/15/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

• Attachment I	Sample ID Cross Reference and Data Review Level
• Attachment II	Overall Data Qualification Summary
• Attachment III	Tetra Tech EC Database Qualification Summary
• Attachment IV	Field Blank Summary
• Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-698	F8A230222001	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-698	F8A230222001	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-698	F8A230222001	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-698	F8A230222001	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-698DUP	F8A230222001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-698DUP	F8A230222001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-698DUP	F8A230222001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-698DUP	F8A230222001DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-699	F8A230222002	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-699	F8A230222002	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-699	F8A230222002	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-700	F8A230222003	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-700	F8A230222003	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-700	F8A230222003	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-701	F8A230222004	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-701	F8A230222004	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-701	F8A230222004	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-702	F8A230222005	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-702	F8A230222005	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-702	F8A230222005	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-704	F8A230222006	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-704	F8A230222006	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-704	F8A230222006	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-705	F8A230222007	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-705	F8A230222007	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-705	F8A230222007	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-706	F8A230222008	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-706	F8A230222008	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-706	F8A230222008	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-707	F8A230222009	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-707	F8A230222009	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-707	F8A230222009	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-708	F8A230222010	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-708	F8A230222010	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-708	F8A230222010	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-708	F8A230222010	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-709	F8A230222011	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-709	F8A230222011	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-709	F8A230222011	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-710	F8A230222012	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-710	F8A230222012	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-710	F8A230222012	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-711	F8A230222013	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-711	F8A230222013	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-711	F8A230222013	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-712	F8A230222014	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-712	F8A230222014	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-712	F8A230222014	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-713	F8A230222015	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-713	F8A230222015	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-713	F8A230222015	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code

SDG: F8A230222

No Qualified Results

N = Normal Sample *TB = Trip Blank*

FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A230222

Sample Del Group (SDG)	*Sample ID*	*Test Method*	*CAS No.*	*Detected Qualifier*	*Non Detected Qualifier*	*Analyte Name*	*Reason*

No Qualified Results

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A230222

(No Outlier Reports)

LDC #: 18450D35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08

SDG #: F8A230222 ADR Page: 1 of 1

Laboratory : Test America Reviewer: MG

2nd Reviewer:

MG

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy ~~(EPA Method 901.1)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N ✓	DUP (high RPDs ~~are~~ are both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all Soil

1	15-698	11	15-709	21		31	
2	15-699	12	15-710	22		32	
3	15-700	13	15-711	23		33	
4	15-701	14	15-712	24		34	
5	15-702	15	15-713	25		35	
6	15-704	16	15-698DUP	26		36	
7	15-705	17	PBS	27		37	
8	15-706	18		28		38	
9	15-707	19		29		39	
10	15-708	20		30		40	

Notes:

LDC #: 18450D59
SDG #: F8A230222
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A~~N~~	DUP (both N.D. or OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-698	11	15-709	21		31	
2	15-699	12	15-710	22		32	
3	15-700	13	15-711	23		33	
4	15-701	14	15-712	24		34	
5	15-702	15	15-713	25		35	
6	15-704	16	15-698DUP	26		36	
7	15-705	17	PBS	27		37	
8	15-706	18		28		38	
9	15-707	19		29		39	
10	15-708	20		30		40	

Notes:

LDC #: 18450D61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A230222 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3 GMH

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D.)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N ~~A~~	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-698	11		21		31	
2	15-708	12		22		32	
3	15-698DUP	13		23		33	
4	PBS	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450D73
SDG #: F8A230222
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A~~N~~	DUP (OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-698	11	15-709	21		31	
2	15-699	12	15-710	22		32	
3	15-700	13	15-711	23		33	
4	15-701	14	15-712	24		34	
5	15-702	15	15-713	25		35	
6	15-704	16	15-698DUP	26		36	
7	15-705	17	PBS	27		37	
8	15-706	18		28		38	
9	15-707	19		29		39	
10	15-708	20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25745

ENTERED

D274

PROJECT NAME	PURCHASE ORDER NO.
IR sites 1, 2 & 32	106.629552
PROJECT LOCATION	PROJECT NO.
ALAMEDA CA	3210.028D
SAMPLER NAME	AIRBILL NUMBER
V Richards	7914 8334 1488
PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER
S. Sudoko	949-756-7545

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPH 600 UNL GAMMA	ISOTOPIC THORIUM	ISOTOPIC U-RANIUM	40/52 DOF 52-01/52-03					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-617	12.14.07	9:48	1	X		S	21 DY	X	X	X							IR-92-01a	0"	6"	N
15-618	12.14.07	9:50	2	X		S	21 DY	X	X	X	X						IR-92-01b	6"	12"	N
15-619	12.14.07	9:53	1	X		S	21 DY	X	X	X							IR-92-02a	0"	6"	N
15-620	12.14.07	9:54	1	X		S	21 DY	X	X	X							IR-92-02b	6"	12"	N
15-621	12.14.07	9:59	1	X		S	21 DY	X	X	X							IR-92-03a	0"	6"	N
15-622	12.14.07	10:00	1	X		S	21 DY	X	X	X							IR-92-03b	6"	12"	N
15-623	12.14.07	10:02	1	X		S	21 DY	X	X	X							IR-92-04a	0"	6"	N
15-624	12.14.07	10:05	1	X		S	21 DY	X	X	X							IR-92-04b	6"	12"	N
15-625	12.14.07	10:06	1	X		S	21 DY	X	X	X							IR-92-05a	0"	6"	N
15-626	12.14.07	10:05	1	X		S	21 DY	X	X	X							IR-92-05b	6"	12"	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	11/23/08	
COMPANY	TIME	COMPANY
Tt FC/Fedex		
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F8A240017

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

Project Information Section Do not submit to Laboratory

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059327

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25749

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.624552
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 8334 1472
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): F8A240117

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPH 401.1M GC/MS	ISOTOPIC THORIUM	ISOTOPIC URANIUM	90/Sr DOE Sr-01/Sr-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-688	12.14.07	11:27	2	X		S	21 DY	X	X	X	X		2IR-11B-02b	6"	12"	N
15-689	12.14.07	12:50	1	X		S	21 DY	X	X	X			B-2IR-12a	2'	2.5'	N
15-690	12.14.07	12:53	1	X		S	21 DY	X	X	X			B-2IR-12b	2.5	3'	N
15-691	12.14.07	12:57	1	X		S	21 DY	X	X	X			2IR-12-01a	0"	6"	N
15-692	12.14.07	13:00	1	X		S	21 DY	X	X	X			2IR-12-01b	6"	12"	N
15-693	12.14.07	13:03	1	X		S	21 DY	X	X	X			2IR-12-02a	0"	6"	N
15-694	12.14.07	13:05	1	X		S	21 DY	X	X	X			2IR-12-02b	6"	12"	N
15-695	12.14.07	13:08	1	X		S	21 DY	X	X	X			2IR-12-03a	0"	6"	N
15-696	12.14.07	13:10	1	X		S	21 DY	X	X	X			2IR-12-03b	6"	12"	N
15-697	12.14.07	13:12	1	X		S	21 DY	X	X	X			2IR-12-04a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 1/23/08	RECEIVED BY (Signature)	
COMPANY TtEC Fielding	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

✓

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059327

TETRA TECH

1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25746

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1,2 & 32	106.629552	TestAmerica
PROJECT LOCATION	**PROJECT NO.**	**LABORATORY ID (FOR LABORATORY)**
Alameda CH	3210-028D	F8A240117
SAMPLER NAME	**AIRBILL NUMBER**	
V Richards	7914 8334 1488	
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
S. Sudoko	949-756-7545	

ANALYSES REQUIRED: EPA 901.1M Gamma; Isotopic Thorium; Isotopic Uranium; 90/Sr DOE SR-01/SR-02

Project Information Section — Do not submit to Laboratory 10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Isotopic Thorium	Isotopic Uranium	90/Sr DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-740	12.14.07	10:50	1	X		S	21 DY	X	X	X			B-2IR-188a	2'	2.5'	N
15-741	12.14.07	10:52	1	X		S	21 DY	X	X	X			B-2IR-188b	2.5'	3'	N
15-742	12.14.07	11:12	2	X		W	21 DY	X	X	X		F8B120265*	EQUIPMENT RINSATE	N/A	N/A	N
15-743	12.14.07	11:18	1	X		S	21 DY	X	X	X			B-2IR-190a	2'	2.5'	N
15-744	12.14.07	11:19	1	X		S	21 DY	X	X	X			B-2IR-190b	2.5'	3'	N
15-745	12.14.07	11:35	1	X		S	21 DY	X	X	X			B-2IR-200a	2'	2.5'	N
15-746	12.14.07	11:38	1	X		S	21 DY	X	X	X			B-2IR-200b	2.5'	3'	N
15-747	12.14.07	12:40	1	X		S	21 DY	X	X	X			2IR-200-01a	0"	6"	N
15-748	12.14.07	12:42	2	X		S	21 DY	X	X	X	X		2IR-200-01b	6"	12"	N
15-749	12.14.07	13:00	1	X		S	21 DY	X	X	X			2IR-200-02a	0"	6"	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/23/08	
COMPANY	**TIME**	**COMPANY**
TtEC / FedEx		
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowths

COMPOSITE DESCRIPTION: * Ra-226 via 903.0m 2-8-08 SV

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

✓

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059327

Tetra Tech EC, Inc.

Client Sample ID: 15-617

Radiochemistry

Lab Sample ID: F8A240117-011
Work Order: KF2G0
Matrix: SOLID

Date Collected: 12/14/07 0948
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.27	U	0.20		0.29	01/28/08	02/18/08
Americium 241	-0.004	U	0.089		0.15	01/28/08	02/18/08
Cesium 137	-0.003	U	0.056	0.200	0.096	01/28/08	02/18/08
Cobalt 60	0.043	U	0.053		0.086	01/28/08	02/18/08
Europium 152	0.01	U	0.083		0.15	01/28/08	02/18/08
Europium 154	0.10	U	0.35		0.64	01/28/08	02/18/08
Potassium 40	**9.0**		**1.6**		**0.4**	**01/28/08**	**02/18/08**
Radium (226)	**0.46**	**J**	**0.14**	**1.00**	**0.16**	**01/28/08**	**02/18/08**
Thorium 232	0.27	U	0.20		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 64
Thorium 228	**0.59**	**J**	**0.20**	**1.00**	**0.14**	**02/05/08**	**02/11/08**
Thorium 230	**0.77**	**J**	**0.22**	**1.00**	**0.11**	**02/05/08**	**02/11/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 80
Uranium 233/234	**0.45**	**J**	**0.15**	**1.00**	**0.07**	**02/05/08**	**02/12/08**
Uranium 235/236	0.026	U	0.041	1.00	0.061	02/05/08	02/12/08
Uranium 238	**0.35**	**J**	**0.13**	**1.00**	**0.03**	**02/05/08**	**02/12/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-617 DUP

Radiochemistry

Lab Sample ID: F8A240117-011X
Work Order: KF2G0
Matrix: SOLID

Date Collected: 12/14/07 0948
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.64		0.24		0.28	01/28/08	02/18/08
Americium 241	-0.009	U	0.099		0.17	01/28/08	02/18/08
Cesium 137	0.018	U	0.050	0.200	0.087	01/28/08	02/18/08
Cobalt 60	0.011	U	0.048		0.090	01/28/08	02/18/08
Europium 152	-0.03	U	0.12		0.21	01/28/08	02/18/08
Europium 154	0.21	U	0.40		0.69	01/28/08	02/18/08
Potassium 40	16.2		2.1		0.4	01/28/08	02/18/08
Radium (226)	0.33	J	0.13	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.64		0.24		0.28	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 63
Thorium 228	0.61	J	0.20	1.00	0.09	02/05/08	02/11/08
Thorium 230	0.38	J	0.16	1.00	0.04	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 83
Uranium 233/234	0.57	J	0.17	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/05/08	02/12/08
Uranium 238	0.34	J	0.13	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-618

Radiochemistry

Lab Sample ID: F8A240117-012
Work Order: KF2G2
Matrix: SOLID

Date Collected: 12/14/07 0950
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.33		0.10		0.16	01/28/08	02/18/08
Americium 241	0.12	U	0.24		0.41	01/28/08	02/18/08
Cesium 137	-0.002	U	0.028	0.200	0.051	01/28/08	02/18/08
Cobalt 60	0.0008	U	0.028		0.053	01/28/08	02/18/08
Europium 152	0.054	U	0.061		0.098	01/28/08	02/18/08
Europium 154	0.06	U	0.17		0.31	01/28/08	02/18/08
Potassium 40	7.7		1.1		0.5	01/28/08	02/18/08
Radium (226)	0.43	J	0.10	1.00	0.10	01/28/08	02/18/08
Thorium 232	0.33		0.10		0.16	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 92
Thorium 228	0.42	J	0.14	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.36	J	0.13	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 81
Uranium 233/234	0.33	J	0.13	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.054	U	0.057	1.00	0.060	02/05/08	02/12/08
Uranium 238	0.37	J	0.13	1.00	0.07	02/05/08	02/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8024281		Yld % 70
Strontium 90	0.03	U	0.32	3.00	0.55	01/24/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-618 DUP

Radiochemistry

Lab Sample ID: F8A240117-012X
Work Order: KF2G2
Matrix: SOLID

Date Collected: 12/14/07 0950
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8024281**	**Yld % 66**
Strontium 90	0.32	U	0.36	3.00	0.60	01/24/08	02/06/08

NOTE(S)

...a are incomplete without the case narrative.

... is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-619

Radiochemistry

Lab Sample ID: F8A240117-013
Work Order: KF2G7
Matrix: SOLID

Date Collected: 12/14/07 0953
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.35		0.14		0.27	01/28/08	02/18/08
Americium 241	-0.019	U	0.089		0.15	01/28/08	02/18/08
Cesium 137	0.251		0.064	0.200	0.042	01/28/08	02/18/08
Cobalt 60	0.0	U	0.052		0.099	01/28/08	02/18/08
Europium 152	0.008	U	0.079		0.14	01/28/08	02/18/08
Europium 154	0.01	U	0.25		0.48	01/28/08	02/18/08
Potassium 40	6.7		1.2		0.7	01/28/08	02/18/08
Radium (226)	0.30	J	0.11	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.35		0.14		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 80
Thorium 228	0.43	J	0.15	1.00	0.1	02/05/08	02/11/08
Thorium 230	0.57	J	0.17	1.00	0.06	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 39
Uranium 233/234	0.22	J	0.15	1.00	0.11	02/05/08	02/12/08
Uranium 235/236	-0.011	U	0.015	1.00	0.14	02/05/08	02/12/08
Uranium 238	0.24	J	0.15	1.00	0.11	02/05/08	02/12/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-620

Radiochemistry

Lab Sample ID: F8A240117-014
Work Order: KF2G8
Matrix: SOLID

Date Collected: 12/14/07 0954
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.34		0.17		0.20	01/28/08	02/18/08
Americium 241	0.040	U	0.082		0.14	01/28/08	02/18/08
Cesium 137	0.026	U	0.043	0.200	0.073	01/28/08	02/18/08
Cobalt 60	0.0	U	0.011		0.039	01/28/08	02/18/08
Europium 152	-0.02	U	0.11		0.19	01/28/08	02/18/08
Europium 154	-0.06	U	0.29		0.53	01/28/08	02/18/08
Potassium 40	9.5		1.5		0.4	01/28/08	02/18/08
Radium (226)	0.48	J	0.14	1.00	0.12	01/28/08	02/18/08
Thorium 232	0.34		0.17		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 73
Thorium 228	0.33	J	0.14	1.00	0.11	02/05/08	02/12/08
Thorium 230	0.50	J	0.16	1.00	0.05	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 87
Uranium 233/234	0.26	J	0.11	1.00	0.03	02/05/08	02/12/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	02/05/08	02/12/08
Uranium 238	0.28	J	0.11	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-621

Radiochemistry

Lab Sample ID: F8A240117-015
Work Order: KF2HE
Matrix: SOLID

Date Collected: 12/14/07 0959
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.49		0.19		0.31	01/28/08	02/18/08
Americium 241	0.028	U	0.097		0.16	01/28/08	02/18/08
Cesium 137	0.020	U	0.045	0.200	0.077	01/28/08	02/18/08
Cobalt 60	-0.01	U	0.056		0.10	01/28/08	02/18/08
Europium 152	-0.03	U	0.12		0.21	01/28/08	02/18/08
Europium 154	-0.03	U	0.32		0.59	01/28/08	02/18/08
Potassium 40	11.2		1.7		1	01/28/08	02/18/08
Radium (226)	0.56	J	0.15	1.00	0.12	01/28/08	02/18/08
Thorium 232	0.49		0.19		0.31	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 81
Thorium 228	0.60	J	0.18	1.00	0.09	02/05/08	02/11/08
Thorium 230	0.54	J	0.16	1.00	0.06	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 85
Uranium 233/234	0.44	J	0.14	1.00	0.05	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/05/08	02/12/08
Uranium 238	0.38	J	0.13	1.00	0.03	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-622

Radiochemistry

Lab Sample ID: F8A240117-016
Work Order: KF2HH
Matrix: SOLID

Date Collected: 12/14/07 1000
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.47		0.17		0.25	01/28/08	02/18/08
Americium 241	0.022	U	0.098		0.17	01/28/08	02/18/08
Cesium 137	0.025	U	0.040	0.200	0.067	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0075		0.028	01/28/08	02/18/08
Europium 152	-0.01	U	0.11		0.19	01/28/08	02/18/08
Europium 154	0.01	U	0.28		0.51	01/28/08	02/18/08
Potassium 40	10.8		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.44	J	0.12	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.47		0.17		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 86
Thorium 228	0.64	J	0.18	1.00	0.09	02/05/08	02/11/08
Thorium 230	0.51	J	0.15	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 82
Uranium 233/234	0.51	J	0.16	1.00	0.05	02/05/08	02/12/08
Uranium 235/236	0.024	U	0.038	1.00	0.057	02/05/08	02/12/08
Uranium 238	0.59	J	0.17	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-623

Radiochemistry

Lab Sample ID: F8A240117-017
Work Order: KF2HN
Matrix: SOLID

Date Collected: 12/14/07 1002
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.32	U	0.17		0.39	01/28/08	02/18/08
Americium 241	0.04	U	0.10		0.17	01/28/08	02/18/08
Cesium 137	0.004	U	0.053	0.200	0.098	01/28/08	02/18/08
Cobalt 60	0.0	U	0.014		0.050	01/28/08	02/18/08
Europium 152	0.004	U	0.098		0.18	01/28/08	02/18/08
Europium 154	0.03	U	0.34		0.66	01/28/08	02/18/08
Potassium 40	**9.8**		**1.8**		**1.1**	**01/28/08**	**02/18/08**
Radium (226)	**0.36**	**J**	**0.15**	**1.00**	**0.20**	**01/28/08**	**02/18/08**
Thorium 232	0.32	U	0.17		0.39	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 93
Thorium 228	**0.62**	**J**	**0.17**	**1.00**	**0.09**	**02/05/08**	**02/11/08**
Thorium 230	**0.48**	**J**	**0.15**	**1.00**	**0.03**	**02/05/08**	**02/11/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 91
Uranium 233/234	**0.51**	**J**	**0.15**	**1.00**	**0.03**	**02/05/08**	**02/12/08**
Uranium 235/236	0.010	U	0.026	1.00	0.054	02/05/08	02/12/08
Uranium 238	**0.37**	**J**	**0.13**	**1.00**	**0.03**	**02/05/08**	**02/12/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-624

Radiochemistry

Lab Sample ID: F8A240117-018
Work Order: KF2HT
Matrix: SOLID

Date Collected: 12/14/07 1005
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.057		0.024		0.027	01/28/08	02/18/08
Americium 241	0.006	U	0.010		0.017	01/28/08	02/18/08
Cesium 137	-0.002	U	0.020	0.200	0.011	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0014		0.0053	01/28/08	02/18/08
Europium 152	-0.0004	U	0.012		0.023	01/28/08	02/18/08
Europium 154	0.0	U	0.034		0.068	01/28/08	02/18/08
Potassium 40	1.01		0.18		0.05	01/28/08	02/18/08
Radium (226)	0.058	J	0.016	1.00	0.014	01/28/08	02/18/08
Thorium 232	0.057		0.024		0.027	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 85
Thorium 228	0.71	J	0.19	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.84	J	0.20	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 87
Uranium 233/234	0.56	J	0.16	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.021	U	0.038	1.00	0.065	02/05/08	02/12/08
Uranium 238	0.62	J	0.17	1.00	0.07	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-625

Radiochemistry

Lab Sample ID: F8A240117-019
Work Order: KF2HX
Matrix: SOLID

Date Collected: 12/14/07 1006
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.45		0.12		0.16	01/28/08	02/18/08
Americium 241	0.11	U	0.22		0.38	01/28/08	02/18/08
Cesium 137	0.011	U	0.026	0.200	0.045	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0052		0.019	01/28/08	02/18/08
Europium 152	-0.026	U	0.081		0.14	01/28/08	02/18/08
Europium 154	-0.02	U	0.18		0.33	01/28/08	02/18/08
Potassium 40	10.9		1.2		0.4	01/28/08	02/18/08
Radium (226)	0.464	J	0.097	1.00	0.084	01/28/08	02/18/08
Thorium 232	0.45		0.12		0.16	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 83
Thorium 228	0.54	J	0.16	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.43	J	0.14	1.00	0.03	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 88
Uranium 233/234	0.37	J	0.13	1.00	0.07	02/05/08	02/12/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	02/05/08	02/12/08
Uranium 238	0.30	J	0.12	1.00	0.06	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-626

Radiochemistry

Lab Sample ID: F8A240117-020
Work Order: KF2H2
Matrix: SOLID

Date Collected: 12/14/07 1008
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.52		0.14		0.22	01/28/08	02/18/08
Americium 241	-0.027	U	0.083		0.14	01/28/08	02/18/08
Cesium 137	0.008	U	0.039	0.200	0.071	01/28/08	02/18/08
Cobalt 60	0.012	U	0.043		0.079	01/28/08	02/18/08
Europium 152	0.0004	U	0.073		0.13	01/28/08	02/18/08
Europium 154	-0.08	U	0.33		0.60	01/28/08	02/18/08
Potassium 40	11.4		1.6		0.3	01/28/08	02/18/08
Radium (226)	0.70	J	0.12	1.00	0.04	01/28/08	02/18/08
Thorium 232	0.52		0.14		0.22	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 75
Thorium 228	0.45	J	0.16	1.00	0.11	02/05/08	02/12/08
Thorium 230	0.61	J	0.18	1.00	0.03	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 83
Uranium 233/234	0.54	J	0.16	1.00	0.07	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/05/08	02/12/08
Uranium 238	0.49	J	0.15	1.00	0.06	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-688

Radiochemistry

Lab Sample ID: F8A240117-031
Work Order: KF2JP
Matrix: SOLID

Date Collected: 12/14/07 1127
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8028417	Yld %
Actinium 228	0.23	U	0.17		0.24	01/28/08	02/18/08
Americium 241	0.01	U	0.11		0.19	01/28/08	02/18/08
Cesium 137	-0.021	U	0.054	0.200	0.094	01/28/08	02/18/08
Cobalt 60	-0.001	U	0.029		0.065	01/28/08	02/18/08
Europium 152	-0.06	U	0.14		0.25	01/28/08	02/18/08
Europium 154	0.06	U	0.38		0.70	01/28/08	02/18/08
Potassium 40	10.7		1.8		0.5	01/28/08	02/18/08
Radium (226)	0.62	J	0.16	1.00	0.12	01/28/08	02/18/08
Thorium 232	0.23	U	0.17		0.24	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8036129	Yld % 68
Thorium 228	0.52	J	0.18	1.00	0.09	02/05/08	02/12/08
Thorium 230	0.43	J	0.16	1.00	0.09	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8036126	Yld % 84
Uranium 233/234	0.47	J	0.15	1.00	0.08	02/05/08	02/12/08
Uranium 235/236	0.034	U	0.049	1.00	0.075	02/05/08	02/12/08
Uranium 238	0.30	J	0.12	1.00	0.09	02/05/08	02/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g		Batch # 8024281	Yld % 59
Strontium 90	-0.14	U	0.38	3.00	0.66	01/24/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-689

Radiochemistry

Lab Sample ID: F8A240117-032
Work Order: KF2JX
Matrix: SOLID

Date Collected: 12/14/07 1250
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.34		0.17		0.23	01/28/08	02/18/08
Americium 241	0.003	U	0.085		0.15	01/28/08	02/18/08
Cesium 137	0.016	U	0.039	0.200	0.068	01/28/08	02/18/08
Cobalt 60	0.017	U	0.045		0.080	01/28/08	02/18/08
Europium 152	0.0	U	0.086		0.16	01/28/08	02/18/08
Europium 154	0.005	U	0.32		0.59	01/28/08	02/18/08
Potassium 40	9.6		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.31	J	0.11	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.34		0.17		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 68
Thorium 228	0.53	J	0.18	1.00	0.10	02/05/08	02/12/08
Thorium 230	0.41	J	0.15	1.00	0.07	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 84
Uranium 233/234	0.31	J	0.12	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.022	U	0.040	1.00	0.067	02/05/08	02/12/08
Uranium 238	0.39	J	0.14	1.00	0.06	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-690

Radiochemistry

Lab Sample ID: F8A240117-033
Work Order: KF2J5
Matrix: SOLID

Date Collected: 12/14/07 1253
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.30		0.19		0.25	01/28/08	02/18/08
Americium 241	-0.008	U	0.090		0.16	01/28/08	02/18/08
Cesium 137	0.0006	U	0.046	0.200	0.086	01/28/08	02/18/08
Cobalt 60	0.0	U	0.012		0.046	01/28/08	02/18/08
Europium 152	-0.006	U	0.10		0.19	01/28/08	02/18/08
Europium 154	0.03	U	0.30		0.58	01/28/08	02/18/08
Potassium 40	8.0		1.5		0.8	01/28/08	02/18/08
Radium (226)	0.63	J	0.16	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.30		0.19		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 85
Thorium 228	0.38	J	0.13	1.00	0.08	02/05/08	02/12/08
Thorium 230	0.49	J	0.15	1.00	0.06	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 84
Uranium 233/234	0.223	J	0.0996	1.00	0.056	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.026	1.00	0.055	02/05/08	02/12/08
Uranium 238	0.195	J	0.092	1.00	0.044	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-691

Radiochemistry

Lab Sample ID: F8A240117-034
Work Order: KF2J7
Matrix: SOLID

Date Collected: 12/14/07 1257
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.33		0.13		0.21	01/28/08	02/18/08
Americium 241	0.029	U	0.091		0.16	01/28/08	02/18/08
Cesium 137	0.0	U	0.062	0.200	0.11	01/28/08	02/18/08
Cobalt 60	-0.002	U	0.044		0.083	01/28/08	02/18/08
Europium 152	0.026	U	0.093		0.16	01/28/08	02/18/08
Europium 154	0.1	U	0.32		0.56	01/28/08	02/18/08
Potassium 40	10.4		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.35	J	0.11	1.00	0.14	01/28/08	02/18/08
Thorium 232	0.33		0.13		0.21	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 85
Thorium 228	0.46	J	0.15	1.00	0.08	02/05/08	02/12/08
Thorium 230	0.38	J	0.14	1.00	0.08	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 85
Uranium 233/234	0.35	J	0.13	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.012	U	0.030	1.00	0.062	02/05/08	02/12/08
Uranium 238	0.31	J	0.12	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-692

Radiochemistry

Lab Sample ID: F8A240117-035
Work Order: KF2KC
Matrix: SOLID

Date Collected: 12/14/07 1300
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.22	U	0.22		0.35	01/28/08	02/18/08
Americium 241	0.031	U	0.097		0.17	01/28/08	02/18/08
Cesium 137	0.041	U	0.052	0.200	0.085	01/28/08	02/18/08
Cobalt 60	0.008	U	0.036		0.072	01/28/08	02/18/08
Europium 152	0.03	U	0.11		0.20	01/28/08	02/18/08
Europium 154	0.09	U	0.35		0.65	01/28/08	02/18/08
Potassium 40	9.4		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.30	J	0.13	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.22	U	0.22		0.35	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 78
Thorium 228	0.59	J	0.18	1.00	0.08	02/05/08	02/12/08
Thorium 230	0.43	J	0.15	1.00	0.06	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 85
Uranium 233/234	0.43	J	0.15	1.00	0.08	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	02/05/08	02/12/08
Uranium 238	0.27	J	0.11	1.00	0.08	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-693

Radiochemistry

Lab Sample ID: F8A240117-036
Work Order: KF2KE
Matrix: SOLID

Date Collected: 12/14/07 1303
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.42		0.20		0.33	01/28/08	02/18/08
Americium 241	-0.004	U	0.099		0.17	01/28/08	02/18/08
Cesium 137	0.003	U	0.057	0.200	0.12	01/28/08	02/18/08
Cobalt 60	-0.01	U	0.063		0.12	01/28/08	02/18/08
Europium 152	0.007	U	0.097		0.18	01/28/08	02/18/08
Europium 154	0.0	U	0.082		0.30	01/28/08	02/18/08
Potassium 40	11.9		2.0		0.5	01/28/08	02/18/08
Radium (226)	0.64	J	0.19	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.42		0.20		0.33	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 70
Thorium 228	0.48	J	0.17	1.00	0.09	02/05/08	02/12/08
Thorium 230	0.59	J	0.18	1.00	0.03	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 84
Uranium 233/234	0.49	J	0.16	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	02/05/08	02/12/08
Uranium 238	0.39	J	0.14	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-694

Radiochemistry

Lab Sample ID: F8A240117-037
Work Order: KF2KF
Matrix: SOLID

Date Collected: 12/14/07 1305
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.24		0.11		0.18	01/28/08	02/18/08
Americium 241	0.13	U	0.29		0.50	01/28/08	02/18/08
Cesium 137	0.130	J	0.044	0.200	0.035	01/28/08	02/18/08
Cobalt 60	0.006	U	0.032		0.060	01/28/08	02/18/08
Europium 152	-0.005	U	0.073		0.13	01/28/08	02/18/08
Europium 154	-0.08	U	0.25		0.44	01/28/08	02/18/08
Potassium 40	9.1		1.2		0.5	01/28/08	02/18/08
Radium (226)	0.51	J	0.12	1.00	0.11	01/28/08	02/18/08
Thorium 232	0.24		0.11		0.18	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 72
Thorium 228	0.35	J	0.15	1.00	0.09	02/05/08	02/12/08
Thorium 230	0.41	J	0.15	1.00	0.06	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 87
Uranium 233/234	0.34	J	0.13	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.023	U	0.040	1.00	0.068	02/05/08	02/12/08
Uranium 238	0.33	J	0.13	1.00	0.05	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-695

Radiochemistry

Lab Sample ID: F8A240117-038
Work Order: KF2KH
Matrix: SOLID

Date Collected: 12/14/07 1308
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.63		0.17		0.25	01/28/08	02/18/08
Americium 241	0.004	U	0.098		0.17	01/28/08	02/18/08
Cesium 137	0.033	U	0.052	0.200	0.087	01/28/08	02/18/08
Cobalt 60	0.0	U	0.011		0.039	01/28/08	02/18/08
Europium 152	-0.04	U	0.12		0.20	01/28/08	02/18/08
Europium 154	-0.19	U	0.43		0.74	01/28/08	02/18/08
Potassium 40	10.8		1.7		0.6	01/28/08	02/18/08
Radium (226)	0.59	J	0.15	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.63		0.17		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 81
Thorium 228	0.39	J	0.15	1.00	0.11	02/05/08	02/12/08
Thorium 230	0.57	J	0.17	1.00	0.08	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 89
Uranium 233/234	0.35	J	0.13	1.00	0.07	02/05/08	02/12/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/05/08	02/12/08
Uranium 238	0.45	J	0.14	1.00	0.03	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-696

Radiochemistry

Lab Sample ID: F8A240117-039
Work Order: KF2KJ
Matrix: SOLID

Date Collected: 12/14/07 1310
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028417		Yld %
Actinium 228	0.47		0.18		0.27	01/28/08	02/18/08
Americium 241	0.049	U	0.077		0.13	01/28/08	02/18/08
Cesium 137	0.086	U	0.061	0.200	0.090	01/28/08	02/18/08
Cobalt 60	-0.017	U	0.059		0.11	01/28/08	02/18/08
Europium 152	0.03	U	0.12		0.21	01/28/08	02/18/08
Europium 154	-0.06	U	0.42		0.78	01/28/08	02/18/08
Potassium 40	10.5		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.37	J	0.14	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.47		0.18		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036129		Yld % 80
Thorium 228	0.57	J	0.17	1.00	0.07	02/05/08	02/12/08
Thorium 230	0.47	J	0.15	1.00	0.05	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036126		Yld % 92
Uranium 233/234	0.32	J	0.12	1.00	0.06	02/05/08	02/12/08
Uranium 235/236	0.022	U	0.034	1.00	0.051	02/05/08	02/12/08
Uranium 238	0.219	J	0.095	1.00	0.047	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-697

Radiochemistry

Lab Sample ID: F8A240117-040
Work Order: KF2KK
Matrix: SOLID

Date Collected: 12/14/07 1312
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028417		Yld %
Actinium 228	0.36		0.15		0.25	01/28/08	02/18/08
Americium 241	0.009	U	0.072		0.13	01/28/08	02/18/08
Cesium 137	0.039	U	0.044	0.200	0.072	01/28/08	02/18/08
Cobalt 60	-0.002	U	0.048		0.089	01/28/08	02/18/08
Europium 152	-0.04	U	0.11		0.19	01/28/08	02/18/08
Europium 154	-0.05	U	0.36		0.65	01/28/08	02/18/08
Potassium 40	10.4		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.32	J	0.11	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.36		0.15		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036129		Yld % 84
Thorium 228	0.40	J	0.14	1.00	0.09	02/05/08	02/12/08
Thorium 230	0.51	J	0.16	1.00	0.06	02/05/08	02/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036126		Yld % 87
Uranium 233/234	0.48	J	0.15	1.00	0.05	02/05/08	02/12/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.056	02/05/08	02/12/08
Uranium 238	0.34	J	0.13	1.00	0.06	02/05/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-740

Radiochemistry

Lab Sample ID: F8A240117-041
Work Order: KF2KL
Matrix: SOLID

Date Collected: 12/14/07 1050
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028418**		**Yld %**
Actinium 228	0.32	U	0.23		0.32	01/28/08	02/18/08
Americium 241	-0.002	U	0.11		0.19	01/28/08	02/18/08
Cesium 137	0.088	U	0.071	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.0	U	0.015		0.056	01/28/08	02/18/08
Europium 152	-0.03	U	0.14		0.25	01/28/08	02/18/08
Europium 154	0.15	U	0.31		0.56	01/28/08	02/18/08
Potassium 40	6.5		1.6		1.2	01/28/08	02/18/08
Radium (226)	0.50	J	0.16	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.32	U	0.23		0.32	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8036300**		**Yld % 87**
Thorium 228	0.45	J	0.15	1.00	0.07	02/05/08	02/11/08
Thorium 230	0.47	J	0.15	1.00	0.07	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8036302**		**Yld % 82**
Uranium 233/234	0.43	J	0.15	1.00	0.07	02/05/08	02/11/08
Uranium 235/236	0.023	U	0.036	1.00	0.053	02/05/08	02/11/08
Uranium 238	0.27	J	0.11	1.00	0.03	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-740 DUP

Radiochemistry

Lab Sample ID: F8A240117-041X
Work Order: KF2KL
Matrix: SOLID

Date Collected: 12/14/07 1050
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028418		Yld %
Actinium 228	0.13	U	0.21		0.35	01/28/08	02/18/08
Americium 241	0.027	U	0.089		0.15	01/28/08	02/18/08
Cesium 137	0.089	U	0.063	0.200	0.10	01/28/08	02/18/08
Cobalt 60	-0.011	U	0.055		0.10	01/28/08	02/18/08
Europium 152	-0.04	U	0.12		0.22	01/28/08	02/18/08
Europium 154	0.0	U	0.081		0.30	01/28/08	02/18/08
Potassium 40	6.4		1.5		1	01/28/08	02/18/08
Radium (226)	0.39	J	0.15	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.13	U	0.21		0.35	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036300		Yld % 85
Thorium 228	0.43	J	0.15	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.40	J	0.14	1.00	0.06	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036302		Yld % 80
Uranium 233/234	0.34	J	0.13	1.00	0.07	02/05/08	02/11/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	02/05/08	02/11/08
Uranium 238	0.31	J	0.12	1.00	0.05	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-741

Radiochemistry

Lab Sample ID: F8A240117-042
Work Order: KF2KN
Matrix: SOLID

Date Collected: 12/14/07 1052
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028418		Yld %
Actinium 228	0.17	U	0.19		0.30	01/28/08	02/18/08
Americium 241	-0.016	U	0.085		0.15	01/28/08	02/18/08
Cesium 137	0.035	U	0.059	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.029	U	0.062		0.11	01/28/08	02/18/08
Europium 152	-0.002	U	0.12		0.22	01/28/08	02/18/08
Europium 154	0.11	U	0.30		0.56	01/28/08	02/18/08
Potassium 40	9.0		1.7		0.6	01/28/08	02/18/08
Radium (226)	0.50	J	0.16	1.00	0.14	01/28/08	02/18/08
Thorium 232	0.17	U	0.19		0.30	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036300		Yld % 89
Thorium 228	0.58	J	0.16	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036302		Yld % 81
Uranium 233/234	0.41	J	0.14	1.00	0.06	02/05/08	02/11/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	02/05/08	02/11/08
Uranium 238	0.43	J	0.15	1.00	0.07	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-742

Radiochemistry

Lab Sample ID: F8A240117-043
Work Order: KF2KP
Matrix: WATER

Date Collected: 12/14/07 1112
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8025135**		**Yld %**
Actinium 228	1	U	32		60	01/25/08	01/26/08
Americium 241	-2.3	U	7.8		14	01/25/08	01/26/08
Cesium 137	2.1	U	6.6	20.0	12	01/25/08	01/26/08
Cobalt 60	-0.2	U	9.1		18	01/25/08	01/26/08
Europium 152	5	U	18		33	01/25/08	01/26/08
Europium 154	-3	U	71		130	01/25/08	01/26/08
Potassium 40	20	U	110		210	01/25/08	01/26/08
Thorium 232	1	U	32		60	01/25/08	01/26/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8042181**		**Yld % 84**
Thorium 228	-0.036	U	0.053	1.00	0.19	02/11/08	02/13/08
Thorium 230	0.083	U	0.088	1.00	0.093	02/11/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8042182**		**Yld % 84**
Uranium 233/234	-0.003	U	0.049	1.00	0.14	02/11/08	02/13/08
Uranium 235/236	0.0	U	0.023	1.00	0.073	02/11/08	02/13/08
Uranium 238	0.023	U	0.065	1.00	0.14	02/11/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-742 DUP

Radiochemistry

Lab Sample ID: F8A240117-043X
Work Order: KF2KP
Matrix: WATER

Date Collected: 12/14/07 1112
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				pCi/L	Batch # 8025135		Yld %
Actinium 228	0.0	U	33		61	01/25/08	01/26/08
Americium 241	1	U	14		25	01/25/08	01/26/08
Cesium 137	0.0	U	7.7	20.0	15	01/25/08	01/26/08
Cobalt 60	-0.2	U	6.2		13	01/25/08	01/26/08
Europium 152	-4	U	18		33	01/25/08	01/26/08
Europium 154	-16	U	59		110	01/25/08	01/26/08
Potassium 40	0.0	U	22		80	01/25/08	01/26/08
Thorium 232	0.0	U	33		61	01/25/08	01/26/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-743

Radiochemistry

Lab Sample ID: F8A240117-044
Work Order: KF2KQ
Matrix: SOLID

Date Collected: 12/14/07 1118
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.55		0.13		0.13	01/28/08	02/18/08
Americium 241	-0.08	U	0.28		0.48	01/28/08	02/18/08
Cesium 137	0.064	J	0.040	0.200	0.058	01/28/08	02/18/08
Cobalt 60	0.0	U	0.035		0.067	01/28/08	02/18/08
Europium 152	-0.021	U	0.085		0.15	01/28/08	02/18/08
Europium 154	-0.06	U	0.25		0.44	01/28/08	02/18/08
Potassium 40	9.3		1.3		0.5	01/28/08	02/18/08
Radium (226)	0.43	J	0.10	1.00	0.1	01/28/08	02/18/08
Thorium 232	0.55		0.13		0.13	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036300		Yld % 88
Thorium 228	0.51	J	0.16	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.42	J	0.14	1.00	0.08	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036302		Yld % 82
Uranium 233/234	0.38	J	0.13	1.00	0.05	02/05/08	02/11/08
Uranium 235/236	-0.0046	U	0.0065	1.00	0.060	02/05/08	02/11/08
Uranium 238	0.31	J	0.12	1.00	0.05	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-744

Radiochemistry

Lab Sample ID: F8A240117-045
Work Order: KF2KR
Matrix: SOLID

Date Collected: 12/14/07 1119
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028418**		**Yld %**
Actinium 228	0.36		0.21		0.28	01/28/08	02/18/08
Americium 241	0.053	U	0.097		0.16	01/28/08	02/18/08
Cesium 137	0.070	U	0.061	0.200	0.094	01/28/08	02/18/08
Cobalt 60	0.002	U	0.059		0.11	01/28/08	02/18/08
Europium 152	-0.01	U	0.12		0.21	01/28/08	02/18/08
Europium 154	-0.15	U	0.48		0.84	01/28/08	02/18/08
Potassium 40	9.4		1.6		0.5	01/28/08	02/18/08
Radium (226)	0.65	J	0.14	1.00	0.05	01/28/08	02/18/08
Thorium 232	0.36		0.21		0.28	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8036300**		**Yld % 84**
Thorium 228	0.59	J	0.17	1.00	0.07	02/05/08	02/11/08
Thorium 230	0.68	J	0.18	1.00	0.06	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8036302**		**Yld % 86**
Uranium 233/234	0.50	J	0.15	1.00	0.03	02/05/08	02/11/08
Uranium 235/236	0.024	U	0.034	1.00	0.033	02/05/08	02/11/08
Uranium 238	0.35	J	0.13	1.00	0.05	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-745

Radiochemistry

Lab Sample ID: F8A240117-046
Work Order: KF2KT
Matrix: SOLID

Date Collected: 12/14/07 1135
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.64		0.24		0.22	01/28/08	02/18/08
Americium 241	-0.01	U	0.10		0.18	01/28/08	02/18/08
Cesium 137	0.10	U	0.072	0.200	0.11	01/28/08	02/18/08
Cobalt 60	-0.026	U	0.076		0.14	01/28/08	02/18/08
Europium 152	-0.03	U	0.16		0.27	01/28/08	02/18/08
Europium 154	0.15	U	0.43		0.77	01/28/08	02/18/08
Potassium 40	14.3		2.2		0.5	01/28/08	02/18/08
Radium (226)	0.62	J	0.18	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.64		0.24		0.22	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036300		Yld % 32
Thorium 228	0.48	J	0.24	1.00	0.20	02/05/08	02/11/08
Thorium 230	0.88	J	0.32	1.00	0.07	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036302		Yld % 72
Uranium 233/234	0.47	J	0.16	1.00	0.06	02/05/08	02/11/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/05/08	02/11/08
Uranium 238	0.45	J	0.15	1.00	0.03	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-746

Radiochemistry

Lab Sample ID: F8A240117-047
Work Order: KF2KV
Matrix: SOLID

Date Collected: 12/14/07 1138
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.52		0.15		0.25	01/28/08	02/18/08
Americium 241	0.12	U	0.32		0.54	01/28/08	02/18/08
Cesium 137	0.134	J	0.056	0.200	0.071	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0082		0.030	01/28/08	02/18/08
Europium 152	-0.001	U	0.081		0.15	01/28/08	02/18/08
Europium 154	0.08	U	0.25		0.45	01/28/08	02/18/08
Potassium 40	12.2		1.6		0.6	01/28/08	02/18/08
Radium (226)	0.57	J	0.13	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.52		0.15		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036300		Yld % 84
Thorium 228	0.57	J	0.17	1.00	0.08	02/05/08	02/11/08
Thorium 230	0.69	J	0.19	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036302		Yld % 74
Uranium 233/234	0.57	J	0.17	1.00	0.06	02/05/08	02/11/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.056	02/05/08	02/11/08
Uranium 238	0.48	J	0.16	1.00	0.05	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-747

Radiochemistry

Lab Sample ID: F8A240117-048
Work Order: KF2KX
Matrix: SOLID

Date Collected: 12/14/07 1240
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028418		Yld %
Actinium 228	0.25	U	0.24		0.37	01/28/08	02/18/08
Americium 241	0.002	U	0.094		0.16	01/28/08	02/18/08
Cesium 137	0.048	U	0.064	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.002	U	0.054		0.10	01/28/08	02/18/08
Europium 152	0.0	U	0.14		0.25	01/28/08	02/18/08
Europium 154	-0.003	U	0.40		0.76	01/28/08	02/18/08
Potassium 40	12.5		2.0		0.5	01/28/08	02/18/08
Radium (226)	0.53	J	0.14	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.25	U	0.24		0.37	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036300		Yld % 80
Thorium 228	0.41	J	0.15	1.00	0.11	02/05/08	02/11/08
Thorium 230	0.63	J	0.18	1.00	0.09	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8036302		Yld % 81
Uranium 233/234	0.45	J	0.15	1.00	0.03	02/05/08	02/11/08
Uranium 235/236	0.023	U	0.036	1.00	0.054	02/05/08	02/11/08
Uranium 238	0.40	J	0.14	1.00	0.03	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-748

Radiochemistry

Lab Sample ID: F8A240117-049
Work Order: KF2K0
Matrix: SOLID

Date Collected: 12/14/07 1242
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.60		0.28		0.36	01/28/08	02/18/08
Americium 241	0.03	U	0.12		0.21	01/28/08	02/18/08
Cesium 137	0.037	U	0.055	0.200	0.092	01/28/08	02/18/08
Cobalt 60	-0.015	U	0.070		0.13	01/28/08	02/18/08
Europium 152	-0.04	U	0.14		0.25	01/28/08	02/18/08
Europium 154	-0.03	U	0.34		0.66	01/28/08	02/18/08
Potassium 40	12.5		2.1		0.6	01/28/08	02/18/08
Radium (226)	0.43	J	0.14	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.60		0.28		0.36	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036300		Yld % 80
Thorium 228	0.66	J	0.19	1.00	0.07	02/05/08	02/11/08
Thorium 230	0.73	J	0.20	1.00	0.05	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8036302		Yld % 76
Uranium 233/234	0.61	J	0.18	1.00	0.07	02/05/08	02/11/08
Uranium 235/236	0.036	U	0.048	1.00	0.066	02/05/08	02/11/08
Uranium 238	0.48	J	0.16	1.00	0.08	02/05/08	02/11/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8024281		Yld % 72
Strontium 90	0.51	U	0.35	3.00	0.55	01/24/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-749

Radiochemistry

Lab Sample ID: F8A240117-050
Work Order: KF2K1
Matrix: SOLID

Date Collected: 12/14/07 1300
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8028418	Yld %
Actinium 228	0.52		0.26		0.30	01/28/08	02/18/08
Americium 241	0.06	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	0.022	U	0.069	0.200	0.13	01/28/08	02/18/08
Cobalt 60	0.035	U	0.064		0.11	01/28/08	02/18/08
Europium 152	-0.02	U	0.13		0.23	01/28/08	02/18/08
Europium 154	-0.1	U	0.45		0.83	01/28/08	02/18/08
Potassium 40	10.4		2.2		1.6	01/28/08	02/18/08
Radium (226)	0.34	J	0.16	1.00	0.21	01/28/08	02/18/08
Thorium 232	0.52		0.26		0.30	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8036300	Yld % 82
Thorium 228	0.65	J	0.19	1.00	0.09	02/05/08	02/11/08
Thorium 230	0.54	J	0.17	1.00	0.07	02/05/08	02/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8036302	Yld % 76
Uranium 233/234	0.38	J	0.14	1.00	0.08	02/05/08	02/11/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	02/05/08	02/11/08
Uranium 238	0.39	J	0.14	1.00	0.08	02/05/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

• Attachment I	Sample ID Cross Reference and Data Review Level
• Attachment II	Overall Data Qualification Summary
• Attachment III	Tetra Tech EC Database Qualification Summary
• Attachment IV	Field Blank Summary
• Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-617	F8A240117011	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-617	F8A240117011	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-617	F8A240117011	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-617DUP	F8A240117011DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-617DUP	F8A240117011DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-617DUP	F8A240117011DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-618	F8A240117012	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-618	F8A240117012	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-618	F8A240117012	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-618	F8A240117012	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-618DUP	F8A240117012DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-619	F8A240117013	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-619	F8A240117013	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-619	F8A240117013	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-620	F8A240117014	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-620	F8A240117014	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-620	F8A240117014	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-621	F8A240117015	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-621	F8A240117015	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-621	F8A240117015	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-622	F8A240117016	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-622	F8A240117016	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-622	F8A240117016	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-623	F8A240117017	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-623	F8A240117017	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-623	F8A240117017	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
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TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-624	F8A240117018	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-624	F8A240117018	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-624	F8A240117018	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-625	F8A240117019	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-625	F8A240117019	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-625	F8A240117019	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-626	F8A240117020	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-626	F8A240117020	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-626	F8A240117020	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-688	F8A240117031	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-688	F8A240117031	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-688	F8A240117031	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-688	F8A240117031	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-689	F8A240117032	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-689	F8A240117032	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-689	F8A240117032	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-690	F8A240117033	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-690	F8A240117033	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-690	F8A240117033	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-691	F8A240117034	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-691	F8A240117034	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-691	F8A240117034	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-692	F8A240117035	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-692	F8A240117035	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-692	F8A240117035	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-693	F8A240117036	N	Gen Prep	)OE A-01-R TH MOI	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-693	F8A240117036	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-693	F8A240117036	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-694	F8A240117037	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-694	F8A240117037	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-694	F8A240117037	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-695	F8A240117038	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-695	F8A240117038	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-695	F8A240117038	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-696	F8A240117039	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-696	F8A240117039	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-696	F8A240117039	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-697	F8A240117040	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-697	F8A240117040	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-697	F8A240117040	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-740	F8A240117041	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-740	F8A240117041	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-740	F8A240117041	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-740DUP	F8A240117041DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-740DUP	F8A240117041DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-740DUP	F8A240117041DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-741	F8A240117042	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-741	F8A240117042	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-741	F8A240117042	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-742	F8A240117043	EB	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-742	F8A240117043	EB	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-742	F8A240117043	EB	Gen Prep	DOE GA-01-R MOD	3

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MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Dec-2007	15-742DUP	F8A240117043DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-743	F8A240117044	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-743	F8A240117044	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-743	F8A240117044	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-744	F8A240117045	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-744	F8A240117045	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-744	F8A240117045	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-745	F8A240117046	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-745	F8A240117046	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-745	F8A240117046	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-746	F8A240117047	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-746	F8A240117047	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-746	F8A240117047	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-747	F8A240117048	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-747	F8A240117048	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-747	F8A240117048	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-748	F8A240117049	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-748	F8A240117049	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-748	F8A240117049	N	Gen Prep	DOE GA-01-R MOD	3
14-Dec-2007	15-748	F8A240117049	N	Gen Prep	)OE SR-03-RC MOI	3
14-Dec-2007	15-749	F8A240117050	N	Gen Prep	)OE A-01-R TH MOI	3
14-Dec-2007	15-749	F8A240117050	N	Gen Prep	DOE A-01-R U MOD	3
14-Dec-2007	15-749	F8A240117050	N	Gen Prep	DOE GA-01-R MOD	3

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MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A240117										
DOE GA-01-R MOD	15-617	SO	N	POTASSIUM-40		9.0	1.6	J	pCi/g	
DOE GA-01-R MOD	15-618	SO	N	POTASSIUM-40		7.7	1.1	J	pCi/g	
DOE GA-01-R MOD	15-619	SO	N	POTASSIUM-40		6.7	1.2	J	pCi/g	
DOE GA-01-R MOD	15-620	SO	N	POTASSIUM-40		9.5	1.5	J	pCi/g	
DOE GA-01-R MOD	15-621	SO	N	POTASSIUM-40		11.2	1.7	J	pCi/g	
DOE GA-01-R MOD	15-622	SO	N	POTASSIUM-40		10.8	1.4	J	pCi/g	
DOE GA-01-R MOD	15-623	SO	N	POTASSIUM-40		9.8	1.8	J	pCi/g	
DOE GA-01-R MOD	15-624	SO	N	POTASSIUM-40		1.01	0.18	J	pCi/g	
DOE GA-01-R MOD	15-625	SO	N	POTASSIUM-40		10.9	1.2	J	pCi/g	
DOE GA-01-R MOD	15-626	SO	N	POTASSIUM-40		11.4	1.6	J	pCi/g	
DOE GA-01-R MOD	15-688	SO	N	POTASSIUM-40		10.7	1.8	J	pCi/g	
DOE GA-01-R MOD	15-689	SO	N	POTASSIUM-40		9.6	1.4	J	pCi/g	
DOE GA-01-R MOD	15-690	SO	N	POTASSIUM-40		8.0	1.5	J	pCi/g	
DOE GA-01-R MOD	15-691	SO	N	POTASSIUM-40		10.4	1.4	J	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A240117										
DOE GA-01-R MOD	15-692	SO	N	POTASSIUM-40		9.4	1.7	J	pCi/g	
DOE GA-01-R MOD	15-693	SO	N	POTASSIUM-40		11.9	2.0	J	pCi/g	
DOE GA-01-R MOD	15-694	SO	N	POTASSIUM-40		9.1	1.2	J	pCi/g	
DOE GA-01-R MOD	15-695	SO	N	POTASSIUM-40		10.8	1.7	J	pCi/g	
DOE GA-01-R MOD	15-696	SO	N	POTASSIUM-40		10.5	1.7	J	pCi/g	
DOE GA-01-R MOD	15-697	SO	N	POTASSIUM-40		10.4	1.4	J	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A240117

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected / Non Detected Qualifier	Analyte Name	Reason
F8A240117	15-617	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-618	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-619	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-620	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-621	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-622	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-623	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-624	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-625	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-626	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-688	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-689	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-690	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-691	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-692	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-693	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-694	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-695	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-696	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD
F8A240117	15-697	DOE GA-01-R MOD	13966002	J	POTASSIUM-40	Lab Duplicate RPD

Attachment IV

Field Blank Summary

All Field QC were reported as ND

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A240117

Laboratory Duplicate RPD Outlier Report

Method Batch : 8028417 **Analysis Method :** DOE GA-01-R MOD **Analysis Date :** 02/18/2008

Lab Reporting Batch : F8A240117 **Lab ID:** TestAme

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported RPD	Project Limit RPD
15-617DUP	F8A240117011DUP	SO	POTASSIUM-40	57	40.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
15-617	F8A240117011
15-618	F8A240117012
15-619	F8A240117013
15-620	F8A240117014
15-621	F8A240117015
15-622	F8A240117016
15-623	F8A240117017
15-624	F8A240117018
15-625	F8A240117019
15-626	F8A240117020
15-688	F8A240117031
15-689	F8A240117032
15-690	F8A240117033
15-691	F8A240117034
15-692	F8A240117035
15-693	F8A240117036
15-694	F8A240117037
15-695	F8A240117038
15-696	F8A240117039
15-697	F8A240117040

LDC #: 18450E35
SDG #: F8A240117
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	DUP
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	ND	ER = 23

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-617	S	11	1	15-688	S	21	2	15-740	S
2	1	15-618	↓	12	1	15-689	↓	22	2	15-741	↓
3	1	15-619		13	1	15-690		23	3	15-742	W
4	1	15-620		14	1	15-691		24	2	15-743	S
5	1	15-621		15	1	15-692		25	2	15-744	
6	1	15-622		16	1	15-693		26	2	15-745	
7	1	15-623		17	1	15-694		27	2	15-746	
8	1	15-624		18	1	15-695		28	2	15-747	
9	1	15-625		19	1	15-696		29	2	15-748	
10	1	15-626	↓	20	1	15-697	↓	30	2	15-749	↓

31	1	15-617DUP	S
32	2	15-740DUP	↓
33	3	15-742DUP	W
34	1	PBS1	
35	2	PBS2	
36	3	PBW	
37			
38			
39			
40			

Notes:

LDC #: 150E35
SDG #: F8A240117

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: R

METHOD: Radiochemistry (Method: DOE GA-01-R Mod)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a duplicate sample analyzed the required frequency of 5% in this SDG?

Y (N) N/A Were all duplicate sample duplicate error ratio (DER) $\leq$ 1.42? $DER = \frac{|Act_1 - Act_2|}{2\,|\delta_1^2 + \delta_2^2|^{1/2}}$ Act = sample activity δ = 1 sigma error

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Duplicate ID	Matrix	Isotope	RPD ~~DER~~ (Limits)	Associated Samples	Qualifications
1	31	soil	K-40	57 (≤40)	1 → 20	J/UJ/A

Comments: Others OK by diff. or both N.D.

LDC #: 18450E59
SDG #: F8A240117
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~A~~ N	DUP (both N.D. for high RPD)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ N	~~A~~
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 23

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	1	15-617	S	11	1	15-688	S	21	2	15-740	S
2	1	15-618		12	1	15-689		22	2	15-741	
3	1	15-619		13	1	15-690		23	3	15-742	W
4	1	15-620		14	1	15-691		24	2	15-743	S
5	1	15-621		15	1	15-692		25	2	15-744	
6	1	15-622		16	1	15-693		26	2	15-745	
7	1	15-623		17	1	15-694		27	2	15-746	
8	1	15-624		18	1	15-695		28	2	15-747	
9	1	15-625		19	1	15-696		29	2	15-748	
10	1	15-626		20	1	15-697		30	2	15-749	

31	1	15-617DUP	S
32	2	15-740DUP	
33	1	PBS1	
34	2	PBS2	
35	3	PBW	
36			
37			
38			
39			
40			

Notes:

LDC #: 18450E61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08

SDG #: F8A240117 ADR Page: 1 of 1

Laboratory: Test America Reviewer: MG

2nd Reviewer:

3 9m4

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (both N.D.)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all Soil

1	15-618	11		21		31	
2	15-688	12		22		32	
3	15-748	13		23		33	
4	15-618DUP	14		24		34	
5	PBS	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450E73
SDG #: F8A240117
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-14-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ ~~N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 23

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-617	S	11	1	15-688	S	21	2	15-740	S
2	1	15-618		12	1	15-689		22	2	15-741	↓
3	1	15-619		13	1	15-690		23	3	15-742	W
4	1	15-620		14	1	15-691		24	2	15-743	S
5	1	15-621		15	1	15-692		25	2	15-744	
6	1	15-622		16	1	15-693		26	2	15-745	
7	1	15-623		17	1	15-694		27	2	15-746	
8	1	15-624		18	1	15-695		28	2	15-747	
9	1	15-625		19	1	15-696		29	2	15-748	
10	1	15-626	↓	20	1	15-697	↓	30	2	15-749	↓

31	1	15-617DUP	S
32	2	15-740DUP	↓
33	1	PBS1	
34	2	PBS2	
35	3	PBW	
36			
37			
38			
39			
40			

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25752

D2/5

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.6295.52
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudeko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1 Gamma; Isotopic Thorium; Isotopic Uranium; % Moisture

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): FBA250153

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-658	12.14.07	8:13	2	X		S	21 DY		B-2IR-6a	2'	2.5'	N
15-659	12.14.07	8:15	1	X		S	21 DY		B-2IR-6b	2.5'	3'	N
15-660	12.14.07	8:36	1	X		S	21 DY		B-2IR-7a	2'	2.5'	N
15-661	12.14.07	8:32	1	X		S	21 DY		B-2IR-7b	2.5'	3'	N
15-662	12.14.07	8:47	1	X		S	21 DY		B-2IR-8a	2.5'	2.5'	N
15-663	12.14.07	8:50	1	X		S	21 DY		B-2IR-8b	2.5'	3'	N
15-664	12.14.07	9:15	1	X		S	21 DY		B-2IR-10a	2'	2.5'	N
15-665	12.14.07	9:17	1	X		S	21 DY		B-2IR-10b	2.5'	3'	N
15-666	12.14.07	9:55	1	X		S	21 DY		2IR-10-01a	0"	6"	N
15-667	12.14.07	9:57	1	X		S	21 DY		2IR-10-01b	6"	12"	N

RELINQUISHED BY (Signature)	DATE 1/24/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaround
COMPANY ITEC/Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR: Installation Restoration

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059328

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25753

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3710.028D
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): F8A250153

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m Gamma; Isotopic Thorium; Isotopic Uranium; 90/SR DOE SR-01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	90/SR DOE SR-01/SR-02					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-668	12.14.07	10:00	2	X		S	21 DY	X	X	X	X						2IR-10-2a	0"	6"	N
15-669	12.14.07	10:03	1	X		S	21 DY	X	X	X							2IR-10-2b	6"	12"	N
15-670	12.14.07	10:10	1	X		S	21 DY	X	X	X							2IR-10-3a	0"	6"	N
15-671	12.14.07	10:12	1	X		S	21 DY	X	X	X							2IR-10-3b	6"	12"	N
15-672	12.14.07	10:15	1	X		S	21 DY	X	X	X							2IR-10-4a	0"	6"	N
15-673	12.14.07	10:17	1	X		S	21 DY	X	X	X							2IR-10-4b	6"	12"	N
15-674	12.14.07	10:20	1	X		S	21 DY	X	X	X							2IR-10-5a	0"	6"	N
15-675	12.14.07	10:22	1	X		S	21 DY	X	X	X							2IR-10-5b	6"	12"	N
15-676	12.14.07	10:30	1	X		S	21 DY	X	X	X							B-2IR-11Aa	2'	2.5'	N
15-677	12.14.07	10:33	2	X		S	21 DY	X	X	X	X						B-2IR-11Ab	2.5'	3'	N

RELINQUISHED BY (Signature): [signature]	DATE: 1/24/08	RECEIVED BY (Signature):
COMPANY: TtEC / Fed	TIME:	COMPANY:
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):
COMPANY:	TIME:	COMPANY:
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):
COMPANY:	TIME:	COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059328

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25755

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudeko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A250253

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m GAMMA; ISOTOPIC THORIUM; ISOTOPIC URANIUM

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-678	12-14-07	16:40	2	X		W	21 DY	F8B120265*	Equipment Rinsate	N/A	N/A	N
15-679	12-14-07	10:48	1	X		S	21 DY		2IR-11A-01a	2'	2.5'	N
15-680	12-14-07	10:50	1	X		S	21 DY		2IR-11A-01b	2.5	3'	N
15-681	12-14-07	10:56	1	X		S	21 DY		2IR-11A-02a	2'	2.5'	N
15-682	12-14-07	10:58	1	X		S	21 DY		2IR-11A-02b	2.5'	3'	N
15-683	12-14-07	11:08	1	X		S	21 DY		B-2IR-11Ba	2'	2.5'	N
15-684	12-14-07	11:10	1	X		S	21 DY		B-2IR-11Bb	2.5	3'	N
15-685	12-14-07	11:15	1	X		S	21 DY		2IR-11B-01a	2'	2.5'	N
15-686	12-14-07	11:17	1	X		S	21 DY		2IR-11B-01b	2.5	3'	N
15-687	12-14-07	11:25	1	X		S	21 DY		2IR-11B-02a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 12/24/08	RECEIVED BY (Signature)
COMPANY TTEC/Tetra	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUNDS

COMPOSITE DESCRIPTION: * Ra-226 via 903.0M 2-8-08 SV

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059328

Tetra Tech EC, Inc.

Client Sample ID: 15-658

Radiochemistry

Lab Sample ID: F8A250153-001
Work Order: KF4TE
Matrix: SOLID

Date Collected: 12/14/07 0813
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.45		0.20		0.23	01/28/08	02/18/08
Americium 241	-0.042	U	0.096		0.16	01/28/08	02/18/08
Cesium 137	-0.010	U	0.050	0.200	0.089	01/28/08	02/18/08
Cobalt 60	-0.002	U	0.062		0.12	01/28/08	02/18/08
Europium 152	-0.007	U	0.097		0.18	01/28/08	02/18/08
Europium 154	-0.08	U	0.30		0.55	01/28/08	02/18/08
Potassium 40	8.7		1.6		1	01/28/08	02/18/08
Radium (226)	0.47	J	0.12	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.45		0.20		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 83
Thorium 228	0.58	J	0.17	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.55	J	0.17	1.00	0.08	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 87
Uranium 233/234	0.29	J	0.12	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	0.008	U	0.027	1.00	0.065	02/06/08	02/13/08
Uranium 238	0.31	J	0.12	1.00	0.06	02/06/08	02/13/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8025312		Yld % 58
Strontium 90	0.55	U	0.54	3.00	0.87	01/25/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-658 DUP

Radiochemistry

Lab Sample ID: F8A250153-001X
Work Order: KF4TE
Matrix: SOLID

Date Collected: 12/14/07 0813
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8025312		Yld % 70
Strontium 90	-0.11	U	0.42	3.00	0.74	01/25/08	02/06/08
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028420		Yld %
Actinium 228	**0.38**		0.20		0.27	01/28/08	02/18/08
Americium 241	0.020	U	0.098		0.17	01/28/08	02/18/08
Cesium 137	-0.005	U	0.042	0.200	0.076	01/28/08	02/18/08
Cobalt 60	0.024	U	0.048		0.084	01/28/08	02/18/08
Europium 152	-0.03	U	0.13		0.22	01/28/08	02/18/08
Europium 154	0.0	U	0.44		0.80	01/28/08	02/18/08
Potassium 40	**11.2**		1.6		0.3	01/28/08	02/18/08
Radium (226)	**0.29**	J	0.13	1.00	0.19	01/28/08	02/18/08
Thorium 232	**0.38**		0.20		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037437		Yld % 89
Thorium 228	0.59	J	0.17	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.40	J	0.13	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037434		Yld % 86
Uranium 233/234	0.23	J	0.10	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	02/06/08	02/13/08
Uranium 238	0.25	J	0.10	1.00	0.04	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-659

Radiochemistry

Lab Sample ID: F8A250153-002
Work Order: KF4TG
Matrix: SOLID

Date Collected: 12/14/07 0815
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.25	U	0.20		0.30	01/28/08	02/18/08
Americium 241	0.021	U	0.084		0.15	01/28/08	02/18/08
Cesium 137	-0.016	U	0.046	0.200	0.083	01/28/08	02/18/08
Cobalt 60	0.0	U	0.013		0.047	01/28/08	02/18/08
Europium 152	-0.002	U	0.11		0.20	01/28/08	02/18/08
Europium 154	-0.13	U	0.37		0.67	01/28/08	02/18/08
Potassium 40	10.2		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.22	J	0.13	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.25	U	0.20		0.30	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 82
Thorium 228	0.38	J	0.13	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.48	J	0.15	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 89
Uranium 233/234	0.36	J	0.13	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	-0.0026	U	0.0052	1.00	0.059	02/06/08	02/13/08
Uranium 238	0.28	J	0.11	1.00	0.05	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-660

Radiochemistry

Lab Sample ID: F8A250153-003
Work Order: KF4TH
Matrix: SOLID

Date Collected: 12/14/07 0830
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.85		0.22		0.26	01/28/08	02/18/08
Americium 241	-0.0004	U	0.12		0.20	01/28/08	02/18/08
Cesium 137	0.021	U	0.048	0.200	0.083	01/28/08	02/18/08
Cobalt 60	0.0	U	0.046		0.091	01/28/08	02/18/08
Europium 152	0.0	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.0	U	0.54		0.97	01/28/08	02/18/08
Potassium 40	8.9		1.5		0.4	01/28/08	02/18/08
Radium (226)	0.93	J	0.18	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.85		0.22		0.26	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 79
Thorium 228	0.91	J	0.23	1.00	0.09	02/06/08	02/13/08
Thorium 230	1.01		0.24	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 83
Uranium 233/234	0.83	J	0.21	1.00	0.08	02/06/08	02/13/08
Uranium 235/236	0.094	J	0.073	1.00	0.059	02/06/08	02/13/08
Uranium 238	0.86	J	0.21	1.00	0.08	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-661

Radiochemistry

Lab Sample ID: F8A250153-004
Work Order: KF4TJ
Matrix: SOLID

Date Collected: 12/14/07 0832
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.45		0.15		0.21	01/28/08	02/18/08
Americium 241	-0.02	U	0.12		0.20	01/28/08	02/18/08
Cesium 137	0.013	U	0.046	0.200	0.080	01/28/08	02/18/08
Cobalt 60	0.008	U	0.052		0.094	01/28/08	02/18/08
Europium 152	-0.012	U	0.091		0.16	01/28/08	02/18/08
Europium 154	0.07	U	0.34		0.60	01/28/08	02/18/08
Potassium 40	9.3		1.3		0.3	01/28/08	02/18/08
Radium (226)	0.52	J	0.13	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.45		0.15		0.21	01/28/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 88
Uranium 233/234	0.43	J	0.14	1.00	0.05	02/06/08	02/13/08
Uranium 235/236	0.067	J	0.060	1.00	0.036	02/06/08	02/13/08
Uranium 238	0.62	J	0.17	1.00	0.05	02/06/08	02/13/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8046090		Yld % 83
Thorium 228	0.33	J	0.13	1.00	0.08	02/15/08	02/17/08
Thorium 230	0.56	J	0.17	1.00	0.08	02/15/08	02/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-661 DUP

Radiochemistry

Lab Sample ID: F8A250153-004X
Work Order: KF4TJ
Matrix: SOLID

Date Collected: 12/14/07 0832
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8046090		Yld % 73
Thorium 228	0.48	J	0.16	1.00	0.08	02/15/08	02/17/08
Thorium 230	0.49	J	0.16	1.00	0.06	02/15/08	02/17/08

NOTE(S)

Data are incomplete without the case narrative.

[illegible] is determined by instrument performance only.

[illegible]old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-662

Radiochemistry

Lab Sample ID: F8A250153-005
Work Order: KF4TK
Matrix: SOLID

Date Collected: 12/14/07 0847
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.47		0.26		0.36	01/28/08	02/18/08
Americium 241	-0.007	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	0.0	U	0.068	0.200	0.12	01/28/08	02/18/08
Cobalt 60	0.0	U	0.013		0.048	01/28/08	02/18/08
Europium 152	-0.02	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.04	U	0.40		0.75	01/28/08	02/18/08
Potassium 40	9.8		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.78	J	0.17	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.47		0.26		0.36	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 89
Thorium 228	0.57	J	0.17	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.94	J	0.22	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 91
Uranium 233/234	0.64	J	0.18	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	0.048	U	0.054	1.00	0.066	02/06/08	02/13/08
Uranium 238	0.53	J	0.16	1.00	0.05	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-663

Radiochemistry

Lab Sample ID: F8A250153-006
Work Order: KF4TL
Matrix: SOLID

Date Collected: 12/14/07 0850
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028420		Yld %
Actinium 228	0.29	U	0.23		0.35	01/28/08	02/18/08
Americium 241	0.0	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	-0.03	U	3.6	0.2	0.1	01/28/08	02/18/08
Cobalt 60	0.032	U	0.044		0.073	01/28/08	02/18/08
Europium 152	-0.003	U	0.11		0.19	01/28/08	02/18/08
Europium 154	-0.1	U	0.41		0.74	01/28/08	02/18/08
Potassium 40	11.4		1.8		0.5	01/28/08	02/18/08
Radium (226)	0.65	J	0.15	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.29	U	0.23		0.35	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037437		Yld % 84
Thorium 228	0.52	J	0.17	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.72	J	0.19	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037434		Yld % 85
Uranium 233/234	0.42	J	0.14	1.00	0.07	02/06/08	02/13/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/06/08	02/13/08
Uranium 238	0.48	J	0.15	1.00	0.03	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-664

Radiochemistry

Lab Sample ID: F8A250153-007
Work Order: KF4TM
Matrix: SOLID

Date Collected: 12/14/07 0915
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.44		0.15		0.16	01/28/08	02/18/08
Americium 241	0.05	U	0.26		0.46	01/28/08	02/18/08
Cesium 137	-0.005	U	0.028	0.200	0.051	01/28/08	02/18/08
Cobalt 60	0.0	U	0.048		0.087	01/28/08	02/18/08
Europium 152	-0.025	U	0.080		0.14	01/28/08	02/18/08
Europium 154	0.006	U	0.21		0.40	01/28/08	02/18/08
Potassium 40	8.3		1.2		0.5	01/28/08	02/18/08
Radium (226)	0.390	J	0.097	1.00	0.095	01/28/08	02/18/08
Thorium 232	0.44		0.15		0.16	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 90
Thorium 228	0.40	J	0.14	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.38	J	0.13	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 80
Uranium 233/234	0.30	J	0.12	1.00	0.07	02/06/08	02/13/08
Uranium 235/236	-0.0026	U	0.0052	1.00	0.059	02/06/08	02/13/08
Uranium 238	0.34	J	0.13	1.00	0.05	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-665

Radiochemistry

Lab Sample ID: F8A250153-008
Work Order: KF4TN
Matrix: SOLID

Date Collected: 12/14/07 0917
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.29		0.18		0.26	01/28/08	02/18/08
Americium 241	-0.035	U	0.092		0.16	01/28/08	02/18/08
Cesium 137	-0.0005	U	0.045	0.200	0.084	01/28/08	02/18/08
Cobalt 60	0.0	U	0.085		0.15	01/28/08	02/18/08
Europium 152	-0.03	U	0.10		0.18	01/28/08	02/18/08
Europium 154	0.0	U	0.062		0.23	01/28/08	02/18/08
Potassium 40	8.4		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.30	J	0.11	1.00	0.12	01/28/08	02/18/08
Thorium 232	0.29		0.18		0.26	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 87
Thorium 228	0.29	J	0.12	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.24	J	0.10	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 93
Uranium 233/234	0.26	J	0.10	1.00	0.05	02/06/08	02/13/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	02/06/08	02/13/08
Uranium 238	0.208	J	0.094	1.00	0.057	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-666

Radiochemistry

Lab Sample ID: F8A250153-009
Work Order: KF4TP
Matrix: SOLID

Date Collected: 12/14/07 0955
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.20		0.14		0.19	01/28/08	02/18/08
Americium 241	0.034	U	0.061		0.10	01/28/08	02/18/08
Cesium 137	-0.0001	U	0.039	0.200	0.074	01/28/08	02/18/08
Cobalt 60	0.0	U	0.055		0.11	01/28/08	02/18/08
Europium 152	0.005	U	0.077		0.14	01/28/08	02/18/08
Europium 154	0.004	U	0.27		0.52	01/28/08	02/18/08
Potassium 40	5.3		1.2		0.7	01/28/08	02/18/08
Radium (226)	0.183	J	0.097	1.00	0.14	01/28/08	02/18/08
Thorium 232	0.20		0.14		0.19	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 83
Thorium 228	0.34	J	0.13	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.56	J	0.17	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 90
Uranium 233/234	0.39	J	0.13	1.00	0.05	02/06/08	02/13/08
Uranium 235/236	-0.0047	U	0.0067	1.00	0.062	02/06/08	02/13/08
Uranium 238	0.27	J	0.11	1.00	0.05	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-667

Radiochemistry

Lab Sample ID: F8A250153-010
Work Order: KF4TQ
Matrix: SOLID

Date Collected: 12/14/07 0957
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.35		0.22		0.31	01/28/08	02/18/08
Americium 241	0.051	U	0.086		0.14	01/28/08	02/18/08
Cesium 137	0.015	U	0.045	0.200	0.080	01/28/08	02/18/08
Cobalt 60	0.0	U	0.076		0.14	01/28/08	02/18/08
Europium 152	-0.03	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.04	U	0.31		0.57	01/28/08	02/18/08
Potassium 40	10.5		1.5		0.3	01/28/08	02/18/08
Radium (226)	0.44	J	0.14	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.35		0.22		0.31	01/28/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 87
Uranium 233/234	0.39	J	0.14	1.00	0.03	02/06/08	02/13/08
Uranium 235/236	0.014	U	0.028	1.00	0.038	02/06/08	02/13/08
Uranium 238	0.32	J	0.12	1.00	0.05	02/06/08	02/13/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8046090		Yld % 80
Thorium 228	0.37	J	0.13	1.00	0.08	02/15/08	02/17/08
Thorium 230	0.32	J	0.12	1.00	0.03	02/15/08	02/17/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-668

Radiochemistry

Lab Sample ID: F8A250153-011
Work Order: KF4T2
Matrix: SOLID

Date Collected: 12/14/07 1000
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.78		0.25		0.44	01/28/08	02/18/08
Americium 241	0.1	U	0.13		0.21	01/28/08	02/18/08
Cesium 137	-0.009	U	0.068	0.200	0.12	01/28/08	02/18/08
Cobalt 60	0.020	U	0.081		0.15	01/28/08	02/18/08
Europium 152	-0.06	U	0.17		0.30	01/28/08	02/18/08
Europium 154	0.0	U	0.092		0.34	01/28/08	02/18/08
Potassium 40	19.2		2.8		0.6	01/28/08	02/18/08
Radium (226)	1.35		0.23	1.00	0.07	01/28/08	02/18/08
Thorium 232	0.78		0.25		0.44	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 87
Thorium 228	0.74	J	0.20	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.62	J	0.17	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 84
Uranium 233/234	0.54	J	0.16	1.00	0.05	02/06/08	02/13/08
Uranium 235/236	0.025	U	0.039	1.00	0.058	02/06/08	02/13/08
Uranium 238	0.59	J	0.17	1.00	0.03	02/06/08	02/13/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8025312		Yld % 63
Strontium 90	0.39	U	0.48	3.00	0.79	01/25/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-669

Radiochemistry

Lab Sample ID: F8A250153-012
Work Order: KF4T6
Matrix: SOLID

Date Collected: 12/14/07 1003
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.95		0.26		0.38	01/28/08	02/18/08
Americium 241	0.03	U	0.14		0.25	01/28/08	02/18/08
Cesium 137	0.0003	U	0.059	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.0	U	0.094		0.17	01/28/08	02/18/08
Europium 152	0.002	U	0.13		0.24	01/28/08	02/18/08
Europium 154	-0.05	U	0.44		0.81	01/28/08	02/18/08
Potassium 40	19.6		2.4		0.4	01/28/08	02/18/08
Radium (226)	0.86	J	0.20	1.00	0.23	01/28/08	02/18/08
Thorium 232	0.95		0.26		0.38	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 88
Thorium 228	0.85	J	0.20	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.62	J	0.17	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 85
Uranium 233/234	0.50	J	0.15	1.00	0.05	02/06/08	02/13/08
Uranium 235/236	0.011	U	0.027	1.00	0.056	02/06/08	02/13/08
Uranium 238	0.62	J	0.17	1.00	0.04	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-670

Radiochemistry

Lab Sample ID: F8A250153-013
Work Order: KF4VA
Matrix: SOLID

Date Collected: 12/14/07 1010
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.24	U	0.20		0.29	01/28/08	02/18/08
Americium 241	0.038	U	0.092		0.16	01/28/08	02/18/08
Cesium 137	0.026	U	0.058	0.200	0.10	01/28/08	02/18/08
Cobalt 60	0.002	U	0.048		0.097	01/28/08	02/18/08
Europium 152	-0.0003	U	0.12		0.23	01/28/08	02/18/08
Europium 154	0.05	U	0.45		0.83	01/28/08	02/18/08
Potassium 40	7.7		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.42	J	0.12	1.00	0.06	01/28/08	02/18/08
Thorium 232	0.24	U	0.20		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 88
Thorium 228	0.47	J	0.15	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.46	J	0.14	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 82
Uranium 233/234	0.37	J	0.13	1.00	0.03	02/06/08	02/13/08
Uranium 235/236	0.011	U	0.029	1.00	0.060	02/06/08	02/13/08
Uranium 238	0.29	J	0.12	1.00	0.03	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-671

Radiochemistry

Lab Sample ID: F8A250153-014
Work Order: KF4VM
Matrix: SOLID

Date Collected: 12/14/07 1012
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.26	U	0.21		0.31	01/28/08	02/18/08
Americium 241	0.024	U	0.085		0.15	01/28/08	02/18/08
Cesium 137	**0.106**	**J**	**0.063**	0.200	**0.097**	**01/28/08**	**02/18/08**
Cobalt 60	0.0	U	0.012		0.046	01/28/08	02/18/08
Europium 152	0.0	U	0.078		0.15	01/28/08	02/18/08
Europium 154	0.009	U	0.41		0.78	01/28/08	02/18/08
Potassium 40	**10.1**		**1.7**		**0.5**	**01/28/08**	**02/18/08**
Radium (226)	**0.51**	**J**	**0.14**	1.00	**0.12**	**01/28/08**	**02/18/08**
Thorium 232	0.26	U	0.21		0.31	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 89
Thorium 228	**0.39**	**J**	**0.13**	1.00	**0.06**	**02/06/08**	**02/13/08**
Thorium 230	**0.38**	**J**	**0.13**	1.00	**0.04**	**02/06/08**	**02/13/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 86
Uranium 233/234	**0.23**	**J**	**0.10**	1.00	**0.06**	**02/06/08**	**02/14/08**
Uranium 235/236	0.035	U	0.047	1.00	0.065	02/06/08	02/14/08
Uranium 238	**0.28**	**J**	**0.12**	1.00	**0.07**	**02/06/08**	**02/14/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-672

Radiochemistry

Lab Sample ID: F8A250153-015
Work Order: KF4VN
Matrix: SOLID

Date Collected: 12/14/07 1015
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.35		0.12		0.19	01/28/08	02/18/08
Americium 241	0.0	U	0.34		0.59	01/28/08	02/18/08
Cesium 137	-0.002	U	0.033	0.200	0.061	01/28/08	02/18/08
Cobalt 60	-0.0003	U	0.031		0.061	01/28/08	02/18/08
Europium 152	0.024	U	0.056		0.099	01/28/08	02/18/08
Europium 154	0.1	U	0.24		0.43	01/28/08	02/18/08
Potassium 40	10.6		1.4		0.7	01/28/08	02/18/08
Radium (226)	0.50	J	0.12	1.00	0.11	01/28/08	02/18/08
Thorium 232	0.35		0.12		0.19	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 89
Thorium 228	0.43	J	0.14	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.43	J	0.14	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 94
Uranium 233/234	0.25	J	0.10	1.00	0.06	02/06/08	02/14/08
Uranium 235/236	0.012	U	0.024	1.00	0.032	02/06/08	02/14/08
Uranium 238	0.27	J	0.11	1.00	0.06	02/06/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-673

Radiochemistry

Lab Sample ID: F8A250153-016
Work Order: KF4VP
Matrix: SOLID

Date Collected: 12/14/07 1017
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.18	U	0.18		0.29	01/28/08	02/18/08
Americium 241	0.025	U	0.077		0.13	01/28/08	02/18/08
Cesium 137	0.008	U	0.049	0.200	0.087	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0098		0.036	01/28/08	02/18/08
Europium 152	0.0	U	0.074		0.14	01/28/08	02/18/08
Europium 154	0.0	U	0.056		0.20	01/28/08	02/18/08
Potassium 40	7.9		1.4		0.7	01/28/08	02/18/08
Radium (226)	0.32	J	0.10	1.00	0.10	01/28/08	02/18/08
Thorium 232	0.18	U	0.18		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 90
Thorium 228	0.47	J	0.15	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.51	J	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 86
Uranium 233/234	0.39	J	0.13	1.00	0.06	02/06/08	02/14/08
Uranium 235/236	0.024	U	0.037	1.00	0.056	02/06/08	02/14/08
Uranium 238	0.37	J	0.13	1.00	0.06	02/06/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-674

Radiochemistry

Lab Sample ID: F8A250153-017
Work Order: KF4VQ
Matrix: SOLID

Date Collected: 12/14/07 1020
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.30		0.19		0.27	01/28/08	02/18/08
Americium 241	-0.012	U	0.094		0.16	01/28/08	02/18/08
Cesium 137	0.022	U	0.041	0.200	0.071	01/28/08	02/18/08
Cobalt 60	-0.008	U	0.048		0.091	01/28/08	02/18/08
Europium 152	0.016	U	0.082		0.15	01/28/08	02/18/08
Europium 154	-0.03	U	0.36		0.67	01/28/08	02/18/08
Potassium 40	8.5		1.5		0.4	01/28/08	02/18/08
Radium (226)	0.27	J	0.11	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.30		0.19		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 89
Thorium 228	0.44	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.49	J	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 88
Uranium 233/234	0.30	J	0.12	1.00	0.07	02/06/08	02/14/08
Uranium 235/236	0.019	U	0.039	1.00	0.072	02/06/08	02/14/08
Uranium 238	0.31	J	0.12	1.00	0.09	02/06/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-675

Radiochemistry

Lab Sample ID: F8A250153-018
Work Order: KF4VR
Matrix: SOLID

Date Collected: 12/14/07 1022
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.48		0.17		0.29	01/28/08	02/18/08
Americium 241	0.0007	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	0.009	U	0.044	0.200	0.079	01/28/08	02/18/08
Cobalt 60	-0.002	U	0.046		0.086	01/28/08	02/18/08
Europium 152	0.05	U	0.10		0.18	01/28/08	02/18/08
Europium 154	0.03	U	0.27		0.50	01/28/08	02/18/08
Potassium 40	11.1		1.5		0.3	01/28/08	02/18/08
Radium (226)	0.51	J	0.14	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.48		0.17		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 82
Thorium 228	0.40	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.53	J	0.17	1.00	0.08	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 86
Uranium 233/234	0.38	J	0.13	1.00	0.06	02/06/08	02/14/08
Uranium 235/236	0.035	U	0.047	1.00	0.066	02/06/08	02/14/08
Uranium 238	0.37	J	0.13	1.00	0.06	02/06/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-676

Radiochemistry

Lab Sample ID: F8A250153-019
Work Order: KF4VT
Matrix: SOLID

Date Collected: 12/14/07 1030
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.28		0.17		0.24	01/28/08	02/18/08
Americium 241	-0.02	U	0.10		0.17	01/28/08	02/18/08
Cesium 137	0.0	U	0.076	0.200	0.13	01/28/08	02/18/08
Cobalt 60	0.002	U	0.045		0.086	01/28/08	02/18/08
Europium 152	-0.04	U	0.13		0.23	01/28/08	02/18/08
Europium 154	-0.09	U	0.40		0.72	01/28/08	02/18/08
Potassium 40	11.3		1.6		0.9	01/28/08	02/18/08
Radium (226)	0.35	J	0.13	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.28		0.17		0.24	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 88
Thorium 228	0.47	J	0.15	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.50	J	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 83
Uranium 233/234	0.38	J	0.13	1.00	0.06	02/06/08	02/14/08
Uranium 235/236	0.024	U	0.038	1.00	0.056	02/06/08	02/14/08
Uranium 238	0.39	J	0.13	1.00	0.05	02/06/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-676 DUP

Radiochemistry

Lab Sample ID: F8A250153-019X
Work Order: KF4VT
Matrix: SOLID

Date Collected: 12/14/07 1030
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.31		0.14		0.18	01/28/08	02/18/08
Americium 241	0.13	U	0.27		0.46	01/28/08	02/18/08
Cesium 137	0.005	U	0.032	0.200	0.057	01/28/08	02/18/08
Cobalt 60	-0.009	U	0.040		0.073	01/28/08	02/18/08
Europium 152	-0.021	U	0.086		0.15	01/28/08	02/18/08
Europium 154	-0.03	U	0.24		0.44	01/28/08	02/18/08
Potassium 40	11.6		1.4		0.5	01/28/08	02/18/08
Radium (226)	0.40	J	0.10	1.00	0.11	01/28/08	02/18/08
Thorium 232	0.31		0.14		0.18	01/28/08	02/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-677

Radiochemistry

Lab Sample ID: F8A250153-020
Work Order: KF4VV
Matrix: SOLID

Date Collected: 12/14/07 1033
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.36		0.16		0.27	01/28/08	02/18/08
Americium 241	0.0	U	0.12		0.20	01/28/08	02/18/08
Cesium 137	-0.002	U	0.044	0.200	0.082	01/28/08	02/18/08
Cobalt 60	0.0	U	0.012		0.046	01/28/08	02/18/08
Europium 152	0.020	U	0.082		0.15	01/28/08	02/18/08
Europium 154	-0.04	U	0.33		0.62	01/28/08	02/18/08
Potassium 40	9.3		1.6		0.5	01/28/08	02/18/08
Radium (226)	0.37	J	0.12	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.36		0.16		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037437		Yld % 85
Thorium 228	0.77	J	0.19	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.83	J	0.20	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037434		Yld % 89
Uranium 233/234	0.54	J	0.16	1.00	0.06	02/06/08	02/14/08
Uranium 235/236	0.053	U	0.056	1.00	0.059	02/06/08	02/14/08
Uranium 238	0.40	J	0.14	1.00	0.05	02/06/08	02/14/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8025312		Yld % 66
Strontium 90	0.63	U	0.47	3.00	0.74	01/25/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-679

Radiochemistry

Lab Sample ID: F8A250153-022
Work Order: KF4VX
Matrix: SOLID

Date Collected: 12/14/07 1048
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.50		0.16		0.27	01/28/08	02/18/08
Americium 241	0.014	U	0.089		0.15	01/28/08	02/18/08
Cesium 137	0.023	U	0.049	0.200	0.085	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0088		0.033	01/28/08	02/18/08
Europium 152	0.02	U	0.13		0.22	01/28/08	02/18/08
Europium 154	0.0	U	0.053		0.19	01/28/08	02/18/08
Potassium 40	11.0		1.5		0.3	01/28/08	02/18/08
Radium (226)	0.42	J	0.14	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.50		0.16		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 88
Thorium 228	0.74	J	0.19	1.00	0.10	02/07/08	02/14/08
Thorium 230	0.66	J	0.18	1.00	0.07	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 96
Uranium 233/234	0.46	J	0.14	1.00	0.03	02/07/08	02/14/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	02/07/08	02/14/08
Uranium 238	0.48	J	0.15	1.00	0.05	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-679 DUP

Radiochemistry

Lab Sample ID: F8A250153-022X
Work Order: KF4VX
Matrix: SOLID

Date Collected: 12/14/07 1048
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038131		Yld % 90
Thorium 228	**0.56**	**J**	**0.16**	1.00	**0.07**	**02/07/08**	**02/14/08**
Thorium 230	**0.48**	**J**	**0.15**	1.00	**0.03**	**02/07/08**	**02/14/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038133		Yld % 80
Uranium 233/234	**0.36**	**J**	**0.14**	1.00	**0.07**	**02/07/08**	**02/14/08**
Uranium 235/236	0.052	U	0.058	1.00	0.071	02/07/08	02/14/08
Uranium 238	**0.47**	**J**	**0.16**	1.00	**0.07**	**02/07/08**	**02/14/08**

NOTE(S)

[illegible]ta are incomplete without the case narrative.

[illegible] is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-680

Radiochemistry

Lab Sample ID: F8A250153-023
Work Order: KF4V1
Matrix: SOLID

Date Collected: 12/14/07 1050
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028421**		**Yld %**
Actinium 228	0.03	U	0.21		0.38	01/28/08	02/18/08
Americium 241	0.0	U	0.12		0.20	01/28/08	02/18/08
Cesium 137	0.017	U	0.052	0.200	0.093	01/28/08	02/18/08
Cobalt 60	-0.0007	U	0.075		0.14	01/28/08	02/18/08
Europium 152	0.02	U	0.12		0.21	01/28/08	02/18/08
Europium 154	-0.005	U	0.40		0.78	01/28/08	02/18/08
Potassium 40	**10.1**		1.8		0.6	01/28/08	02/18/08
Radium (226)	0.36	J	0.14	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.03	U	0.21		0.38	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038131**		**Yld % 86**
Thorium 228	0.38	J	0.14	1.00	0.09	02/07/08	02/14/08
Thorium 230	0.44	J	0.15	1.00	0.06	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8038133**		**Yld % 87**
Uranium 233/234	0.45	J	0.15	1.00	0.07	02/07/08	02/14/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	02/07/08	02/14/08
Uranium 238	0.44	J	0.14	1.00	0.07	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-681

Radiochemistry

Lab Sample ID: F8A250153-024
Work Order: KF4V2
Matrix: SOLID

Date Collected: 12/14/07 1056
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.49		0.27		0.35	01/28/08	02/18/08
Americium 241	0.05	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	0.01	U	0.055	0.200	0.11	01/28/08	02/18/08
Cobalt 60	-0.0003	U	0.064		0.13	01/28/08	02/18/08
Europium 152	0.078	U	0.087		0.14	01/28/08	02/18/08
Europium 154	0.0	U	0.51		0.96	01/28/08	02/18/08
Potassium 40	12.1		2.1		0.6	01/28/08	02/18/08
Radium (226)	0.66	J	0.19	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.49		0.27		0.35	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 93
Thorium 228	0.42	J	0.14	1.00	0.09	02/07/08	02/14/08
Thorium 230	0.43	J	0.14	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 77
Uranium 233/234	0.41	J	0.15	1.00	0.07	02/07/08	02/14/08
Uranium 235/236	-0.0027	U	0.0055	1.00	0.062	02/07/08	02/14/08
Uranium 238	0.38	J	0.14	1.00	0.06	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-682

Radiochemistry

Lab Sample ID: F8A250153-025
Work Order: KF4V3
Matrix: SOLID

Date Collected: 12/14/07 1058
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.46		0.14		0.23	01/28/08	02/18/08
Americium 241	0.06	U	0.28		0.49	01/28/08	02/18/08
Cesium 137	0.0	U	0.032	0.200	0.059	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0072		0.026	01/28/08	02/18/08
Europium 152	-0.003	U	0.087		0.16	01/28/08	02/18/08
Europium 154	0.13	U	0.26		0.45	01/28/08	02/18/08
Potassium 40	11.7		1.5		0.7	01/28/08	02/18/08
Radium (226)	0.69	J	0.14	1.00	0.12	01/28/08	02/18/08
Thorium 232	0.46		0.14		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 97
Thorium 228	0.39	J	0.13	1.00	0.07	02/07/08	02/14/08
Thorium 230	0.43	J	0.13	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 84
Uranium 233/234	0.40	J	0.14	1.00	0.08	02/07/08	02/14/08
Uranium 235/236	0.006	U	0.029	1.00	0.075	02/07/08	02/14/08
Uranium 238	0.44	J	0.15	1.00	0.09	02/07/08	02/14/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-683

Radiochemistry

Lab Sample ID: F8A250153-026
Work Order: KF4V4
Matrix: SOLID

Date Collected: 12/14/07 1108
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.35		0.20		0.28	01/28/08	02/18/08
Americium 241	-0.005	U	0.12		0.21	01/28/08	02/18/08
Cesium 137	0.0	U	0.057	0.200	0.10	01/28/08	02/18/08
Cobalt 60	0.0	U	0.011		0.040	01/28/08	02/18/08
Europium 152	0.0	U	0.072		0.14	01/28/08	02/18/08
Europium 154	0.003	U	0.35		0.66	01/28/08	02/18/08
Potassium 40	10.4		1.7		0.8	01/28/08	02/18/08
Radium (226)	0.77	J	0.16	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.35		0.20		0.28	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 70
Thorium 228	0.28	J	0.13	1.00	0.11	02/07/08	02/14/08
Thorium 230	0.57	J	0.18	1.00	0.06	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 86
Uranium 233/234	0.32	J	0.12	1.00	0.06	02/07/08	02/14/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	02/07/08	02/14/08
Uranium 238	0.35	J	0.13	1.00	0.06	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-684

Radiochemistry

Lab Sample ID: F8A250153-027
Work Order: KF4V7
Matrix: SOLID

Date Collected: 12/14/07 1110
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.51		0.18		0.23	01/28/08	02/18/08
Americium 241	0.077	U	0.082		0.13	01/28/08	02/18/08
Cesium 137	0.015	U	0.049	0.200	0.087	01/28/08	02/18/08
Cobalt 60	-0.023	U	0.068		0.12	01/28/08	02/18/08
Europium 152	0.0	U	0.12		0.22	01/28/08	02/18/08
Europium 154	-0.04	U	0.41		0.76	01/28/08	02/18/08
Potassium 40	11.3		1.8		0.5	01/28/08	02/18/08
Radium (226)	0.50	J	0.15	1.00	0.14	01/28/08	02/18/08
Thorium 232	0.51		0.18		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 88
Thorium 228	0.50	J	0.15	1.00	0.09	02/07/08	02/14/08
Thorium 230	0.48	J	0.15	1.00	0.04	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 87
Uranium 233/234	0.35	J	0.12	1.00	0.05	02/07/08	02/14/08
Uranium 235/236	-0.0023	U	0.0047	1.00	0.053	02/07/08	02/14/08
Uranium 238	0.41	J	0.13	1.00	0.04	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-685

Radiochemistry

Lab Sample ID: F8A250153-028
Work Order: KF4WA
Matrix: SOLID

Date Collected: 12/14/07 1115
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028421		Yld %
Actinium 228	0.49		0.22		0.28	01/28/08	02/18/08
Americium 241	-0.0009	U	0.10		0.18	01/28/08	02/18/08
Cesium 137	0.0	U	0.070	0.200	0.12	01/28/08	02/18/08
Cobalt 60	-0.014	U	0.064		0.12	01/28/08	02/18/08
Europium 152	0.05	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.03	U	0.34		0.63	01/28/08	02/18/08
Potassium 40	12.0		1.7		0.3	01/28/08	02/18/08
Radium (226)	0.62	J	0.16	1.00	0.20	01/28/08	02/18/08
Thorium 232	0.49		0.22		0.28	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038131		Yld % 83
Thorium 228	0.85	J	0.21	1.00	0.08	02/07/08	02/14/08
Thorium 230	0.55	J	0.16	1.00	0.05	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8038133		Yld % 90
Uranium 233/234	0.34	J	0.13	1.00	0.06	02/07/08	02/14/08
Uranium 235/236	0.025	U	0.039	1.00	0.059	02/07/08	02/14/08
Uranium 238	0.42	J	0.14	1.00	0.05	02/07/08	02/14/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-686

Radiochemistry

Lab Sample ID: F8A250153-029
Work Order: KF4WE
Matrix: SOLID

Date Collected: 12/14/07 1117
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.51		0.27		0.36	01/28/08	02/18/08
Americium 241	0.0	U	0.11		0.20	01/28/08	02/18/08
Cesium 137	0.0	U	0.053	0.200	0.098	01/28/08	02/18/08
Cobalt 60	-0.021	U	0.064		0.11	01/28/08	02/18/08
Europium 152	0.02	U	0.12		0.21	01/28/08	02/18/08
Europium 154	0.0	U	0.32		0.63	01/28/08	02/18/08
Potassium 40	10.7		1.8		0.5	01/28/08	02/18/08
Radium (226)	0.61	J	0.13	1.00	0.05	01/28/08	02/18/08
Thorium 232	0.51		0.27		0.36	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 80
Thorium 228	0.59	J	0.17	1.00	0.08	02/07/08	02/14/08
Thorium 230	0.50	J	0.16	1.00	0.03	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 88
Uranium 233/234	0.34	J	0.13	1.00	0.08	02/07/08	02/14/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	02/07/08	02/14/08
Uranium 238	0.46	J	0.15	1.00	0.07	02/07/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-687

Radiochemistry

Lab Sample ID: F8A250153-030
Work Order: KF4WH
Matrix: SOLID

Date Collected: 12/14/07 1125
Date Received: 01/25/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028421		Yld %
Actinium 228	0.54		0.18		0.26	01/28/08	02/18/08
Americium 241	-0.003	U	0.074		0.13	01/28/08	02/18/08
Cesium 137	0.006	U	0.039	0.200	0.071	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0090		0.033	01/28/08	02/18/08
Europium 152	0.07	U	0.10		0.17	01/28/08	02/18/08
Europium 154	0.09	U	0.27		0.48	01/28/08	02/18/08
Potassium 40	11.7		1.6		0.3	01/28/08	02/18/08
Radium (226)	0.43	J	0.14	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.54		0.18		0.26	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038131		Yld % 92
Thorium 228	0.92	J	0.21	1.00	0.06	02/07/08	02/14/08
Thorium 230	0.64	J	0.17	1.00	0.04	02/07/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8038133		Yld % 92
Uranium 233/234	0.35	J	0.12	1.00	0.05	02/07/08	02/14/08
Uranium 235/236	0.038	J	0.045	1.00	0.035	02/07/08	02/14/08
Uranium 238	0.49	J	0.15	1.00	0.04	02/07/08	02/14/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25747

CHAIN-OF-CUSTODY RECORD

12/14 ENTERED

PROJECT NAME	PURCHASE ORDER NO.
IR sites 1, 2 & 32	106.629552
PROJECT LOCATION	**PROJECT NO.**
Alameda CA	3210.028D
SAMPLER NAME	**AIRBILL NUMBER**
V Richards	7914 8334 1444
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**
S. Sudoko	949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): K8A260103

Project Information Section Do not submit to Laboratory

10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 9010 PIC GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	90/Sr DOE SR-01 /EML	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-580	12/13/07	11:11	1	X		S	21 DY	X	X	X			IR-23-05b	2.5'	3'	N
15-602	12-13-07	12:57	1	X		S	21 DY	X	X	X			B IR-A28a	2'	2.5'	N
15-603	12-13-07	12:59	1	X		S	21 DY	X	X	X			B IR-A28b	2.5'	3'	N
15-605	12-13-07	13:15	1	X		S	21 DY	X	X	X			IR-A28-01a	0"	6"	N
15-606	12-13-07	13:18	1	X		S	21 DY	X	X	X			IR-A28-01b	6"	12"	N
15-607	12-13-07	13:21	1	X		S	21 DY	X	X	X			IR-A28-02a	0"	6"	N
15-608	12-13-07	13:25	2	X		S	21 DY	X	X	X	X		IR-A28-02b	6"	12"	N
15-609	12-13-07	13:29	1	X		S	21 DY	X	X	X			IR-A28-03a	0"	6"	N
15-610	12-13-07	13:33	1	X		S	21 DY	X	X	X			IR-A28-03b	6"	12"	N
15-611	12-13-07	13:34	1	X		S	21 DY	X	X	X			IR-A28-04a	0"	6"	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/23/08	
COMPANY	TIME	COMPANY
TtEC/Fedex		
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25750

ENTERED

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR sites 1, 2, 3, 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 8334 1422
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	ISOTOPIC THORIUM	ISOTOPIC URANIUM	90/Sr DOE 3R-04/S2-01	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-648	12-13-07	13:46	1	X		S	21 DY	X	X	X	X		B-2IR-1a	2'	2.5'	N
15-649	12-13-07	13:48	1	X		S	21 DY	X	X	X			B-2IR-1b	2.5'	3'	N
15-650	12-13-07	13:57	1	X		S	21 DY	X	X	X			B-2IR-2a	2'	2.5'	N
15-651	12-13-07	14:00	1	X		S	21 DY	X	X	X			B-2IR-2b	2.5'	3'	N
15-652	12-13-07	14:10	1	X		S	21 DY	X	X	X			B-2IR-3a	2'	2.5'	N
15-653	12-13-07	14:12	1	X		S	21 DY	X	X	X			B-2IR-3b	2.5'	3'	N
15-654	12-13-07	14:26	1	X		S	21 DY	X	X	X			B-2IR-4a	2'	2.5'	N
15-655	12-13-07	14:30	1	X		S	21 DY	X	X	X			B-2IR-4b	2.5'	3'	N
15-656	12-13-07	14:39	1	X		S	21 DY	X	X	X			B-2IR-5a	2'	2.5'	N
15-657	12-13-07	14:41	1	X		S	21 DY	X	X	X			B-2IR-5b	2.5'	3'	N

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): FBA260103

Project Information Section Do not submit to Laboratory

10

RELINQUISHED BY (Signature)	DATE 1/23/08	RECEIVED BY (Signature)	
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

✓

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605929

Tetra Tech EC, Inc.

Client Sample ID: 15-580

Radiochemistry

Lab Sample ID: F8A260103-001
Work Order: KF527
Matrix: SOLID

Date Collected: 12/13/07 1111
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.37		0.11		0.20	01/28/08	02/18/08
Americium 241	-0.07	U	0.31		0.53	01/28/08	02/18/08
Cesium 137	0.001	U	0.028	0.200	0.052	01/28/08	02/18/08
Cobalt 60	0.0004	U	0.030		0.059	01/28/08	02/18/08
Europium 152	-0.018	U	0.068		0.12	01/28/08	02/18/08
Europium 154	0.001	U	0.22		0.43	01/28/08	02/18/08
Potassium 40	10		1.3		0.5	01/28/08	02/18/08
Radium (226)	0.42	J	0.10	1.00	0.10	01/28/08	02/18/08
Thorium 232	0.37		0.11		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 87
Thorium 228	0.48	J	0.15	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.44	J	0.14	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 94
Uranium 233/234	0.33	J	0.12	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	0.022	U	0.034	1.00	0.051	02/06/08	02/12/08
Uranium 238	0.39	J	0.13	1.00	0.05	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-580 DUP

Radiochemistry

Lab Sample ID: F8A260103-001X
Work Order: KF527
Matrix: SOLID

Date Collected: 12/13/07 1111
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037142**	**Yld % 81**
Thorium 228	**0.42**	**J**	**0.15**	1.00	**0.09**	**02/06/08**	**02/13/08**
Thorium 230	**0.57**	**J**	**0.17**	1.00	**0.06**	**02/06/08**	**02/13/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037127**	**Yld % 86**
Uranium 233/234	**0.36**	**J**	**0.13**	1.00	**0.07**	**02/06/08**	**02/12/08**
Uranium 235/236	0.006	U	0.029	1.00	0.073	02/06/08	02/12/08
Uranium 238	**0.43**	**J**	**0.15**	1.00	**0.09**	**02/06/08**	**02/12/08**

NOTE(S)

Data are incomplete without the case narrative.
MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-602

Radiochemistry

Lab Sample ID: F8A260103-002
Work Order: KF53C
Matrix: SOLID

Date Collected: 12/13/07 1257
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.28		0.19		0.26	01/28/08	02/18/08
Americium 241	0.03	U	0.10		0.17	01/28/08	02/18/08
Cesium 137	0.015	U	0.046	0.200	0.082	01/28/08	02/18/08
Cobalt 60	0.013	U	0.062		0.11	01/28/08	02/18/08
Europium 152	-0.003	U	0.097		0.18	01/28/08	02/18/08
Europium 154	-0.01	U	0.38		0.72	01/28/08	02/18/08
Potassium 40	9.8		1.6		0.4	01/28/08	02/18/08
Radium (226)	0.50	J	0.13	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.28		0.19		0.26	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8042305		Yld % 73
Thorium 228	0.46	J	0.16	1.00	0.08	02/11/08	02/13/08
Thorium 230	0.41	J	0.15	1.00	0.03	02/11/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 89
Uranium 233/234	0.40	J	0.13	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	0.008	U	0.027	1.00	0.063	02/06/08	02/12/08
Uranium 238	0.31	J	0.12	1.00	0.06	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-602 DUP

Radiochemistry

Lab Sample ID: F8A260103-002X
Work Order: KF53C
Matrix: SOLID

Date Collected: 12/13/07 1257
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8042305**	**Yld % 69**
Thorium 228	**0.49**	**J**	**0.18**	1.00	**0.11**	**02/11/08**	**02/13/08**
Thorium 230	**0.57**	**J**	**0.19**	1.00	**0.07**	**02/11/08**	**02/13/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-603

Radiochemistry

Lab Sample ID: F8A260103-003
Work Order: KF53D
Matrix: SOLID

Date Collected: 12/13/07 1259
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.25	U	0.24		0.38	01/28/08	02/18/08
Americium 241	0.0	U	0.14		0.24	01/28/08	02/18/08
Cesium 137	0.0	U	0.048	0.200	0.092	01/28/08	02/18/08
Cobalt 60	0.007	U	0.058		0.11	01/28/08	02/18/08
Europium 152	0.004	U	0.12		0.22	01/28/08	02/18/08
Europium 154	-0.16	U	0.45		0.80	01/28/08	02/18/08
Potassium 40	13.0		2.0		0.5	01/28/08	02/18/08
Radium (226)	0.38	J	0.14	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.25	U	0.24		0.38	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 84
Thorium 228	0.69	J	0.19	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.70	J	0.19	1.00	0.08	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 83
Uranium 233/234	0.51	J	0.15	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	-0.0025	U	0.0049	1.00	0.056	02/06/08	02/12/08
Uranium 238	0.58	J	0.16	1.00	0.04	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-605

Radiochemistry

Lab Sample ID: F8A260103-004
Work Order: KF53E
Matrix: SOLID

Date Collected: 12/13/07 1315
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.37		0.15		0.27	01/28/08	02/18/08
Americium 241	-0.023	U	0.098		0.17	01/28/08	02/18/08
Cesium 137	0.003	U	0.049	0.200	0.088	01/28/08	02/18/08
Cobalt 60	0.0001	U	0.040		0.077	01/28/08	02/18/08
Europium 152	-0.03	U	0.11		0.20	01/28/08	02/18/08
Europium 154	-0.04	U	0.32		0.59	01/28/08	02/18/08
Potassium 40	9.6		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.34	J	0.12	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.37		0.15		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 78
Thorium 228	0.38	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.43	J	0.15	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 89
Uranium 233/234	0.38	J	0.14	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	0.025	U	0.040	1.00	0.059	02/06/08	02/12/08
Uranium 238	0.37	J	0.13	1.00	0.05	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-606

Radiochemistry

Lab Sample ID: F8A260103-005
Work Order: KF53F
Matrix: SOLID

Date Collected: 12/13/07 1318
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.19	U	0.20		0.31	01/28/08	02/18/08
Americium 241	0.007	U	0.070		0.12	01/28/08	02/18/08
Cesium 137	0.016	U	0.039	0.200	0.069	01/28/08	02/18/08
Cobalt 60	0.0	U	0.090		0.16	01/28/08	02/18/08
Europium 152	-0.016	U	0.088		0.16	01/28/08	02/18/08
Europium 154	0.0	U	0.061		0.23	01/28/08	02/18/08
Potassium 40	6.6		1.3		0.4	01/28/08	02/18/08
Radium (226)	0.303	J	0.087	1.00	0.044	01/28/08	02/18/08
Thorium 232	0.19	U	0.20		0.31	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 86
Thorium 228	0.39	J	0.13	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.48	J	0.15	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 93
Uranium 233/234	0.30	J	0.12	1.00	0.08	02/06/08	02/12/08
Uranium 235/236	-0.0023	U	0.0047	1.00	0.053	02/06/08	02/12/08
Uranium 238	0.29	J	0.11	1.00	0.07	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-607

Radiochemistry

Lab Sample ID: F8A260103-006
Work Order: KF53G
Matrix: SOLID

Date Collected: 12/13/07 1321
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.23		0.16		0.23	01/28/08	02/18/08
Americium 241	0.006	U	0.073		0.13	01/28/08	02/18/08
Cesium 137	0.004	U	0.040	0.200	0.074	01/28/08	02/18/08
Cobalt 60	0.0	U	0.11		0.19	01/28/08	02/18/08
Europium 152	0.027	U	0.095		0.17	01/28/08	02/18/08
Europium 154	0.05	U	0.35		0.63	01/28/08	02/18/08
Potassium 40	8.2		1.3		0.3	01/28/08	02/18/08
Radium (226)	0.14	U	0.11	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.23		0.16		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 86
Thorium 228	0.38	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.48	J	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 92
Uranium 233/234	0.36	J	0.13	1.00	0.05	02/06/08	02/12/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	02/06/08	02/12/08
Uranium 238	0.30	J	0.11	1.00	0.04	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-608

Radiochemistry

Lab Sample ID: F8A260103-007
Work Order: KF53H
Matrix: SOLID

Date Collected: 12/13/07 1325
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028418		Yld %
Actinium 228	0.01	U	0.15		0.29	01/28/08	02/18/08
Americium 241	-0.0003	U	0.079		0.14	01/28/08	02/18/08
Cesium 137	0.0	U	0.060	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.008	U	0.047		0.092	01/28/08	02/18/08
Europium 152	-0.002	U	0.11		0.20	01/28/08	02/18/08
Europium 154	-0.07	U	0.43		0.79	01/28/08	02/18/08
Potassium 40	7.7		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.29	J	0.12	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.01	U	0.15		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037142		Yld % 91
Thorium 228	0.29	J	0.12	1.00	0.1	02/06/08	02/13/08
Thorium 230	0.44	J	0.14	1.00	0.07	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037127		Yld % 88
Uranium 233/234	0.33	J	0.13	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	0.036	U	0.049	1.00	0.068	02/06/08	02/12/08
Uranium 238	0.26	J	0.11	1.00	0.05	02/06/08	02/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8026056		Yld % 63
Strontium 90	-0.12	U	0.24	3.00	0.44	01/26/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-608 DUP

Radiochemistry

Lab Sample ID: F8A260103-007X
Work Order: KF53H
Matrix: SOLID

Date Collected: 12/13/07 1325
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8026056**	**Yld % 63**
Strontium 90	0.08	U	0.25	3.00	0.44	01/26/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-609

Radiochemistry

Lab Sample ID: F8A260103-008
Work Order: KF53J
Matrix: SOLID

Date Collected: 12/13/07 1329
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.13	U	0.20		0.33	01/28/08	02/18/08
Americium 241	-0.025	U	0.084		0.15	01/28/08	02/18/08
Cesium 137	-0.03	U	0.13	0.20	0.07	01/28/08	02/18/08
Cobalt 60	0.0	U	0.098		0.18	01/28/08	02/18/08
Europium 152	0.026	U	0.087		0.16	01/28/08	02/18/08
Europium 154	0.13	U	0.26		0.46	01/28/08	02/18/08
Potassium 40	8.6		1.6		0.5	01/28/08	02/18/08
Radium (226)	0.57	J	0.14	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.13	U	0.20		0.33	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 92
Thorium 228	0.42	J	0.14	1.00	0.06	02/06/08	02/13/08
Thorium 230	0.31	J	0.12	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 87
Uranium 233/234	0.27	J	0.11	1.00	0.07	02/06/08	02/12/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	02/06/08	02/12/08
Uranium 238	0.216	J	0.098	1.00	0.029	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-610

Radiochemistry

Lab Sample ID: F8A260103-009
Work Order: KF53K
Matrix: SOLID

Date Collected: 12/13/07 1333
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.28		0.11		0.20	01/28/08	02/18/08
Americium 241	0.09	U	0.25		0.43	01/28/08	02/18/08
Cesium 137	0.006	U	0.026	0.200	0.046	01/28/08	02/18/08
Cobalt 60	0.0004	U	0.029		0.055	01/28/08	02/18/08
Europium 152	0.028	U	0.055		0.095	01/28/08	02/18/08
Europium 154	0.10	U	0.20		0.35	01/28/08	02/18/08
Potassium 40	9.0		1.2		0.5	01/28/08	02/18/08
Radium (226)	0.33	J	0.10	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.28		0.11		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 92
Thorium 228	0.31	J	0.12	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.32	J	0.12	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 93
Uranium 233/234	0.27	J	0.11	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	0.01	U	0.025	1.00	0.051	02/06/08	02/12/08
Uranium 238	0.26	J	0.10	1.00	0.05	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-611

Radiochemistry

Lab Sample ID: F8A260103-010
Work Order: KF53L
Matrix: SOLID

Date Collected: 12/13/07 1334
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.32		0.12		0.20	01/28/08	02/18/08
Americium 241	-0.003	U	0.070		0.12	01/28/08	02/18/08
Cesium 137	-0.00005	U	0.043	0.200	0.079	01/28/08	02/18/08
Cobalt 60	0.0	U	0.0092		0.034	01/28/08	02/18/08
Europium 152	-0.025	U	0.087		0.15	01/28/08	02/18/08
Europium 154	-0.08	U	0.26		0.46	01/28/08	02/18/08
Potassium 40	7.2		1.3		0.7	01/28/08	02/18/08
Radium (226)	0.46	J	0.10	1.00	0.04	01/28/08	02/18/08
Thorium 232	0.32		0.12		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 71
Thorium 228	0.33	J	0.14	1.00	0.11	02/06/08	02/13/08
Thorium 230	0.43	J	0.16	1.00	0.07	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 88
Uranium 233/234	0.23	J	0.10	1.00	0.05	02/06/08	02/12/08
Uranium 235/236	0.036	U	0.045	1.00	0.054	02/06/08	02/12/08
Uranium 238	0.33	J	0.12	1.00	0.06	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-648

Radiochemistry

Lab Sample ID: F8A260103-011
Work Order: KF53M
Matrix: SOLID

Date Collected: 12/13/07 1346
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028418		Yld %
Actinium 228	0.37		0.22		0.30	01/28/08	02/18/08
Americium 241	0.017	U	0.097		0.17	01/28/08	02/18/08
Cesium 137	0.019	U	0.044	0.200	0.077	01/28/08	02/18/08
Cobalt 60	-0.017	U	0.064		0.12	01/28/08	02/18/08
Europium 152	-0.0006	U	0.091		0.17	01/28/08	02/18/08
Europium 154	0.13	U	0.33		0.59	01/28/08	02/18/08
Potassium 40	10.5		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.57	J	0.15	1.00	0.11	01/28/08	02/18/08
Thorium 232	0.37		0.22		0.30	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 88
Thorium 228	0.41	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.41	J	0.14	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 89
Uranium 233/234	0.37	J	0.13	1.00	0.05	02/06/08	02/12/08
Uranium 235/236	-0.0048	U	0.0068	1.00	0.063	02/06/08	02/12/08
Uranium 238	0.47	J	0.14	1.00	0.05	02/06/08	02/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8026056		Yld % 71
Strontium 90	0.02	U	0.21	3.00	0.37	01/26/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-649

Radiochemistry

Lab Sample ID: F8A260103-012
Work Order: KF53N
Matrix: SOLID

Date Collected: 12/13/07 1348
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.43		0.25		0.35	01/28/08	02/18/08
Americium 241	-0.019	U	0.096		0.17	01/28/08	02/18/08
Cesium 137	-0.012	U	0.055	0.200	0.099	01/28/08	02/18/08
Cobalt 60	0.0	U	0.076		0.14	01/28/08	02/18/08
Europium 152	0.023	U	0.090		0.16	01/28/08	02/18/08
Europium 154	-0.12	U	0.39		0.71	01/28/08	02/18/08
Potassium 40	9.6		1.7		0.5	01/28/08	02/18/08
Radium (226)	0.27	J	0.12	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.43		0.25		0.35	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 73
Thorium 228	0.42	J	0.16	1.00	0.10	02/06/08	02/13/08
Thorium 230	0.32	J	0.13	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 91
Uranium 233/234	0.40	J	0.13	1.00	0.03	02/06/08	02/12/08
Uranium 235/236	0.0	U	0.011	1.00	0.036	02/06/08	02/12/08
Uranium 238	0.52	J	0.16	1.00	0.05	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-649 DUP

Radiochemistry

Lab Sample ID: F8A260103-012X
Work Order: KF53N
Matrix: SOLID

Date Collected: 12/13/07 1348
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.56		0.20		0.23	01/28/08	02/18/08
Americium 241	0.014	U	0.098		0.17	01/28/08	02/18/08
Cesium 137	0.010	U	0.044	0.200	0.079	01/28/08	02/18/08
Cobalt 60	0.004	U	0.034		0.067	01/28/08	02/18/08
Europium 152	-0.04	U	0.13		0.22	01/28/08	02/18/08
Europium 154	0.05	U	0.31		0.58	01/28/08	02/18/08
Potassium 40	10.1		1.5		0.3	01/28/08	02/18/08
Radium (226)	0.32	J	0.13	1.00	0.18	01/28/08	02/18/08
Thorium 232	0.56		0.20		0.23	01/28/08	02/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-650

Radiochemistry

Lab Sample ID: F8A260103-013
Work Order: KF53P
Matrix: SOLID

Date Collected: 12/13/07 1357
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.30		0.14		0.24	01/28/08	02/18/08
Americium 241	-0.004	U	0.060		0.11	01/28/08	02/18/08
Cesium 137	-0.007	U	0.039	0.200	0.072	01/28/08	02/18/08
Cobalt 60	0.003	U	0.047		0.091	01/28/08	02/18/08
Europium 152	0.026	U	0.093		0.16	01/28/08	02/18/08
Europium 154	0.14	U	0.33		0.58	01/28/08	02/18/08
Potassium 40	8.1		1.4		0.4	01/28/08	02/18/08
Radium (226)	0.41	J	0.11	1.00	0.06	01/28/08	02/18/08
Thorium 232	0.30		0.14		0.24	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 91
Thorium 228	0.46	J	0.15	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.40	J	0.13	1.00	0.04	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 82
Uranium 233/234	0.46	J	0.15	1.00	0.05	02/06/08	02/12/08
Uranium 235/236	-0.0026	U	0.0052	1.00	0.059	02/06/08	02/12/08
Uranium 238	0.28	J	0.11	1.00	0.03	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-651

Radiochemistry

Lab Sample ID: F8A260103-014
Work Order: KF53Q
Matrix: SOLID

Date Collected: 12/13/07 1400
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.41		0.22		0.29	01/28/08	02/18/08
Americium 241	0.0	U	0.12		0.21	01/28/08	02/18/08
Cesium 137	0.003	U	0.046	0.200	0.086	01/28/08	02/18/08
Cobalt 60	0.0	U	0.065		0.12	01/28/08	02/18/08
Europium 152	0.02	U	0.10		0.19	01/28/08	02/18/08
Europium 154	0.18	U	0.36		0.63	01/28/08	02/18/08
Potassium 40	8.9		1.6		0.5	01/28/08	02/18/08
Radium (226)	0.26	J	0.12	1.00	0.17	01/28/08	02/18/08
Thorium 232	0.41		0.22		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 87
Thorium 228	0.56	J	0.17	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.43	J	0.14	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 78
Uranium 233/234	0.30	J	0.12	1.00	0.06	02/06/08	02/12/08
Uranium 235/236	-0.0027	U	0.0053	1.00	0.061	02/06/08	02/12/08
Uranium 238	0.40	J	0.14	1.00	0.05	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-652

Radiochemistry

Lab Sample ID: F8A260103-015
Work Order: KF53R
Matrix: SOLID

Date Collected: 12/13/07 1410
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.31	U	0.27		0.42	01/28/08	02/18/08
Americium 241	0.04	U	0.14		0.23	01/28/08	02/18/08
Cesium 137	-0.026	U	0.067	0.200	0.12	01/28/08	02/18/08
Cobalt 60	0.024	U	0.048		0.085	01/28/08	02/18/08
Europium 152	-0.01	U	0.17		0.30	01/28/08	02/18/08
Europium 154	0.11	U	0.37		0.67	01/28/08	02/18/08
Potassium 40	8.9		1.6		0.5	01/28/08	02/18/08
Radium (226)	3.48		0.38	1.00	0.11	01/28/08	02/18/08
Thorium 232	0.31	U	0.27		0.42	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 84
Thorium 228	0.75	J	0.19	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.40	J	0.14	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 94
Uranium 233/234	0.44	J	0.14	1.00	0.03	02/06/08	02/12/08
Uranium 235/236	0.047	U	0.050	1.00	0.052	02/06/08	02/12/08
Uranium 238	0.45	J	0.14	1.00	0.03	02/06/08	02/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-653

Radiochemistry

Lab Sample ID: F8A260103-016
Work Order: KF53T
Matrix: SOLID

Date Collected: 12/13/07 1412
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.38		0.22		0.32	01/28/08	02/18/08
Americium 241	-0.01	U	0.14		0.24	01/28/08	02/18/08
Cesium 137	-0.011	U	0.057	0.200	0.10	01/28/08	02/18/08
Cobalt 60	0.006	U	0.051		0.093	01/28/08	02/18/08
Europium 152	-0.03	U	0.16		0.28	01/28/08	02/18/08
Europium 154	0.05	U	0.36		0.65	01/28/08	02/18/08
Potassium 40	10.6		1.5		0.3	01/28/08	02/18/08
Radium (226)	2.70		0.30	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.38		0.22		0.32	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 58
Thorium 228	0.60	J	0.20	1.00	0.11	02/06/08	02/13/08
Thorium 230	0.45	J	0.17	1.00	0.04	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 85
Uranium 233/234	0.42	J	0.14	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	-0.0050	U	0.0071	1.00	0.066	02/06/08	02/13/08
Uranium 238	0.38	J	0.14	1.00	0.07	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-654

Radiochemistry

Lab Sample ID: F8A260103-017
Work Order: KF53W
Matrix: SOLID

Date Collected: 12/13/07 1426
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8028419**	**Yld %**
Actinium 228	0.24	U	0.21		0.32	01/28/08	02/18/08
Americium 241	0.042	U	0.077		0.13	01/28/08	02/18/08
Cesium 137	-0.015	U	0.054	0.200	0.098	01/28/08	02/18/08
Cobalt 60	0.0	U	0.015		0.054	01/28/08	02/18/08
Europium 152	-0.02	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.0	U	0.38		0.74	01/28/08	02/18/08
Potassium 40	10.2		1.8		0.6	01/28/08	02/18/08
Radium (226)	0.48	J	0.13	1.00	0.06	01/28/08	02/18/08
Thorium 232	0.24	U	0.21		0.32	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037142**	**Yld % 62**
Thorium 228	0.47	J	0.18	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.61	J	0.20	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037127**	**Yld % 85**
Uranium 233/234	0.45	J	0.15	1.00	0.07	02/06/08	02/13/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	02/06/08	02/13/08
Uranium 238	0.39	J	0.14	1.00	0.07	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-655

Radiochemistry

Lab Sample ID: F8A260103-018
Work Order: KF53X
Matrix: SOLID

Date Collected: 12/13/07 1430
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.22	U	0.20		0.30	01/28/08	02/18/08
Americium 241	0.060	U	0.082		0.14	01/28/08	02/18/08
Cesium 137	-0.011	U	0.096	0.200	0.10	01/28/08	02/18/08
Cobalt 60	0.001	U	0.059		0.12	01/28/08	02/18/08
Europium 152	-0.02	U	0.11		0.21	01/28/08	02/18/08
Europium 154	-0.14	U	0.46		0.83	01/28/08	02/18/08
Potassium 40	7.5		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.38	J	0.14	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.22	U	0.20		0.30	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037142		Yld % 93
Thorium 228	0.29	J	0.11	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.43	J	0.14	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037127		Yld % 94
Uranium 233/234	0.43	J	0.14	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	-0.0022	U	0.0045	1.00	0.051	02/06/08	02/13/08
Uranium 238	0.31	J	0.11	1.00	0.05	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-656

Radiochemistry

Lab Sample ID: F8A260103-019
Work Order: KF530
Matrix: SOLID

Date Collected: 12/13/07 1439
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028419		Yld %
Actinium 228	0.21		0.10		0.12	01/28/08	02/18/08
Americium 241	0.13	U	0.21		0.35	01/28/08	02/18/08
Cesium 137	0.003	U	0.025	0.200	0.046	01/28/08	02/18/08
Cobalt 60	0.0005	U	0.027		0.052	01/28/08	02/18/08
Europium 152	0.0	U	0.095		0.17	01/28/08	02/18/08
Europium 154	0.03	U	0.21		0.39	01/28/08	02/18/08
Potassium 40	8.0		1.1		0.6	01/28/08	02/18/08
Radium (226)	0.364	J	0.089	1.00	0.084	01/28/08	02/18/08
Thorium 232	0.21		0.10		0.12	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037142		Yld % 85
Thorium 228	0.27	J	0.12	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.70	J	0.19	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037127		Yld % 89
Uranium 233/234	0.40	J	0.14	1.00	0.07	02/06/08	02/13/08
Uranium 235/236	0.019	U	0.038	1.00	0.070	02/06/08	02/13/08
Uranium 238	0.34	J	0.13	1.00	0.09	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-657

Radiochemistry

Lab Sample ID: F8A260103-020
Work Order: KF531
Matrix: SOLID

Date Collected: 12/13/07 1441
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8028419		Yld %
Actinium 228	0.45		0.16		0.25	01/28/08	02/18/08
Americium 241	-0.04	U	0.10		0.17	01/28/08	02/18/08
Cesium 137	0.019	U	0.051	0.200	0.089	01/28/08	02/18/08
Cobalt 60	0.023	U	0.047		0.082	01/28/08	02/18/08
Europium 152	-0.002	U	0.088		0.16	01/28/08	02/18/08
Europium 154	-0.1	U	0.43		0.77	01/28/08	02/18/08
Potassium 40	7.4		1.4		1	01/28/08	02/18/08
Radium (226)	0.84	J	0.15	1.00	0.07	01/28/08	02/18/08
Thorium 232	0.45		0.16		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037142		Yld % 72
Thorium 228	0.80	J	0.22	1.00	0.09	02/06/08	02/14/08
Thorium 230	0.97	J	0.24	1.00	0.06	02/06/08	02/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8037127		Yld % 86
Uranium 233/234	0.47	J	0.15	1.00	0.06	02/06/08	02/13/08
Uranium 235/236	-0.0051	U	0.0072	1.00	0.066	02/06/08	02/13/08
Uranium 238	0.28	J	0.12	1.00	0.06	02/06/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Tetra Tech EC Database Qualification Summary
- Attachment IV — Field Blank Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-580	F8A260103001	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-580	F8A260103001	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-580	F8A260103001	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-580DUP	F8A260103001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-580DUP	F8A260103001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-602	F8A260103002	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-602	F8A260103002	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-602	F8A260103002	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-602DUP	F8A260103002DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-603	F8A260103003	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-603	F8A260103003	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-603	F8A260103003	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-605	F8A260103004	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-605	F8A260103004	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-605	F8A260103004	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-606	F8A260103005	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-606	F8A260103005	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-606	F8A260103005	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-607	F8A260103006	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-607	F8A260103006	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-607	F8A260103006	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-608	F8A260103007	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-608	F8A260103007	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-608	F8A260103007	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-608	F8A260103007	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-608DUP	F8A260103007DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-609	F8A260103008	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-609	F8A260103008	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-609	F8A260103008	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-610	F8A260103009	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-610	F8A260103009	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-610	F8A260103009	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-611	F8A260103010	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-611	F8A260103010	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-611	F8A260103010	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-648	F8A260103011	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-648	F8A260103011	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-648	F8A260103011	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-648	F8A260103011	N	Gen Prep	)OE SR-03-RC MOI	3
13-Dec-2007	15-649	F8A260103012	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-649	F8A260103012	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-649	F8A260103012	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-649DUP	F8A260103012DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-650	F8A260103013	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-650	F8A260103013	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-650	F8A260103013	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-651	F8A260103014	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-651	F8A260103014	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-651	F8A260103014	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-652	F8A260103015	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-652	F8A260103015	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-652	F8A260103015	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Dec-2007	15-653	F8A260103016	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-653	F8A260103016	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-653	F8A260103016	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-654	F8A260103017	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-654	F8A260103017	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-654	F8A260103017	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-655	F8A260103018	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-655	F8A260103018	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-655	F8A260103018	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-656	F8A260103019	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-656	F8A260103019	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-656	F8A260103019	N	Gen Prep	DOE GA-01-R MOD	3
13-Dec-2007	15-657	F8A260103020	N	Gen Prep	)OE A-01-R TH MOI	3
13-Dec-2007	15-657	F8A260103020	N	Gen Prep	DOE A-01-R U MOD	3
13-Dec-2007	15-657	F8A260103020	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A260103										
DOE A-01-R TH MOD	15-580	SO	N	THORIUM-230	1.00	0.44J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-603	SO	N	THORIUM-230	1.00	0.70J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-605	SO	N	THORIUM-230	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-606	SO	N	THORIUM-230	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-607	SO	N	THORIUM-230	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-608	SO	N	THORIUM-230	1.00	0.44J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-609	SO	N	THORIUM-230	1.00	0.31J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-610	SO	N	THORIUM-230	1.00	0.32J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-611	SO	N	THORIUM-230	1.00	0.43J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-648	SO	N	THORIUM-230	1.00	0.41J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-649	SO	N	THORIUM-230	1.00	0.32J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-650	SO	N	THORIUM-230	1.00	0.40J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-651	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-652	SO	N	THORIUM-230	1.00	0.40J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A260103										
DOE A-01-R TH MOD	15-653	SO	N	THORIUM-230	1.00	0.45J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-654	SO	N	THORIUM-230	1.00	0.61J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-655	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-656	SO	N	THORIUM-230	1.00	0.70J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-657	SO	N	THORIUM-230	1.00	0.97J	0.24	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8A260103

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A260103	15-580	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-603	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-605	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-606	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-607	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-608	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-609	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-610	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-611	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-648	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-649	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-650	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-651	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-652	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-653	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-654	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-655	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-656	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260103	15-657	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A260103

Method Blank Outlier Report

Lab Reporting Batch : F8A260103
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 02/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B060000127MB
Preparation Batch : 8037127

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.040	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8A260103 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 02/13/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8B060000142MB **Preparation Batch :** 8037142

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.22**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-580	F8A260103001	1	0.44	J	pCi/g
15-603	F8A260103003	1	0.70	J	pCi/g
15-605	F8A260103004	1	0.43	J	pCi/g
15-606	F8A260103005	1	0.48	J	pCi/g
15-607	F8A260103006	1	0.48	J	pCi/g
15-608	F8A260103007	1	0.44	J	pCi/g
15-609	F8A260103008	1	0.31	J	pCi/g
15-610	F8A260103009	1	0.32	J	pCi/g
15-611	F8A260103010	1	0.43	J	pCi/g
15-648	F8A260103011	1	0.41	J	pCi/g
15-649	F8A260103012	1	0.32	J	pCi/g
15-650	F8A260103013	1	0.40	J	pCi/g
15-651	F8A260103014	1	0.43	J	pCi/g
15-652	F8A260103015	1	0.40	J	pCi/g
15-653	F8A260103016	1	0.45	J	pCi/g
15-654	F8A260103017	1	0.61	J	pCi/g
15-655	F8A260103018	1	0.43	J	pCi/g
15-656	F8A260103019	1	0.70	J	pCi/g
15-657	F8A260103020	1	0.97	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A260103
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/13/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B110000305MB
Preparation Batch : 8042305

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.076	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18450G35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260103 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A240117) high RPD's are both N.D.
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:
all soil

1 1	15-580	11 1	15-648	21 2	15-649DUP	31	
2 1	15-602	12 2	15-649	22 1	PBS1	32	
3 1	15-603	13 2	15-650	23 2	PBS2	33	
4 1	15-605	14 2	15-651	24		34	
5 1	15-606	15 2	15-652	25		35	
6 1	15-607	16 2	15-653	26		36	
7 1	15-608	17 2	15-654	27		37	
8 1	15-609	18 2	15-655	28		38	
9 1	15-610	19 2	15-656	29		39	
10 1	15-611	20 2	15-657	30		40	

Notes:

LDC #: 18450G59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260103 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1	15-580	11	15-648	21	15-580DUP	31	
2	15-602	12	15-649	22	PBS	32	
3	15-603	13	15-650	23		33	
4	15-605	14	15-651	24		34	
5	15-606	15	15-652	25		35	
6	15-607	16	15-653	26		36	
7	15-608	17	15-654	27		37	
8	15-609	18	15-655	28		38	
9	15-610	19	15-656	29		39	
10	15-611	20	15-657	30		40	

Notes:

LDC #: 18450G61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260103 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

3 9mL

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~A~~ N	DUP (both N.D.)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-608	11		21		31	
2	15-648	12		22		32	
3	15-608DUP	13		23		33	
4	PBS	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450G73 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260103 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-13-07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW N~~ K	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1 1	15-580	11 1	15-648	21 1	15-580DUP	31	
2 2	15-602	12 1	15-649	22 2	15-602DUP	32	
3 1	15-603	13 1	15-650	23 1	PBS1	33	
4 1	15-605	14 1	15-651	24 2	PBS2	34	
5 1	15-606	15 1	15-652	25		35	
6 1	15-607	16 1	15-653	26		36	
7 1	15-608	17 1	15-654	27		37	
8 1	15-609	18 1	15-655	28		38	
9 1	15-610	19 1	15-656	29		39	
10 1	15-611	20 1	15-657	30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25741

ENTERED

D 2-14

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1, 2 B 32	106.6629552	TestAmerica
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D	LABORATORY ID (FOR LABORATORY): F8A260106
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 8334 1488	
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545	

ANALYSES REQUIRED: EPA 901.1 Gamma; Isotopic Thorium; Isotopic Uranium; */ DOE SR-02 / SE-03

Project Information Section — Do not submit to Laboratory 10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	*/ DOE SR-02 / SE-03					COMMENTS	LOCATION **	DEPTH START	DEPTH END	QC
15-909	1.22.08	12:56	1	X		S	21 DY	X	X	X							B·32IR-11~~3~~ 1a	2'	2.5'	N
15-910	1.22.08	12:58	1	X		S	21 DY	X	X	X							B·32IR-11~~3~~ 1b	2.5'	3'	N
15-911	1.22.08	13:05	2	X		W	21 DY	X	X	X						F8B120265*	Equipment Rinsate	N/A	N/A	N
15-912	1.22.08	13:15	1	X		S	21 DY	X	X	X							B·32IR-11~~4~~ 2a	2'	2.5'	N
15-913	1.22.08	13:17	1	X		S	21 DY	X	X	X							B·32IR-11~~4~~ 2b	2.5'	3'	N
15-914	1.22.08	13:28	1	X		S	21 DY	X	X	X							B·32IR-108a	2'	2.5'	N
15-915	1.22.08	13:30	1	X		S	21 DY	X	X	X							B·32IR-108b	2.5'	3'	N
15-916	1.22.08	13:35	1	X		S	21 DY	X	X	X							B·32IR-109a	2'	2.5'	N
15-917	1.22.08	13:37	1	X		S	21 DY	X	X	X							B·32IR-109b	2.5'	3'	N
15-918	1.22.08	13:56	2	X		S	21 DY	X	X	X	X						B·32IR-1a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/23/08	
COMPANY: TEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS
21 Day Ingrowths

COMPOSITE DESCRIPTION
Ra-226 via 903.0M 2-8-08 SS *

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

** Location ID chg. per Vince R. 3-27-08 Sudoko

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059330

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25742

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0294552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 8334 1444
PROJECT CONTACT: S. Sudsko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TestAmerica

LABORATORY ID (FOR LABORATORY): K8A260106

Project Information Section Do not submit to Laboratory

4

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPH Gel. Silica	Isotopic Thorium	Isotopic Uranium	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-919	1.22.08	13:58	1	X		S	21 DY	X	X	X		B-32IR-1b	2.5'	3	N
15-920	1.22.08	14:03	1	X		S	21 DY	X	X	X		B-32IR-2a	2'	2.5'	N
15-921	1.22.08	14:05	1	X		S	21 DY	X	X	X		B-32IR-2b	2.5'	3'	N
15-922	1.22.08	14:22	1	X		S	21 DY	X	X	X		32IR-121a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 1/23/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 12 DAY Ingrowths
COMPANY TT SC/Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

16059330

Tetra Tech EC, Inc.

Client Sample ID: 15-909

Radiochemistry

Lab Sample ID: F8A260106-001
Work Order: KF533
Matrix: SOLID

Date Collected: 01/22/08 1256
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.41		0.22		0.27	01/28/08	02/18/08
Americium 241	-0.05	U	0.11		0.18	01/28/08	02/18/08
Cesium 137	-0.001	U	0.041	0.200	0.080	01/28/08	02/18/08
Cobalt 60	0.0003	U	0.041		0.086	01/28/08	02/18/08
Europium 152	0.020	U	0.089		0.16	01/28/08	02/18/08
Europium 154	0.0	U	0.078		0.29	01/28/08	02/18/08
Potassium 40	7.9		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.43	J	0.14	1.00	0.13	01/28/08	02/18/08
Thorium 232	0.41		0.22		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037312		Yld % 89
Thorium 228	0.28	J	0.11	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.35	J	0.12	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037314		Yld % 81
Uranium 233/234	0.39	J	0.14	1.00	0.09	02/06/08	02/11/08
Uranium 235/236	0.012	U	0.029	1.00	0.060	02/06/08	02/11/08
Uranium 238	0.29	J	0.12	1.00	0.08	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-909 DUP

Radiochemistry

Lab Sample ID: F8A260106-001X
Work Order: KF533
Matrix: SOLID

Date Collected: 01/22/08 1256
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037312**	**Yld % 92**
Thorium 228	0.38	J	0.14	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.47	J	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8037314**	**Yld % 86**
Uranium 233/234	0.31	J	0.12	1.00	0.05	02/06/08	02/11/08
Uranium 235/236	0.008	U	0.027	1.00	0.064	02/06/08	02/11/08
Uranium 238	0.29	J	0.11	1.00	0.05	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

[illegible] is determined by instrument performance only.
[illegible]d results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-910

Radiochemistry

Lab Sample ID: F8A260106-002
Work Order: KF538
Matrix: SOLID

Date Collected: 01/22/08 1258
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.36		0.20		0.29	01/28/08	02/18/08
Americium 241	0.039	U	0.094		0.16	01/28/08	02/18/08
Cesium 137	0.0	U	0.025	0.200	0.049	01/28/08	02/18/08
Cobalt 60	0.0	U	0.072		0.13	01/28/08	02/18/08
Europium 152	-0.03	U	0.11		0.18	01/28/08	02/18/08
Europium 154	-0.06	U	0.32		0.58	01/28/08	02/18/08
Potassium 40	9.7		1.4		0.3	01/28/08	02/18/08
Radium (226)	0.31	J	0.12	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.36		0.20		0.29	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037312		Yld % 88
Thorium 228	0.31	J	0.12	1.00	0.10	02/06/08	02/13/08
Thorium 230	0.59	J	0.17	1.00	0.07	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037314		Yld % 88
Uranium 233/234	0.39	J	0.13	1.00	0.03	02/06/08	02/11/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	02/06/08	02/11/08
Uranium 238	0.41	J	0.14	1.00	0.05	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-912

Radiochemistry

Lab Sample ID: F8A260106-004
Work Order: KF54E
Matrix: SOLID

Date Collected: 01/22/08 1315
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.26	U	0.22		0.34	01/28/08	02/18/08
Americium 241	0.0	U	0.090		0.16	01/28/08	02/18/08
Cesium 137	0.008	U	0.037	0.200	0.068	01/28/08	02/18/08
Cobalt 60	0.0	U	0.095		0.17	01/28/08	02/18/08
Europium 152	0.070	U	0.087		0.14	01/28/08	02/18/08
Europium 154	-0.1	U	0.37		0.67	01/28/08	02/18/08
Potassium 40	**8.9**		1.5		0.4	01/28/08	02/18/08
Radium (226)	**0.58**	J	0.13	1.00	0.05	01/28/08	02/18/08
Thorium 232	0.26	U	0.22		0.34	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 93**
Thorium 228	**0.43**	J	0.14	1.00	0.06	02/06/08	02/13/08
Thorium 230	**0.60**	J	0.16	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8043355**		**Yld % 76**
Uranium 233/234	**0.39**	J	0.14	1.00	0.09	02/12/08	02/14/08
Uranium 235/236	0.012	U	0.030	1.00	0.064	02/12/08	02/14/08
Uranium 238	**0.34**	J	0.14	1.00	0.09	02/12/08	02/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-912 DUP

Radiochemistry

Lab Sample ID: F8A260106-004X
Work Order: KF54E
Matrix: SOLID

Date Collected: 01/22/08 1315
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8043355**	**Yld % 81**
Uranium 233/234	**0.42**	**J**	**0.15**	1.00	**0.06**	**02/12/08**	**02/14/08**
Uranium 235/236	0.029	U	0.042	1.00	0.040	02/12/08	02/14/08
Uranium 238	**0.26**	**J**	**0.11**	1.00	**0.05**	**02/12/08**	**02/14/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Detected results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-913

Radiochemistry

Lab Sample ID: F8A260106-005
Work Order: KF54N
Matrix: SOLID

Date Collected: 01/22/08 1317
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.31		0.16		0.20	01/28/08	02/18/08
Americium 241	0.015	U	0.091		0.16	01/28/08	02/18/08
Cesium 137	0.009	U	0.043	0.200	0.077	01/28/08	02/18/08
Cobalt 60	0.017	U	0.037		0.066	01/28/08	02/18/08
Europium 152	0.001	U	0.093		0.17	01/28/08	02/18/08
Europium 154	0.11	U	0.28		0.49	01/28/08	02/18/08
Potassium 40	12.2		1.6		0.3	01/28/08	02/18/08
Radium (226)	0.49	J	0.13	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.31		0.16		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037312		Yld % 86
Thorium 228	0.40	J	0.14	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.53	J	0.16	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037314		Yld % 87
Uranium 233/234	0.39	J	0.13	1.00	0.05	02/06/08	02/11/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	02/06/08	02/11/08
Uranium 238	0.44	J	0.14	1.00	0.04	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-914

Radiochemistry

Lab Sample ID: F8A260106-006
Work Order: KF54P
Matrix: SOLID

Date Collected: 01/22/08 1328
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.23	U	0.24		0.37	01/28/08	02/18/08
Americium 241	-0.013	U	0.089		0.16	01/28/08	02/18/08
Cesium 137	0.016	U	0.061	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.008	U	0.063		0.12	01/28/08	02/18/08
Europium 152	0.06	U	0.11		0.19	01/28/08	02/18/08
Europium 154	-0.03	U	0.42		0.80	01/28/08	02/18/08
Potassium 40	**8.2**		1.7		0.6	01/28/08	02/18/08
Radium (226)	**0.48**	**J**	0.14	1.00	0.09	01/28/08	02/18/08
Thorium 232	0.23	U	0.24		0.37	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 88**
Thorium 228	**0.38**	**J**	0.14	1.00	0.09	02/06/08	02/13/08
Thorium 230	**0.47**	**J**	0.15	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 96**
Uranium 233/234	**0.45**	**J**	0.14	1.00	0.03	02/06/08	02/11/08
Uranium 235/236	0.01	U	0.024	1.00	0.051	02/06/08	02/11/08
Uranium 238	**0.38**	**J**	0.12	1.00	0.03	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-915

Radiochemistry

Lab Sample ID: F8A260106-007
Work Order: KF54Q
Matrix: SOLID

Date Collected: 01/22/08 1330
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.36		0.19		0.23	01/28/08	02/18/08
Americium 241	-0.04	U	0.10		0.18	01/28/08	02/18/08
Cesium 137	-0.011	U	0.091	0.200	0.094	01/28/08	02/18/08
Cobalt 60	0.022	U	0.054		0.098	01/28/08	02/18/08
Europium 152	-0.02	U	0.11		0.20	01/28/08	02/18/08
Europium 154	0.04	U	0.28		0.54	01/28/08	02/18/08
Potassium 40	9.3		1.7		1.1	01/28/08	02/18/08
Radium (226)	0.43	J	0.14	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.36		0.19		0.23	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 87**
Thorium 228	0.44	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.42	J	0.14	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 96**
Uranium 233/234	0.27	J	0.10	1.00	0.05	02/06/08	02/11/08
Uranium 235/236	0.009	U	0.023	1.00	0.048	02/06/08	02/11/08
Uranium 238	0.37	J	0.12	1.00	0.04	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-916

Radiochemistry

Lab Sample ID: F8A260106-008
Work Order: KF54T
Matrix: SOLID

Date Collected: 01/22/08 1335
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.25		0.14		0.20	01/28/08	02/18/08
Americium 241	-0.08	U	0.29		0.51	01/28/08	02/18/08
Cesium 137	0.0005	U	0.026	0.200	0.049	01/28/08	02/18/08
Cobalt 60	0.007	U	0.035		0.065	01/28/08	02/18/08
Europium 152	0.032	U	0.079		0.14	01/28/08	02/18/08
Europium 154	-0.04	U	0.22		0.40	01/28/08	02/18/08
Potassium 40	12.9		1.5		0.5	01/28/08	02/18/08
Radium (226)	0.51	J	0.10	1.00	0.08	01/28/08	02/18/08
Thorium 232	0.25		0.14		0.20	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 84**
Thorium 228	0.46	J	0.15	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.30	J	0.12	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 84**
Uranium 233/234	0.34	J	0.13	1.00	0.06	02/06/08	02/11/08
Uranium 235/236	0.041	U	0.051	1.00	0.063	02/06/08	02/11/08
Uranium 238	0.36	J	0.14	1.00	0.05	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-917

Radiochemistry

Lab Sample ID: F8A260106-009
Work Order: KF54V
Matrix: SOLID

Date Collected: 01/22/08 1337
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.40		0.14		0.27	01/28/08	02/18/08
Americium 241	0.023	U	0.093		0.16	01/28/08	02/18/08
Cesium 137	0.009	U	0.040	0.200	0.073	01/28/08	02/18/08
Cobalt 60	-0.001	U	0.038		0.076	01/28/08	02/18/08
Europium 152	-0.019	U	0.091		0.16	01/28/08	02/18/08
Europium 154	0.0	U	0.50		0.90	01/28/08	02/18/08
Potassium 40	9.6		1.5		0.8	01/28/08	02/18/08
Radium (226)	0.54	J	0.12	1.00	0.07	01/28/08	02/18/08
Thorium 232	0.40		0.14		0.27	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 83**
Thorium 228	0.44	J	0.15	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.54	J	0.16	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 88**
Uranium 233/234	0.27	J	0.11	1.00	0.05	02/06/08	02/11/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	02/06/08	02/11/08
Uranium 238	0.34	J	0.12	1.00	0.05	02/06/08	02/11/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-918

Radiochemistry

Lab Sample ID: F8A260106-010
Work Order: KF54X
Matrix: SOLID

Date Collected: 01/22/08 1356
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028419		Yld %
Actinium 228	0.46		0.15		0.17	01/28/08	02/18/08
Americium 241	0.048	U	0.070		0.12	01/28/08	02/18/08
Cesium 137	0.016	U	0.045	0.200	0.080	01/28/08	02/18/08
Cobalt 60	-0.006	U	0.048		0.092	01/28/08	02/18/08
Europium 152	-0.01	U	0.10		0.18	01/28/08	02/18/08
Europium 154	-0.14	U	0.39		0.69	01/28/08	02/18/08
Potassium 40	10		1.6		0.4	01/28/08	02/18/08
Radium (226)	0.25	J	0.11	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.46		0.15		0.17	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037312		Yld % 89
Thorium 228	0.37	J	0.14	1.00	0.09	02/06/08	02/13/08
Thorium 230	0.52	J	0.16	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037314		Yld % 85
Uranium 233/234	0.39	J	0.13	1.00	0.07	02/06/08	02/11/08
Uranium 235/236	0.024	U	0.038	1.00	0.056	02/06/08	02/11/08
Uranium 238	0.33	J	0.12	1.00	0.06	02/06/08	02/11/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8026056		Yld % 54
Strontium 90	0.30	U	0.26	3.00	0.42	01/26/08	02/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-919

Radiochemistry

Lab Sample ID: F8A260106-011
Work Order: KF540
Matrix: SOLID

Date Collected: 01/22/08 1358
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.37		0.19		0.25	01/28/08	02/18/08
Americium 241	-0.04	U	0.11		0.19	01/28/08	02/18/08
Cesium 137	0.008	U	0.038	0.200	0.070	01/28/08	02/18/08
Cobalt 60	0.0001	U	0.051		0.097	01/28/08	02/18/08
Europium 152	0.0	U	0.13		0.23	01/28/08	02/18/08
Europium 154	0.004	U	0.33		0.63	01/28/08	02/18/08
Potassium 40	5.8		1.2		0.9	01/28/08	02/18/08
Radium (226)	0.18	U	0.12	1.00	0.19	01/28/08	02/18/08
Thorium 232	0.37		0.19		0.25	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 77**
Thorium 228	0.38	J	0.14	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.58	J	0.17	1.00	0.05	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 89**
Uranium 233/234	0.29	J	0.12	1.00	0.07	02/06/08	02/11/08
Uranium 235/236	0.006	U	0.027	1.00	0.070	02/06/08	02/11/08
Uranium 238	0.26	J	0.11	1.00	0.09	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-920

Radiochemistry

Lab Sample ID: F8A260106-012
Work Order: KF542
Matrix: SOLID

Date Collected: 01/22/08 1403
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028419**		**Yld %**
Actinium 228	0.48		0.31		0.46	01/28/08	02/18/08
Americium 241	0.0107	U	0.0999		0.17	01/28/08	02/18/08
Cesium 137	-0.010	U	0.063	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.0	U	0.015		0.056	01/28/08	02/18/08
Europium 152	-0.01	U	0.11		0.21	01/28/08	02/18/08
Europium 154	-0.12	U	0.45		0.81	01/28/08	02/18/08
Potassium 40	14.4		2.3		0.6	01/28/08	02/18/08
Radium (226)	0.58	J	0.14	1.00	0.06	01/28/08	02/18/08
Thorium 232	0.48		0.31		0.46	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 84**
Thorium 228	0.56	J	0.16	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.71	J	0.18	1.00	0.03	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 93**
Uranium 233/234	0.53	J	0.15	1.00	0.05	02/06/08	02/11/08
Uranium 235/236	0.008	U	0.026	1.00	0.060	02/06/08	02/11/08
Uranium 238	0.52	J	0.15	1.00	0.06	02/06/08	02/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-921

Radiochemistry

Lab Sample ID: F8A260106-013
Work Order: KF543
Matrix: SOLID

Date Collected: 01/22/08 1405
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8028420**		**Yld %**
Actinium 228	0.49		0.20		0.36	01/28/08	02/18/08
Americium 241	-0.04	U	0.13		0.23	01/28/08	02/18/08
Cesium 137	0.0007	U	0.059	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.0	U	0.011		0.039	01/28/08	02/18/08
Europium 152	-0.06	U	0.14		0.25	01/28/08	02/18/08
Europium 154	-0.09	U	0.50		0.89	01/28/08	02/18/08
Potassium 40	10.3		1.7		1.1	01/28/08	02/18/08
Radium (226)	0.72	J	0.17	1.00	0.15	01/28/08	02/18/08
Thorium 232	0.49		0.20		0.36	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037312**		**Yld % 70**
Thorium 228	0.47	J	0.16	1.00	0.08	02/06/08	02/13/08
Thorium 230	0.68	J	0.20	1.00	0.06	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8037314**		**Yld % 85**
Uranium 233/234	0.57	J	0.16	1.00	0.06	02/06/08	02/11/08
Uranium 235/236	0.062	J	0.058	1.00	0.055	02/06/08	02/11/08
Uranium 238	0.77	J	0.19	1.00	0.04	02/06/08	02/11/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-922

Radiochemistry

Lab Sample ID: F8A260106-014
Work Order: KF545
Matrix: SOLID

Date Collected: 01/22/08 1422
Date Received: 01/24/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8028420		Yld %
Actinium 228	0.24	U	0.24		0.37	01/28/08	02/18/08
Americium 241	-0.02	U	0.10		0.18	01/28/08	02/18/08
Cesium 137	-0.004	U	0.058	0.200	0.11	01/28/08	02/18/08
Cobalt 60	0.0	U	0.015		0.054	01/28/08	02/18/08
Europium 152	0.021	U	0.086		0.16	01/28/08	02/18/08
Europium 154	0.0	U	0.65		1.2	01/28/08	02/18/08
Potassium 40	9.5		1.8		0.5	01/28/08	02/18/08
Radium (226)	0.36	J	0.14	1.00	0.16	01/28/08	02/18/08
Thorium 232	0.24	U	0.24		0.37	01/28/08	02/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037312		Yld % 88
Thorium 228	0.37	J	0.13	1.00	0.07	02/06/08	02/13/08
Thorium 230	0.37	J	0.13	1.00	0.07	02/06/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8037314		Yld % 93
Uranium 233/234	0.28	J	0.11	1.00	0.06	02/06/08	02/11/08
Uranium 235/236	0.038	U	0.047	1.00	0.057	02/06/08	02/11/08
Uranium 238	0.30	J	0.12	1.00	0.05	02/06/08	02/11/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

• Attachment I	Sample ID Cross Reference and Data Review Level
• Attachment II	Overall Data Qualification Summary
• Attachment III	Tetra Tech EC Database Qualification Summary
• Attachment IV	Field Blank Summary
• Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Jan-2008	15-909	F8A260106001	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-909	F8A260106001	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-909	F8A260106001	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-909DUP	F8A260106001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-909DUP	F8A260106001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-910	F8A260106002	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-910	F8A260106002	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-910	F8A260106002	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-911	F8A260106003	EB	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-911	F8A260106003	EB	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-911	F8A260106003	EB	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-911DUP	F8A260106003DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-912	F8A260106004	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-912	F8A260106004	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-912	F8A260106004	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-912DUP	F8A260106004DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-913	F8A260106005	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-913	F8A260106005	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-913	F8A260106005	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-914	F8A260106006	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-914	F8A260106006	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-914	F8A260106006	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-915	F8A260106007	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-915	F8A260106007	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-915	F8A260106007	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-916	F8A260106008	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Jan-2008	15-916	F8A260106008	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-916	F8A260106008	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-917	F8A260106009	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-917	F8A260106009	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-917	F8A260106009	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-918	F8A260106010	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-918	F8A260106010	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-918	F8A260106010	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-918	F8A260106010	N	Gen Prep	)OE SR-03-RC MOI	3
22-Jan-2008	15-919	F8A260106011	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-919	F8A260106011	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-919	F8A260106011	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-920	F8A260106012	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-920	F8A260106012	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-920	F8A260106012	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-921	F8A260106013	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-921	F8A260106013	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-921	F8A260106013	N	Gen Prep	DOE GA-01-R MOD	3
22-Jan-2008	15-922	F8A260106014	N	Gen Prep	)OE A-01-R TH MOI	3
22-Jan-2008	15-922	F8A260106014	N	Gen Prep	DOE A-01-R U MOD	3
22-Jan-2008	15-922	F8A260106014	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8A260106										
DOE A-01-R TH MOD	15-909	SO	N	THORIUM-230	1.00	0.35J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-911	AQ	EB	THORIUM-230	1.00	0.17J	0.13	U	pCi/L	
DOE A-01-R TH MOD	15-914	SO	N	THORIUM-230	1.00	0.47J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-915	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-916	SO	N	THORIUM-230	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-922	SO	N	THORIUM-230	1.00	0.37J	0.13	U	pCi/g	
DOE GA-01-R MOD	15-911	AQ	EB	COBALT-60		-2U	12	UJ	pCi/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Tec

Reason for Qualified Results

SDG Nos. : F8A260106

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8A260106	15-909	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260106	15-911	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260106	15-911	DOE GA-01-R MOD	10198400		J	COBALT-60	LCS spike recovery
F8A260106	15-914	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260106	15-915	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260106	15-916	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8A260106	15-922	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

SDG	Method	QC Type	Matrix	Sample Date	Analyte Name	Client Analyte ID	Result	Units	Lab Qualifiers	Reporting Limit
F8A260106	DOE A-01-R TH MOD	EB	AQ	01/22/2008 0:00	THORIUM-230	14269-63-7	0.17	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8A260106

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 8029266
Preparation Batch : 8029266
Lab Reporting Batch : F8A260106

Analysis Method : DOE GA-01-R MOD
Preparation Type : Gen Prep
Lab ID: TestAme

Analysis Date : 02/05/2008
Preparation Date :

LCS Lab Sample ID	Matrix	Analyte Name	Reported Values: Percent Recovery	Reported Values: RPD	Project Limits (Percent): Rejection Point	Project Limits (Percent): Lower Limit	Project Limits (Percent): Upper Limit	Project Limits (Percent): RPD
F8A290000266LCS	AQ	COBALT-60	72		10.00	90.00	110.00	

Associated Samples

Client Sample ID	Lab Sample ID
15-911	F8A260106003

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 3210.015D - Alameda-IR Sites 1,2+32

Method Blank Outlier Report

Lab Reporting Batch : F8A260106
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/13/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B060000312MB
Preparation Batch : 8037312

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.098**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-909	F8A260106001	1	0.35	J	pCi/g
15-914	F8A260106006	1	0.47	J	pCi/g
15-915	F8A260106007	1	0.42	J	pCi/g
15-916	F8A260106008	1	0.30	J	pCi/g
15-922	F8A260106014	1	0.37	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8A260106
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8B110000181MB

Lab ID: TestAme
Analysis Date : 02/13/2008
Preparation Date :
Preparation Batch : 8042181

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.29**	**1.00**	**pCi/L**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-911	F8A260106003	1	0.17	J	pCi/L

LDC #: 18450H35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260106 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

~~GEA~~ DOE GA-01-R Mod
METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-22-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A*	DUP (SDG: F8A250153, F8A260103) → (both N.D. or OK by diff.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	ND	ER = 3

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

1	1	15-909 S	11	1	15-919 S	21		31	
2	1	15-910 ↓	12	1	15-920 ↓	22		32	
3	3	15-911 W	13	2	15-921 ↓	23		33	
4	1	15-912 S	14	2	15-922 ↓	24		34	
5	1	15-913 ↓	15	3	15-911DUP W	25		35	
6	1	15-914 ↓	16	1	PBS1	26		36	
7	1	15-915 ↓	17	2	PBS2	27		37	
8	1	15-916 ↓	18	3	PBW	28		38	
9	1	15-917 ↓	19			29		39	
10	1	15-918 ↓	20			30		40	

Notes:

LDC #: 18450H59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260106 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-22-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. for high RPD)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-909 S	11 1	15-919 S	21		31	
2 1	15-910 ↓	12 1	15-920 ↓	22		32	
3 3	15-911 W	13 1	15-921	23		33	
4 2	15-912 S	14 1	15-922	24		34	
5 1	15-913 ↓	15 1	15-909DUP	25		35	
6 1	15-914	16 2	15-912DUP ↓	26		36	
7 1	15-915	17 1	PBS1	27		37	
8 1	15-916	18 2	PBS2	28		38	
9 1	15-917	19 3	PBW	29		39	
10 1	15-918 ↓	20		30		40	

Notes:

LDC #: 18450H61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-31-08
SDG #: F8A260106 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-22-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8A260103) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ ~~N~~ A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Soil

1	15-918	11		21		31	
2	PBS	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450H73
SDG #: F8A260106
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-22-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	—	ER = 3 (hit for Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-909 S	11	15-919 S	21		31	
2	15-910 ↓	12	15-920	22		32	
3 2	15-911 W	13	15-921	23		33	
4	15-912 S	14	15-922	24		34	
5	15-913	15	15-909DUP	25		35	
6	15-914	16 1	PBS	26		36	
7	15-915	17 2	PBW	27		37	
8	15-916	18		28		38	
9	15-917	19		29		39	
10	15-918 ↓	20		30		40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25760

D2-22

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.029D
SAMPLER NAME: V Richards	AIRBILL NUMBER: See Below
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F8B010143

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 160.1m Gamma Isotopic Thorium Isotopic Uranium 1,4-Dioxane SR-CAT

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-924	11/30/08	14:05	1	X		S	21 DY		BRA1-1	0"	6"	N
15-925	11/30/08	14:10	1	X		S	21 DY		BRA1-2	0"	6"	N
15-926	11/30/08	14:13	1	X		S	21 DY		BRA1-3	0"	6"	N
15-927	11/30/08	14:17	1	X		S	21 DY		BRA1-4	0"	6"	N
15-928	11/30/08	14:22	2	X		S	21 DY		BRA1-5	0"	6"	N
15-929	11/30/08	14:32	1	X		S	21 DY		BRA1-6	0"	6"	N
15-930	11/30/08	14:35	1	X		S	21 DY		BRA1-7	0"	6"	N
15-931	11/30/08	14:38	1	X		S	21 DY		BRA1-8	0"	6"	N
15-932	11/30/08	14:45	1	X		S	21 DY		BRA1-9	0"	6"	N
15-933	11/30/08	14:49	1	X		S	21 DY	~~Bad Bag~~	BRA1-10	0"	6"	~~FD~~

RELINQUISHED BY (Signature): [signature]	DATE: 12/31/08	RECEIVED BY (Signature):	
COMPANY: TTEC/Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	
COMPANY:	TIME:	COMPANY:	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowth

COMPOSITE DESCRIPTION: 2 Boxes

AB1 = 7942 6508 7677

AB2 = 7924 9757 3372

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

IR = Installation Restoration

BRA1-10 FD for BRA1-9 Badqa

FD = Field Duplicate

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25761

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: See Below
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8B010143

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 40 Uranium Isotopic Thorium Isotopic Lead 210 40/52-DOE SR-04/SR-03	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-934	1.31.08	8:40	1	X		S	21 DY	X X X		BRA2-1	0"	6"	N
15-935	1.31.08	8:45	1	X		S	21 DY	X X X		BRA2-2	0"	6"	N
15-936	1.31.08	8:48	1	X		S	21 DY	X X X		BRA2-3	0"	6"	N
15-937	1.31.08	8:50	1	X		S	21 DY	X X X		BRA2-4	0"	6"	N
15-938	1.31.08	8:55	2	X		S	21 DY	X X X X		BRA2-5	0"	6"	N
15-939	1.31.08	9:00	1	X		S	21 DY	X X X		BRA2-6	0"	6"	N
15-940	1.31.08	9:05	1	X		S	21 DY	X X X		BRA2-7	0"	6"	N
15-941	1.31.08	9:10	1	X		S	21 DY	X X X		BRA2-8	0"	6"	N
15-942	1.31.08	9:13	1	X		S	21 DY	X X X		BRA2-9	0"	6"	N
15-943	1.31.08	9:16	1	X		S	21 DY	X X X	~~Bob Bao~~	BRA2-10	0"	6"	~~FD~~

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	7/21/08	
COMPANY: TTEC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTHS

COMPOSITE DESCRIPTION: 2 Boxes

AD1 = 7942 8502 7677

AD2 = 7924 9795 3327

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

BRA2-10 FD for BRA2-9 Background

FD = Field Duplicate

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25762

ENTERED

PROJECT NAME	IR sites 1,2 & 32
PURCHASE ORDER NO.	106.629552
PROJECT LOCATION	ALAMEDA CA
PROJECT NO.	3210.028D
SAMPLER NAME	V Richards
AIRBILL NUMBER	See Below
PROJECT CONTACT	S. Sudoko
PROJECT CONTACT PHONE NUMBER	949-756-7545
LABORATORY NAME	TESTAMERICA
LABORATORY ID (FOR LABORATORY)	F8B010143

ANALYSES REQUIRED: EPA 901.1m Gamma; Isotopic Thorium; Isotopic Uranium; 90/Sr DOE SR-01/SR-02

Project Information Section
Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	90/Sr DOE SR-01/SR-02						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-944	1-31-08	9:50	1	X		S	21 DY	X	X	X								BRA3-1	0"	6"	N
15-945	1-31-08	9:55	1	X		S	21 DY	X	X	X								BRA3-2	0"	6"	N
15-946	1-31-08	9:57	1	X		S	21 DY	X	X	X								BRA3-3	0"	6"	N
15-947	1-31-08	10:03	1	X		S	21 DY	X	X	X								BRA3-4	0"	6"	N
15-948	1-31-08	10:07	2	X		S	21 DY	X	X	X	X							BRA3-5	0"	6"	N
15-949	1-31-08	10:10	1	X		S	21 DY	X	X	X								BRA3-6	0"	6"	N
15-950	1-31-08	10:14	1	X		S	21 DY	X	X	X								BRA3-7	0"	6"	N
15-951	1-31-08	10:17	1	X		S	21 DY	X	X	X								BRA3-8	0"	6"	N
15-952	1-31-08	10:21	1	X		S	21 DY	X	X	X								BRA3-9	0"	6"	N
15-953	1-31-08	10:23	1	X		S	21 DY	X	X	X							~~BGR 888~~	BRA3-10	0"	6"	FD

RELINQUISHED BY (Signature) [signature]	DATE 1/31/08	RECEIVED BY (Signature)	
COMPANY TtEC/FedEx	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS
21 DAY Ingrowths

COMPOSITE DESCRIPTION
2 Boxes AB1 = 7992 6502 7677
AB2 = 7924 9795 3322

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration
BRA3-10 FD for BRA3-9 Background
FD = Field Duplicate

Tetra Tech EC, Inc.

Client Sample ID: 15-934

Radiochemistry

Lab Sample ID: F8B010143-001
Work Order: KGEWQ
Matrix: SOLID

Date Collected: 01/31/08 0840
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8035423**	**Yld %**
Actinium 228	0.50		0.17		0.29	02/04/08	02/25/08
Americium 241	-0.030	U	0.096		0.16	02/04/08	02/25/08
Cesium 137	0.132	J	0.058	0.200	0.057	02/04/08	02/25/08
Cobalt 60	0.007	U	0.055		0.10	02/04/08	02/25/08
Europium 152	-0.03	U	0.11		0.19	02/04/08	02/25/08
Europium 154	0.02	U	0.28		0.54	02/04/08	02/25/08
Potassium 40	9.9		1.5		1.1	02/04/08	02/25/08
Radium (226)	0.55	J	0.14	1.00	0.17	02/04/08	02/25/08
Thorium 232	0.50		0.17		0.29	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041016**	**Yld % 83**
Thorium 228	0.61	J	0.17	1.00	0.07	02/10/08	02/19/08
Thorium 230	0.54	J	0.16	1.00	0.07	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041014**	**Yld % 85**
Uranium 233/234	0.46	J	0.15	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	02/10/08	02/19/08
Uranium 238	0.52	J	0.16	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-934 DUP

Radiochemistry

Lab Sample ID: F8B010143-001X
Work Order: KGEWQ
Matrix: SOLID

Date Collected: 01/31/08 0840
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.41		0.21		0.25	02/04/08	02/25/08
Americium 241	-0.0005	U	0.083		0.15	02/04/08	02/25/08
Cesium 137	0.093	J	0.061	0.200	0.087	02/04/08	02/25/08
Cobalt 60	0.0	U	0.066		0.13	02/04/08	02/25/08
Europium 152	-0.04	U	0.11		0.20	02/04/08	02/25/08
Europium 154	-0.009	U	0.29		0.58	02/04/08	02/25/08
Potassium 40	10.1		1.7		0.5	02/04/08	02/25/08
Radium (226)	0.44	J	0.15	1.00	0.18	02/04/08	02/25/08
Thorium 232	0.41		0.21		0.25	02/04/08	02/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041014		Yld % 91
Uranium 233/234	0.43	J	0.13	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.046	U	0.048	1.00	0.051	02/10/08	02/19/08
Uranium 238	0.58	J	0.16	1.00	0.04	02/10/08	02/19/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041016		Yld % 82
Thorium 228	0.41	J	0.14	1.00	0.09	02/10/08	02/19/08
Thorium 230	0.75	J	0.19	1.00	0.07	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-935

Radiochemistry

Lab Sample ID: F8B010143-002
Work Order: KGEWT
Matrix: SOLID

Date Collected: 01/31/08 0845
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8035423**	**Yld %**
Actinium 228	0.37	U	0.26		0.38	02/04/08	02/25/08
Americium 241	0.04	U	0.10		0.17	02/04/08	02/25/08
Cesium 137	0.083	U	0.064	0.200	0.095	02/04/08	02/25/08
Cobalt 60	0.002	U	0.027		0.065	02/04/08	02/25/08
Europium 152	-0.03	U	0.13		0.24	02/04/08	02/25/08
Europium 154	-0.02	U	0.47		0.88	02/04/08	02/25/08
Potassium 40	10.0		1.9		0.8	02/04/08	02/25/08
Radium (226)	0.54	J	0.17	1.00	0.13	02/04/08	02/25/08
Thorium 232	0.37	U	0.26		0.38	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041016**	**Yld % 79**
Thorium 228	0.47	J	0.16	1.00	0.09	02/10/08	02/19/08
Thorium 230	0.77	J	0.20	1.00	0.06	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041014**	**Yld % 101**
Uranium 233/234	0.55	J	0.15	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.059	J	0.055	1.00	0.052	02/10/08	02/19/08
Uranium 238	0.48	J	0.14	1.00	0.04	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-936

Radiochemistry

Lab Sample ID: F8B010143-003
Work Order: KGEWV
Matrix: SOLID

Date Collected: 01/31/08 0848
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.48		0.16		0.27	02/04/08	02/25/08
Americium 241	-0.0009	U	0.11		0.19	02/04/08	02/25/08
Cesium 137	0.108	J	0.057	0.200	0.078	02/04/08	02/25/08
Cobalt 60	0.006	U	0.048		0.091	02/04/08	02/25/08
Europium 152	0.006	U	0.098		0.18	02/04/08	02/25/08
Europium 154	-0.15	U	0.36		0.63	02/04/08	02/25/08
Potassium 40	11.7		1.7		0.4	02/04/08	02/25/08
Radium (226)	0.49	J	0.14	1.00	0.18	02/04/08	02/25/08
Thorium 232	0.48		0.16		0.27	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 83
Thorium 228	0.66	J	0.18	1.00	0.08	02/10/08	02/19/08
Thorium 230	0.50	J	0.16	1.00	0.08	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 84
Uranium 233/234	0.56	J	0.17	1.00	0.08	02/10/08	02/19/08
Uranium 235/236	-0.0026	U	0.0051	1.00	0.058	02/10/08	02/19/08
Uranium 238	0.52	J	0.16	1.00	0.08	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-937

Radiochemistry

Lab Sample ID: F8B010143-004
Work Order: KGEWX
Matrix: SOLID

Date Collected: 01/31/08 0850
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.48		0.21		0.39	02/04/08	02/25/08
Americium 241	-0.02	U	0.11		0.19	02/04/08	02/25/08
Cesium 137	0.078	U	0.072	0.200	0.11	02/04/08	02/25/08
Cobalt 60	0.0	U	0.13		0.24	02/04/08	02/25/08
Europium 152	0.02	U	0.13		0.24	02/04/08	02/25/08
Europium 154	0.08	U	0.43		0.82	02/04/08	02/25/08
Potassium 40	10.4		2.0		0.7	02/04/08	02/25/08
Radium (226)	0.33	J	0.16	1.00	0.22	02/04/08	02/25/08
Thorium 232	0.48		0.21		0.39	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 80
Thorium 228	0.73	J	0.19	1.00	0.07	02/10/08	02/19/08
Thorium 230	0.60	J	0.17	1.00	0.06	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 88
Uranium 233/234	0.68	J	0.18	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	02/10/08	02/19/08
Uranium 238	0.53	J	0.16	1.00	0.05	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-938

Radiochemistry

Lab Sample ID: F8B010143-005
Work Order: KGEW0
Matrix: SOLID

Date Collected: 01/31/08 0855
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8035423**		**Yld %**
Actinium 228	0.50		0.27		0.35	02/04/08	02/25/08
Americium 241	0.03	U	0.11		0.18	02/04/08	02/25/08
Cesium 137	0.067	U	0.065	0.200	0.11	02/04/08	02/25/08
Cobalt 60	0.034	U	0.072		0.13	02/04/08	02/25/08
Europium 152	-0.04	U	0.15		0.27	02/04/08	02/25/08
Europium 154	0.08	U	0.42		0.78	02/04/08	02/25/08
Potassium 40	13.1		2.2		0.6	02/04/08	02/25/08
Radium (226)	0.70	J	0.16	1.00	0.07	02/04/08	02/25/08
Thorium 232	0.50		0.27		0.35	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8041016**		**Yld % 80**
Thorium 228	0.56	J	0.17	1.00	0.08	02/10/08	02/19/08
Thorium 230	0.64	J	0.17	1.00	0.03	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8041014**		**Yld % 85**
Uranium 233/234	0.60	J	0.17	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.009	U	0.029	1.00	0.069	02/10/08	02/19/08
Uranium 238	0.57	J	0.17	1.00	0.06	02/10/08	02/19/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8033075**		**Yld % 57**
Strontium 90	0.15	U	0.25	3.00	0.43	02/01/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-938 DUP

Radiochemistry

Lab Sample ID: F8B010143-005X
Work Order: KGEW0
Matrix: SOLID

Date Collected: 01/31/08 0855
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8033075**	**Yld % 65**
Strontium 90	0.15	U	0.34	3.00	0.58	02/01/08	02/13/08

NOTE(S)

[illegible] are incomplete without the case narrative.

[illegible] is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-939

Radiochemistry

Lab Sample ID: F8B010143-006
Work Order: KGEW1
Matrix: SOLID

Date Collected: 01/31/08 0900
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035423	Yld %
Actinium 228	0.36		0.15		0.18	02/04/08	02/25/08
Americium 241	0.09	U	0.16		0.28	02/04/08	02/25/08
Cesium 137	0.060	J	0.041	0.200	0.060	02/04/08	02/25/08
Cobalt 60	-0.008	U	0.040		0.074	02/04/08	02/25/08
Europium 152	-0.034	U	0.082		0.14	02/04/08	02/25/08
Europium 154	-0.12	U	0.30		0.52	02/04/08	02/25/08
Potassium 40	9.9		1.3		0.3	02/04/08	02/25/08
Radium (226)	0.45	J	0.12	1.00	0.15	02/04/08	02/25/08
Thorium 232	0.36		0.15		0.18	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041016	Yld % 81
Thorium 228	0.53	J	0.17	1.00	0.11	02/10/08	02/19/08
Thorium 230	0.47	J	0.15	1.00	0.08	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041014	Yld % 85
Uranium 233/234	0.72	J	0.19	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/10/08	02/19/08
Uranium 238	0.49	J	0.15	1.00	0.03	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-940

Radiochemistry

Lab Sample ID: F8B010143-007
Work Order: KGEW2
Matrix: SOLID

Date Collected: 01/31/08 0905
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.49		0.17		0.29	02/04/08	02/25/08
Americium 241	0.0003	U	0.11		0.20	02/04/08	02/25/08
Cesium 137	0.049	U	0.056	0.200	0.091	02/04/08	02/25/08
Cobalt 60	0.0	U	0.012		0.045	02/04/08	02/25/08
Europium 152	0.007	U	0.10		0.18	02/04/08	02/25/08
Europium 154	0.06	U	0.44		0.80	02/04/08	02/25/08
Potassium 40	11.9		1.9		0.5	02/04/08	02/25/08
Radium (226)	0.67	J	0.18	1.00	0.12	02/04/08	02/25/08
Thorium 232	0.49		0.17		0.29	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 86
Thorium 228	0.59	J	0.16	1.00	0.08	02/10/08	02/19/08
Thorium 230	0.61	J	0.17	1.00	0.05	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 80
Uranium 233/234	0.61	J	0.17	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	02/10/08	02/19/08
Uranium 238	0.63	J	0.17	1.00	0.05	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-941

Radiochemistry

Lab Sample ID: F8B010143-008
Work Order: KGEW3
Matrix: SOLID

Date Collected: 01/31/08 0910
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035423	Yld %
Actinium 228	0.50		0.26		0.32	02/04/08	02/25/08
Americium 241	-0.05	U	0.13		0.22	02/04/08	02/25/08
Cesium 137	0.075	U	0.074	0.200	0.12	02/04/08	02/25/08
Cobalt 60	-0.002	U	0.051		0.10	02/04/08	02/25/08
Europium 152	0.04	U	0.12		0.21	02/04/08	02/25/08
Europium 154	0.0	U	0.086		0.32	02/04/08	02/25/08
Potassium 40	10.8		1.9		0.6	02/04/08	02/25/08
Radium (226)	0.79	J	0.20	1.00	0.16	02/04/08	02/25/08
Thorium 232	0.50		0.26		0.32	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041016	Yld % 91
Thorium 228	0.67	J	0.18	1.00	0.08	02/10/08	02/19/08
Thorium 230	0.61	J	0.16	1.00	0.05	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041014	Yld % 88
Uranium 233/234	0.64	J	0.17	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.049	U	0.052	1.00	0.055	02/10/08	02/19/08
Uranium 238	0.60	J	0.17	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-942

Radiochemistry

Lab Sample ID: F8B010143-009
Work Order: KGEW4
Matrix: SOLID

Date Collected: 01/31/08 0913
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.52		0.17		0.28	02/04/08	02/25/08
Americium 241	-0.04	U	0.10		0.18	02/04/08	02/25/08
Cesium 137	0.050	U	0.046	0.200	0.073	02/04/08	02/25/08
Cobalt 60	0.000007	U	0.035		0.069	02/04/08	02/25/08
Europium 152	-0.02	U	0.10		0.18	02/04/08	02/25/08
Europium 154	0.1	U	0.33		0.59	02/04/08	02/25/08
Potassium 40	11.1		1.6		0.8	02/04/08	02/25/08
Radium (226)	0.49	J	0.14	1.00	0.17	02/04/08	02/25/08
Thorium 232	0.52		0.17		0.28	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 78
Thorium 228	0.49	J	0.16	1.00	0.1	02/10/08	02/19/08
Thorium 230	0.62	J	0.18	1.00	0.05	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 90
Uranium 233/234	0.62	J	0.17	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.044	U	0.049	1.00	0.060	02/10/08	02/19/08
Uranium 238	0.36	J	0.12	1.00	0.05	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-943

Radiochemistry

Lab Sample ID: F8B010143-010
Work Order: KGEW5
Matrix: SOLID

Date Collected: 01/31/08 0916
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.37		0.16		0.31	02/04/08	02/25/08
Americium 241	-0.025	U	0.092		0.16	02/04/08	02/25/08
Cesium 137	0.017	U	0.053	0.200	0.093	02/04/08	02/25/08
Cobalt 60	0.029	U	0.047		0.079	02/04/08	02/25/08
Europium 152	-0.012	U	0.092		0.17	02/04/08	02/25/08
Europium 154	0.16	U	0.37		0.65	02/04/08	02/25/08
Potassium 40	10.3		1.7		0.7	02/04/08	02/25/08
Radium (226)	0.68	J	0.17	1.00	0.11	02/04/08	02/25/08
Thorium 232	0.37		0.16		0.31	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 95
Thorium 228	0.39	J	0.14	1.00	0.09	02/10/08	02/19/08
Thorium 230	0.45	J	0.14	1.00	0.03	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 89
Uranium 233/234	0.68	J	0.18	1.00	0.03	02/10/08	02/19/08
Uranium 235/236	0.054	J	0.054	1.00	0.036	02/10/08	02/19/08
Uranium 238	0.66	J	0.18	1.00	0.05	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-944

Radiochemistry

Lab Sample ID: F8B010143-011
Work Order: KGEW6
Matrix: SOLID

Date Collected: 01/31/08 0950
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.59		0.22		0.35	02/04/08	02/25/08
Americium 241	-0.01	U	0.13		0.22	02/04/08	02/25/08
Cesium 137	0.067	U	0.062	0.200	0.098	02/04/08	02/25/08
Cobalt 60	0.004	U	0.057		0.11	02/04/08	02/25/08
Europium 152	-0.03	U	0.16		0.28	02/04/08	02/25/08
Europium 154	-0.12	U	0.41		0.73	02/04/08	02/25/08
Potassium 40	15.0		2.0		0.4	02/04/08	02/25/08
Radium (226)	0.46	J	0.14	1.00	0.18	02/04/08	02/25/08
Thorium 232	0.59		0.22		0.35	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041016		Yld % 86
Thorium 228	0.76	J	0.19	1.00	0.08	02/10/08	02/19/08
Thorium 230	0.75	J	0.19	1.00	0.05	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041014		Yld % 82
Uranium 233/234	0.65	J	0.18	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.025	U	0.039	1.00	0.059	02/10/08	02/19/08
Uranium 238	0.72	J	0.19	1.00	0.03	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-945

Radiochemistry

Lab Sample ID: F8B010143-012
Work Order: KGEW7
Matrix: SOLID

Date Collected: 01/31/08 0955
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.74		0.32		0.37	02/04/08	02/25/08
Americium 241	0.02	U	0.12		0.22	02/04/08	02/25/08
Cesium 137	0.073	U	0.071	0.200	0.11	02/04/08	02/25/08
Cobalt 60	0.0	U	0.019		0.068	02/04/08	02/25/08
Europium 152	-0.008	U	0.15		0.27	02/04/08	02/25/08
Europium 154	0.0	U	0.54		1.0	02/04/08	02/25/08
Potassium 40	9.8		2.1		1.0	02/04/08	02/25/08
Radium (226)	0.71	J	0.20	1.00	0.20	02/04/08	02/25/08
Thorium 232	0.74		0.32		0.37	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041016		Yld % 75
Thorium 228	0.75	J	0.20	1.00	0.09	02/10/08	02/19/08
Thorium 230	0.78	J	0.20	1.00	0.03	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041014		Yld % 84
Uranium 233/234	0.75	J	0.19	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.050	U	0.053	1.00	0.056	02/10/08	02/19/08
Uranium 238	0.51	J	0.15	1.00	0.04	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-946

Radiochemistry

Lab Sample ID: F8B010143-013
Work Order: KGEW8
Matrix: SOLID

Date Collected: 01/31/08 0957
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.85		0.26		0.25	02/04/08	02/25/08
Americium 241	-0.01	U	0.12		0.22	02/04/08	02/25/08
Cesium 137	0.169	J	0.051	0.200	0.028	02/04/08	02/25/08
Cobalt 60	0.0	U	0.010		0.038	02/04/08	02/25/08
Europium 152	-0.007	U	0.10		0.19	02/04/08	02/25/08
Europium 154	0.09	U	0.32		0.58	02/04/08	02/25/08
Potassium 40	13.0		1.9		1.0	02/04/08	02/25/08
Radium (226)	0.65	J	0.16	1.00	0.17	02/04/08	02/25/08
Thorium 232	0.85		0.26		0.25	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041016		Yld % 46
Thorium 228	0.67	J	0.24	1.00	0.13	02/10/08	02/19/08
Thorium 230	0.65	J	0.24	1.00	0.13	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041014		Yld % 91
Uranium 233/234	0.72	J	0.18	1.00	0.03	02/10/08	02/19/08
Uranium 235/236	0.047	U	0.050	1.00	0.053	02/10/08	02/19/08
Uranium 238	0.61	J	0.16	1.00	0.03	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-947

Radiochemistry

Lab Sample ID: F8B010143-014
Work Order: KGEW9
Matrix: SOLID

Date Collected: 01/31/08 1003
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.40		0.25		0.34	02/04/08	02/25/08
Americium 241	0.08	U	0.11		0.18	02/04/08	02/25/08
Cesium 137	0.091	J	0.059	0.200	0.081	02/04/08	02/25/08
Cobalt 60	-0.0006	U	0.056		0.11	02/04/08	02/25/08
Europium 152	-0.02	U	0.12		0.22	02/04/08	02/25/08
Europium 154	0.0	U	0.085		0.31	02/04/08	02/25/08
Potassium 40	11.8		2.0		0.8	02/04/08	02/25/08
Radium (226)	0.60	J	0.17	1.00	0.13	02/04/08	02/25/08
Thorium 232	0.40		0.25		0.34	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041016		Yld % 71
Thorium 228	0.71	J	0.20	1.00	0.1	02/10/08	02/19/08
Thorium 230	0.69	J	0.20	1.00	0.06	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041014		Yld % 87
Uranium 233/234	0.57	J	0.16	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	-0.0048	U	0.0069	1.00	0.063	02/10/08	02/19/08
Uranium 238	0.56	J	0.16	1.00	0.07	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-948

Radiochemistry

Lab Sample ID: F8B010143-015
Work Order: KGEXA
Matrix: SOLID

Date Collected: 01/31/08 1007
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035423	Yld %
Actinium 228	0.48		0.17		0.28	02/04/08	02/25/08
Americium 241	0.015	U	0.080		0.14	02/04/08	02/25/08
Cesium 137	0.084	J	0.056	0.200	0.082	02/04/08	02/25/08
Cobalt 60	0.004	U	0.056		0.10	02/04/08	02/25/08
Europium 152	-0.01	U	0.13		0.23	02/04/08	02/25/08
Europium 154	-0.09	U	0.43		0.76	02/04/08	02/25/08
Potassium 40	11.0		1.6		0.8	02/04/08	02/25/08
Radium (226)	0.49	J	0.14	1.00	0.17	02/04/08	02/25/08
Thorium 232	0.48		0.17		0.28	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041016	Yld % 68
Thorium 228	0.64	J	0.20	1.00	0.10	02/10/08	02/19/08
Thorium 230	0.47	J	0.16	1.00	0.07	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041014	Yld % 87
Uranium 233/234	0.73	J	0.19	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	02/10/08	02/19/08
Uranium 238	0.65	J	0.18	1.00	0.07	02/10/08	02/19/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g		Batch # 8033075	Yld % 70
Strontium 90	0.25	U	0.33	3.00	0.54	02/01/08	02/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-949

Radiochemistry

Lab Sample ID: F8B010143-016
Work Order: KGEXC
Matrix: SOLID

Date Collected: 01/31/08 1010
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035423		Yld %
Actinium 228	0.48		0.22		0.41	02/04/08	02/25/08
Americium 241	0.03	U	0.12		0.20	02/04/08	02/25/08
Cesium 137	0.053	U	0.069	0.200	0.11	02/04/08	02/25/08
Cobalt 60	0.007	U	0.064		0.12	02/04/08	02/25/08
Europium 152	-0.004	U	0.13		0.25	02/04/08	02/25/08
Europium 154	0.11	U	0.39		0.72	02/04/08	02/25/08
Potassium 40	13.8		2.3		0.6	02/04/08	02/25/08
Radium (226)	0.65	J	0.16	1.00	0.11	02/04/08	02/25/08
Thorium 232	0.48		0.22		0.41	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041017		Yld % 81
Thorium 228	0.59	J	0.17	1.00	0.08	02/10/08	02/18/08
Thorium 230	0.56	J	0.16	1.00	0.06	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041015		Yld % 74
Uranium 233/234	0.75	J	0.20	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.057	U	0.060	1.00	0.064	02/10/08	02/19/08
Uranium 238	0.62	J	0.18	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-949 DUP

Radiochemistry

Lab Sample ID: F8B010143-016X
Work Order: KGEXC
Matrix: SOLID

Date Collected: 01/31/08 1010
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041015**	**Yld % 84**
Uranium 233/234	0.58	J	0.17	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.019	U	0.039	1.00	0.072	02/10/08	02/19/08
Uranium 238	0.50	J	0.16	1.00	0.09	02/10/08	02/19/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041017**	**Yld % 82**
Thorium 228	0.65	J	0.18	1.00	0.09	02/10/08	02/18/08
Thorium 230	0.92	J	0.21	1.00	0.05	02/10/08	02/18/08

NOTE(S)

[illegible] are incomplete without the case narrative.

[illegible] is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-950

Radiochemistry

Lab Sample ID: F8B010143-017
Work Order: KGEXD
Matrix: SOLID

Date Collected: 01/31/08 1014
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.57		0.18		0.32	02/04/08	02/25/08
Americium 241	0.02	U	0.11		0.19	02/04/08	02/25/08
Cesium 137	0.075	U	0.056	0.200	0.084	02/04/08	02/25/08
Cobalt 60	0.004	U	0.053		0.10	02/04/08	02/25/08
Europium 152	-0.006	U	0.098		0.18	02/04/08	02/25/08
Europium 154	0.14	U	0.36		0.64	02/04/08	02/25/08
Potassium 40	9.9		1.7		0.8	02/04/08	02/25/08
Radium (226)	0.58	J	0.13	1.00	0.07	02/04/08	02/25/08
Thorium 232	0.57		0.18		0.32	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041017		Yld % 71
Thorium 228	0.51	J	0.17	1.00	0.11	02/10/08	02/18/08
Thorium 230	0.58	J	0.18	1.00	0.05	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041015		Yld % 54
Uranium 233/234	0.43	J	0.18	1.00	0.09	02/10/08	02/19/08
Uranium 235/236	0.034	U	0.060	1.00	0.10	02/10/08	02/19/08
Uranium 238	0.47	J	0.19	1.00	0.1	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-951

Radiochemistry

Lab Sample ID: F8B010143-018
Work Order: KGEXE
Matrix: SOLID

Date Collected: 01/31/08 1017
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.49		0.17		0.23	02/04/08	02/25/08
Americium 241	-0.03	U	0.10		0.17	02/04/08	02/25/08
Cesium 137	0.146	J	0.057	0.200	0.049	02/04/08	02/25/08
Cobalt 60	0.013	U	0.049		0.089	02/04/08	02/25/08
Europium 152	0.001	U	0.091		0.17	02/04/08	02/25/08
Europium 154	0.09	U	0.25		0.46	02/04/08	02/25/08
Potassium 40	10.6		1.6		0.9	02/04/08	02/25/08
Radium (226)	0.58	J	0.16	1.00	0.19	02/04/08	02/25/08
Thorium 232	0.49		0.17		0.23	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041017		Yld % 90
Thorium 228	0.53	J	0.16	1.00	0.07	02/10/08	02/19/08
Thorium 230	0.57	J	0.16	1.00	0.05	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8052190		Yld % 33
Uranium 233/234	0.43	J	0.31	2.00	0.30	02/21/08	02/23/08
Uranium 235/236	-0.024	U	0.033	2.00	0.31	02/21/08	02/23/08
Uranium 238	0.36	J	0.30	2.00	0.32	02/21/08	02/23/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-951 DUP

Radiochemistry

Lab Sample ID: F8B010143-018X
Work Order: KGEXE
Matrix: SOLID

Date Collected: 01/31/08 1017
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8052190		Yld % 75
Uranium 233/234	0.50	J	0.23	2.00	0.15	02/21/08	02/23/08
Uranium 235/236	0.0	U	0.025	2.00	0.078	02/21/08	02/23/08
Uranium 238	0.36	J	0.19	2.00	0.15	02/21/08	02/23/08

NOTE(S)

are incomplete without the case narrative.

is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

LOT# F8B010143

Tetra Tech EC, Inc.

Client Sample ID: 15-952

Radiochemistry

Lab Sample ID: F8B010143-019
Work Order: KGEXF
Matrix: SOLID

Date Collected: 01/31/08 1021
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035423		Yld %
Actinium 228	0.62		0.23		0.37	02/04/08	02/25/08
Americium 241	-0.044	U	0.097		0.16	02/04/08	02/25/08
Cesium 137	0.114	J	0.066	0.200	0.089	02/04/08	02/25/08
Cobalt 60	0.0	U	0.14		0.25	02/04/08	02/25/08
Europium 152	-0.01	U	0.16		0.29	02/04/08	02/25/08
Europium 154	-0.23	U	0.56		0.98	02/04/08	02/25/08
Potassium 40	8.3		1.7		1	02/04/08	02/25/08
Radium (226)	0.70	J	0.17	1.00	0.14	02/04/08	02/25/08
Thorium 232	0.62		0.23		0.37	02/04/08	02/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041015		Yld % 82
Uranium 233/234	0.64	J	0.18	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	0.041	U	0.051	1.00	0.062	02/10/08	02/19/08
Uranium 238	0.50	J	0.16	1.00	0.05	02/10/08	02/19/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8051091		Yld % 86
Thorium 228	0.55	J	0.23	1.00	0.14	02/20/08	02/22/08
Thorium 230	0.60	J	0.24	1.00	0.06	02/20/08	02/22/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-952 DUP

Radiochemistry

Lab Sample ID: F8B010143-019X
Work Order: KGEXF
Matrix: SOLID

Date Collected: 01/31/08 1021
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8051091		Yld % 84
Thorium 228	0.55	J	0.23	1.00	0.17	02/20/08	02/21/08
Thorium 230	0.95	J	0.30	1.00	0.11	02/20/08	02/21/08

NOTE(S)

[illegible] are incomplete without the case narrative.
[illegible] is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-953

Radiochemistry

Lab Sample ID: F8B010143-020
Work Order: KGEXH
Matrix: SOLID

Date Collected: 01/31/08 1023
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8035423**		**Yld %**
Actinium 228	0.58		0.23		0.26	02/04/08	02/25/08
Americium 241	0.06	U	0.11		0.19	02/04/08	02/25/08
Cesium 137	0.106	J	0.068	0.200	0.10	02/04/08	02/25/08
Cobalt 60	0.012	U	0.055		0.10	02/04/08	02/25/08
Europium 152	-0.05	U	0.14		0.24	02/04/08	02/25/08
Europium 154	-0.02	U	0.32		0.61	02/04/08	02/25/08
Potassium 40	13.1		1.8		0.4	02/04/08	02/25/08
Radium (226)	0.65	J	0.17	1.00	0.19	02/04/08	02/25/08
Thorium 232	0.58		0.23		0.26	02/04/08	02/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8041015**		**Yld % 71**
Uranium 233/234	0.69	J	0.20	1.00	0.1	02/10/08	02/19/08
Uranium 235/236	0.061	U	0.065	1.00	0.069	02/10/08	02/19/08
Uranium 238	0.52	J	0.17	1.00	0.09	02/10/08	02/19/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8051091**		**Yld % 83**
Thorium 228	0.71	J	0.28	1.00	0.18	02/20/08	02/22/08
Thorium 230	0.72	J	0.27	1.00	0.12	02/20/08	02/22/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-924

Radiochemistry

Lab Sample ID: F8B010143-021
Work Order: KGF3P
Matrix: SOLID

Date Collected: 01/30/08 1405
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035424	Yld %
Actinium 228	0.53		0.23		0.25	02/04/08	02/25/08
Americium 241	0.040	U	0.077		0.13	02/04/08	02/25/08
Cesium 137	-0.03	U	1.1	0.2	0.1	02/04/08	02/25/08
Cobalt 60	0.017	U	0.035		0.063	02/04/08	02/25/08
Europium 152	-0.03	U	0.13		0.23	02/04/08	02/25/08
Europium 154	-0.01	U	0.34		0.65	02/04/08	02/25/08
Potassium 40	9.4		1.7		0.5	02/04/08	02/25/08
Radium (226)	0.60	J	0.15	1.00	0.12	02/04/08	02/25/08
Thorium 232	0.53		0.23		0.25	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041017	Yld % 73
Thorium 228	0.61	J	0.18	1.00	0.08	02/10/08	02/18/08
Thorium 230	0.61	J	0.18	1.00	0.08	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041015	Yld % 70
Uranium 233/234	0.28	J	0.12	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	0.0	U	0.014	1.00	0.044	02/10/08	02/19/08
Uranium 238	0.41	J	0.15	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-924 DUP

Radiochemistry

Lab Sample ID: F8B010143-021X
Work Order: KGF3P
Matrix: SOLID

Date Collected: 01/30/08 1405
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035424		Yld %
Actinium 228	0.47		0.17		0.23	02/04/08	02/25/08
Americium 241	-0.00007	U	0.090		0.16	02/04/08	02/25/08
Cesium 137	0.003	U	0.044	0.200	0.082	02/04/08	02/25/08
Cobalt 60	0.008	U	0.052		0.098	02/04/08	02/25/08
Europium 152	0.001	U	0.084		0.16	02/04/08	02/25/08
Europium 154	0.06	U	0.30		0.57	02/04/08	02/25/08
Potassium 40	8.8		1.5		0.4	02/04/08	02/25/08
Radium (226)	0.37	J	0.14	1.00	0.14	02/04/08	02/25/08
Thorium 232	0.47		0.17		0.23	02/04/08	02/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-925

Radiochemistry

Lab Sample ID: F8B010143-022
Work Order: KGF3T
Matrix: SOLID

Date Collected: 01/30/08 1410
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035424		Yld %
Actinium 228	0.45		0.13		0.18	02/04/08	02/25/08
Americium 241	0.07	U	0.27		0.46	02/04/08	02/25/08
Cesium 137	0.023	U	0.032	0.200	0.054	02/04/08	02/25/08
Cobalt 60	-0.002	U	0.032		0.061	02/04/08	02/25/08
Europium 152	-0.027	U	0.084		0.15	02/04/08	02/25/08
Europium 154	0.06	U	0.25		0.44	02/04/08	02/25/08
Potassium 40	10.4		1.3		0.5	02/04/08	02/25/08
Radium (226)	0.49	J	0.11	1.00	0.10	02/04/08	02/25/08
Thorium 232	0.45		0.13		0.18	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041017		Yld % 89
Thorium 228	0.48	J	0.15	1.00	0.08	02/10/08	02/18/08
Thorium 230	0.32	J	0.12	1.00	0.05	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041015		Yld % 83
Uranium 233/234	0.28	J	0.12	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	-0.0055	U	0.0077	1.00	0.071	02/10/08	02/19/08
Uranium 238	0.36	J	0.13	1.00	0.06	02/10/08	02/19/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-926

Radiochemistry

Lab Sample ID: F8B010143-023
Work Order: KGF3V
Matrix: SOLID

Date Collected: 01/30/08 1413
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035424		Yld %
Actinium 228	0.54		0.19		0.18	02/04/08	02/25/08
Americium 241	-0.004	U	0.088		0.15	02/04/08	02/25/08
Cesium 137	0.018	U	0.039	0.200	0.067	02/04/08	02/25/08
Cobalt 60	0.0	U	0.078		0.14	02/04/08	02/25/08
Europium 152	0.019	U	0.082		0.15	02/04/08	02/25/08
Europium 154	0.0	U	0.33		0.63	02/04/08	02/25/08
Potassium 40	7.7		1.4		0.9	02/04/08	02/25/08
Radium (226)	0.253	J	0.088	1.00	0.087	02/04/08	02/25/08
Thorium 232	0.54		0.19		0.18	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041017		Yld % 84
Thorium 228	0.59	J	0.17	1.00	0.08	02/10/08	02/18/08
Thorium 230	0.36	J	0.13	1.00	0.06	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041015		Yld % 85
Uranium 233/234	0.35	J	0.13	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	-0.0026	U	0.0051	1.00	0.058	02/10/08	02/19/08
Uranium 238	0.40	J	0.14	1.00	0.03	02/10/08	02/19/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-927

Radiochemistry

Lab Sample ID: F8B010143-024
Work Order: KGF3W
Matrix: SOLID

Date Collected: 01/30/08 1417
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8035424**	**Yld %**
Actinium 228	0.43		0.21		0.27	02/04/08	02/25/08
Americium 241	0.0	U	0.11		0.19	02/04/08	02/25/08
Cesium 137	0.140	J	0.056	0.200	0.044	02/04/08	02/25/08
Cobalt 60	0.008	U	0.054		0.10	02/04/08	02/25/08
Europium 152	-0.022	U	0.099		0.18	02/04/08	02/25/08
Europium 154	-0.05	U	0.31		0.59	02/04/08	02/25/08
Potassium 40	7.9		1.5		0.5	02/04/08	02/25/08
Radium (226)	0.42	J	0.13	1.00	0.15	02/04/08	02/25/08
Thorium 232	0.43		0.21		0.27	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041017**	**Yld % 87**
Thorium 228	0.80	J	0.20	1.00	0.08	02/10/08	02/18/08
Thorium 230	0.57	J	0.17	1.00	0.08	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8041015**	**Yld % 78**
Uranium 233/234	0.44	J	0.15	1.00	0.07	02/10/08	02/19/08
Uranium 235/236	0.040	U	0.049	1.00	0.060	02/10/08	02/19/08
Uranium 238	0.46	J	0.15	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-928

Radiochemistry

Lab Sample ID: F8B010143-025
Work Order: KGF3X
Matrix: SOLID

Date Collected: 01/30/08 1422
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035424		Yld %
Actinium 228	0.30		0.16		0.20	02/04/08	02/25/08
Americium 241	0.007	U	0.082		0.14	02/04/08	02/25/08
Cesium 137	0.153	J	0.066	0.200	0.088	02/04/08	02/25/08
Cobalt 60	0.018	U	0.041		0.073	02/04/08	02/25/08
Europium 152	-0.02	U	0.10		0.18	02/04/08	02/25/08
Europium 154	0.15	U	0.31		0.55	02/04/08	02/25/08
Potassium 40	9.6		1.5		0.9	02/04/08	02/25/08
Radium (226)	0.58	J	0.13	1.00	0.12	02/04/08	02/25/08
Thorium 232	0.30		0.16		0.20	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041017		Yld % 81
Thorium 228	0.85	J	0.21	1.00	0.07	02/10/08	02/18/08
Thorium 230	0.67	J	0.18	1.00	0.06	02/10/08	02/18/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8033075		Yld % 64
Strontium 90	0.11	U	0.34	3.00	0.58	02/01/08	02/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8052190		Yld % 73
Uranium 233/234	0.22	J	0.15	2.00	0.13	02/21/08	02/23/08
Uranium 235/236	0.022	U	0.055	2.00	0.12	02/21/08	02/23/08
Uranium 238	0.27	J	0.16	2.00	0.12	02/21/08	02/23/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-929

Radiochemistry

Lab Sample ID: F8B010143-026
Work Order: KGF33
Matrix: SOLID

Date Collected: 01/30/08 1432
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035424	Yld %
Actinium 228	0.43		0.19		0.23	02/04/08	02/25/08
Americium 241	0.059	U	0.083		0.14	02/04/08	02/25/08
Cesium 137	0.0	U	0.055	0.200	0.10	02/04/08	02/25/08
Cobalt 60	-0.021	U	0.059		0.11	02/04/08	02/25/08
Europium 152	0.014	U	0.080		0.14	02/04/08	02/25/08
Europium 154	0.09	U	0.31		0.57	02/04/08	02/25/08
Potassium 40	10.0		1.6		0.8	02/04/08	02/25/08
Radium (226)	0.49	J	0.12	1.00	0.07	02/04/08	02/25/08
Thorium 232	0.43		0.19		0.23	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041017	Yld % 46
Thorium 228	0.39	J	0.19	1.00	0.17	02/10/08	02/19/08
Thorium 230	0.40	J	0.19	1.00	0.1	02/10/08	02/19/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041015	Yld % 75
Uranium 233/234	0.43	J	0.15	1.00	0.06	02/10/08	02/19/08
Uranium 235/236	0.024	U	0.043	1.00	0.073	02/10/08	02/19/08
Uranium 238	0.39	J	0.14	1.00	0.06	02/10/08	02/19/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

Tetra Tech EC, Inc.

Client Sample ID: 15-930

Radiochemistry

Lab Sample ID: F8B010143-027
Work Order: KGF35
Matrix: SOLID

Date Collected: 01/30/08 1435
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035424		Yld %
Actinium 228	0.42		0.15		0.17	02/04/08	02/25/08
Americium 241	0.08	U	0.26		0.46	02/04/08	02/25/08
Cesium 137	0.025	U	0.029	0.200	0.047	02/04/08	02/25/08
Cobalt 60	-0.01	U	0.038		0.069	02/04/08	02/25/08
Europium 152	-0.0007	U	0.081		0.15	02/04/08	02/25/08
Europium 154	0.03	U	0.24		0.43	02/04/08	02/25/08
Potassium 40	**10.1**		**1.3**		**0.2**	02/04/08	02/25/08
Radium (226)	**0.306**	J	**0.099**	1.00	**0.13**	02/04/08	02/25/08
Thorium 232	0.42		0.15		0.17	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041017		Yld % 49
Thorium 228	0.37	J	0.18	1.00	0.13	02/10/08	02/18/08
Thorium 230	0.36	J	0.17	1.00	0.08	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041015		Yld % 76
Uranium 233/234	0.185	J	0.097	1.00	0.033	02/10/08	02/19/08
Uranium 235/236	0.015	U	0.031	1.00	0.042	02/10/08	02/19/08
Uranium 238	0.21	J	0.10	1.00	0.06	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-931

Radiochemistry

Lab Sample ID: F8B010143-028
Work Order: KGF36
Matrix: SOLID

Date Collected: 01/30/08 1438
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8035424		Yld %
Actinium 228	0.07	U	0.14		0.24	02/04/08	02/25/08
Americium 241	0.050	U	0.079		0.13	02/04/08	02/25/08
Cesium 137	0.005	U	0.050	0.200	0.10	02/04/08	02/25/08
Cobalt 60	-0.019	U	0.065		0.12	02/04/08	02/25/08
Europium 152	0.013	U	0.096		0.18	02/04/08	02/25/08
Europium 154	-0.11	U	0.46		0.84	02/04/08	02/25/08
Potassium 40	**10.9**		1.9		0.5	02/04/08	02/25/08
Radium (226)	**0.53**	J	0.17	1.00	0.13	02/04/08	02/25/08
Thorium 232	0.07	U	0.14		0.24	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041017		Yld % 38
Thorium 228	0.27	J	0.19	1.00	0.23	02/10/08	02/18/08
Thorium 230	0.57	J	0.25	1.00	0.17	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8041015		Yld % 82
Uranium 233/234	0.28	J	0.11	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	02/10/08	02/19/08
Uranium 238	0.36	J	0.13	1.00	0.03	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-932

Radiochemistry

Lab Sample ID: F8B010143-029
Work Order: KGF38
Matrix: SOLID

Date Collected: 01/30/08 1445
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8035424	Yld %
Actinium 228	0.37	U	0.26		0.38	02/04/08	02/25/08
Americium 241	0.0128	U	0.0997		0.17	02/04/08	02/25/08
Cesium 137	0.025	U	0.054	0.200	0.10	02/04/08	02/25/08
Cobalt 60	0.023	U	0.055		0.099	02/04/08	02/25/08
Europium 152	0.059	U	0.089		0.15	02/04/08	02/25/08
Europium 154	-0.13	U	0.43		0.77	02/04/08	02/25/08
Potassium 40	9.3		1.7		0.5	02/04/08	02/25/08
Radium (226)	0.35	J	0.13	1.00	0.15	02/04/08	02/25/08
Thorium 232	0.37	U	0.26		0.38	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041017	Yld % 78
Thorium 228	0.57	J	0.17	1.00	0.07	02/10/08	02/18/08
Thorium 230	0.43	J	0.15	1.00	0.03	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8041015	Yld % 87
Uranium 233/234	0.37	J	0.13	1.00	0.05	02/10/08	02/19/08
Uranium 235/236	-0.0024	U	0.0047	1.00	0.054	02/10/08	02/19/08
Uranium 238	0.31	J	0.12	1.00	0.04	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-933

Radiochemistry

Lab Sample ID: F8B010143-030
Work Order: KGF4A
Matrix: SOLID

Date Collected: 01/30/08 1448
Date Received: 02/01/08 1015

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8035424		Yld %
Actinium 228	0.34		0.14		0.18	02/04/08	02/25/08
Americium 241	0.04	U	0.27		0.47	02/04/08	02/25/08
Cesium 137	0.014	U	0.033	0.200	0.057	02/04/08	02/25/08
Cobalt 60	-0.005	U	0.039		0.073	02/04/08	02/25/08
Europium 152	-0.026	U	0.078		0.14	02/04/08	02/25/08
Europium 154	0.0005	U	0.20		0.39	02/04/08	02/25/08
Potassium 40	10.2		1.3		0.2	02/04/08	02/25/08
Radium (226)	0.359	J	0.097	1.00	0.12	02/04/08	02/25/08
Thorium 232	0.34		0.14		0.18	02/04/08	02/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041017		Yld % 67
Thorium 228	0.70	J	0.21	1.00	0.11	02/10/08	02/18/08
Thorium 230	0.53	J	0.18	1.00	0.07	02/10/08	02/18/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8041015		Yld % 84
Uranium 233/234	0.45	J	0.15	1.00	0.03	02/10/08	02/19/08
Uranium 235/236	0.038	U	0.048	1.00	0.058	02/10/08	02/19/08
Uranium 238	0.34	J	0.13	1.00	0.03	02/10/08	02/19/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

April 11, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on March 13th, 2008.

LDC project# 18450:

SDG #	Fraction
F8A220112, F8A220127	Gamma Spec (DOE GA-01-R Mod)
F8A220133, F8A230222	Isotopic Thorium (DOE A-01-R Mod)
F8A240117, F8A250153	Isotopic Uranium (DOE A-01-R Mod)
F8A260103, F8A260106	Strontium-90 (DOE SR-03-RC Mod)
F8B010143	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Tetra Tech EC Database Qualification Summary
- Attachment IV — Field Blank Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

18450Cov_AlamedaCTO15.wpd

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Jan-2008	15-924	F8B010143021	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-924	F8B010143021	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-924	F8B010143021	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-924DUP	F8B010143021DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-925	F8B010143022	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-925	F8B010143022	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-925	F8B010143022	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-926	F8B010143023	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-926	F8B010143023	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-926	F8B010143023	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-927	F8B010143024	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-927	F8B010143024	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-927	F8B010143024	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-928	F8B010143025	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-928	F8B010143025	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-928	F8B010143025	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-928	F8B010143025	N	Gen Prep	)OE SR-03-RC MOI	3
30-Jan-2008	15-929	F8B010143026	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-929	F8B010143026	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-929	F8B010143026	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-930	F8B010143027	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-930	F8B010143027	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-930	F8B010143027	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-931	F8B010143028	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-931	F8B010143028	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-931	F8B010143028	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Jan-2008	15-932	F8B010143029	N	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-932	F8B010143029	N	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-932	F8B010143029	N	Gen Prep	DOE GA-01-R MOD	3
30-Jan-2008	15-933	F8B010143030	FD	Gen Prep	)OE A-01-R TH MOI	3
30-Jan-2008	15-933	F8B010143030	FD	Gen Prep	DOE A-01-R U MOD	3
30-Jan-2008	15-933	F8B010143030	FD	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-934	F8B010143001	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-934	F8B010143001	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-934	F8B010143001	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-934DUP	F8B010143001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-934DUP	F8B010143001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-934DUP	F8B010143001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-935	F8B010143002	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-935	F8B010143002	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-935	F8B010143002	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-936	F8B010143003	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-936	F8B010143003	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-936	F8B010143003	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-937	F8B010143004	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-937	F8B010143004	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-937	F8B010143004	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-938	F8B010143005	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-938	F8B010143005	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-938	F8B010143005	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-938	F8B010143005	N	Gen Prep	)OE SR-03-RC MOI	3
31-Jan-2008	15-938DUP	F8B010143005DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Jan-2008	15-939	F8B010143006	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-939	F8B010143006	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-939	F8B010143006	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-940	F8B010143007	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-940	F8B010143007	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-940	F8B010143007	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-941	F8B010143008	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-941	F8B010143008	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-941	F8B010143008	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-942	F8B010143009	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-942	F8B010143009	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-942	F8B010143009	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-943	F8B010143010	FD	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-943	F8B010143010	FD	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-943	F8B010143010	FD	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-944	F8B010143011	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-944	F8B010143011	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-944	F8B010143011	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-945	F8B010143012	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-945	F8B010143012	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-945	F8B010143012	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-946	F8B010143013	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-946	F8B010143013	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-946	F8B010143013	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-947	F8B010143014	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-947	F8B010143014	N	Gen Prep	DOE A-01-R U MOD	3

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MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Jan-2008	15-947	F8B010143014	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-948	F8B010143015	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-948	F8B010143015	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-948	F8B010143015	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-948	F8B010143015	N	Gen Prep	)OE SR-03-RC MOI	3
31-Jan-2008	15-949	F8B010143016	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-949	F8B010143016	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-949	F8B010143016	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-949DUP	F8B010143016DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-949DUP	F8B010143016DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-950	F8B010143017	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-950	F8B010143017	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-950	F8B010143017	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-951	F8B010143018	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-951	F8B010143018	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-951	F8B010143018	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-951DUP	F8B010143018DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-952	F8B010143019	N	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-952	F8B010143019	N	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-952	F8B010143019	N	Gen Prep	DOE GA-01-R MOD	3
31-Jan-2008	15-952DUP	F8B010143019DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-953	F8B010143020	FD	Gen Prep	)OE A-01-R TH MOI	3
31-Jan-2008	15-953	F8B010143020	FD	Gen Prep	DOE A-01-R U MOD	3
31-Jan-2008	15-953	F8B010143020	FD	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
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N = Normal Sample
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MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8B010143										
DOE A-01-R TH MOD	15-934	SO	N	THORIUM-230	1.00	0.54J	0.16	UJ	pCi/g	
DOE A-01-R TH MOD	15-935	SO	N	THORIUM-230	1.00	0.77J	0.20	UJ	pCi/g	
DOE A-01-R TH MOD	15-936	SO	N	THORIUM-230	1.00	0.50J	0.16	UJ	pCi/g	
DOE A-01-R TH MOD	15-937	SO	N	THORIUM-230	1.00	0.60J	0.17	UJ	pCi/g	
DOE A-01-R TH MOD	15-938	SO	N	THORIUM-230	1.00	0.64J	0.17	UJ	pCi/g	
DOE A-01-R TH MOD	15-939	SO	N	THORIUM-230	1.00	0.47J	0.15	UJ	pCi/g	
DOE A-01-R TH MOD	15-940	SO	N	THORIUM-230	1.00	0.61J	0.17	UJ	pCi/g	
DOE A-01-R TH MOD	15-941	SO	N	THORIUM-230	1.00	0.61J	0.16	UJ	pCi/g	
DOE A-01-R TH MOD	15-942	SO	N	THORIUM-230	1.00	0.62J	0.18	UJ	pCi/g	
DOE A-01-R TH MOD	15-943	SO	FD	THORIUM-230	1.00	0.45J	0.14	UJ	pCi/g	
DOE A-01-R TH MOD	15-944	SO	N	THORIUM-230	1.00	0.75J	0.19	UJ	pCi/g	
DOE A-01-R TH MOD	15-945	SO	N	THORIUM-230	1.00	0.78J	0.20	UJ	pCi/g	
DOE A-01-R TH MOD	15-946	SO	N	THORIUM-230	1.00	0.65J	0.24	UJ	pCi/g	
DOE A-01-R TH MOD	15-947	SO	N	THORIUM-230	1.00	0.69J	0.20	UJ	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8B010143										
DOE A-01-R TH MOD	15-948	SO	N	THORIUM-230	1.00	0.47J	0.16	UJ	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Tetra Te

Reason for Qualified Results

SDG Nos. : F8B010143

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8B010143	15-934	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-934	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-935	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-935	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-936	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-936	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-937	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-937	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-938	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-938	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-939	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-939	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-940	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-940	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-941	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-941	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-942	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-942	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-943	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-943	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-944	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-944	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-945	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-945	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-946	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-946	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-947	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-947	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8B010143	15-948	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8B010143	15-948	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

No Field QC was identified in listed SDG

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8B010143

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 8041016
Preparation Batch : 8041016
Lab Reporting Batch : F8B010143

Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Lab ID: TestAme

Analysis Date : 02/19/2008
Preparation Date :

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	Matrix	Analyte Name	Percent Recovery	RPD	Rejection Point	Lower Limit	Upper Limit	RPD
F8B100000016LCS	SO	THORIUM-230	113		10.00	30.00	110.00	40.00

Associated Samples

Client Sample ID	Lab Sample ID
15-934	F8B010143001
15-935	F8B010143002
15-936	F8B010143003
15-937	F8B010143004
15-938	F8B010143005
15-939	F8B010143006
15-940	F8B010143007
15-941	F8B010143008
15-942	F8B010143009
15-943	F8B010143010
15-944	F8B010143011
15-945	F8B010143012
15-946	F8B010143013
15-947	F8B010143014
15-948	F8B010143015

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 3210.015D - Alameda-IR Sites 1,2+32

Method Blank Outlier Report

Lab Reporting Batch : F8B010143
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/19/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B100000016MB
Preparation Batch : 8041016

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.173**	**1.00**	**pCi/g**	**J**	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-934	F8B010143001	1	0.54	J	pCi/g
15-935	F8B010143002	1	0.77	J	pCi/g
15-936	F8B010143003	1	0.50	J	pCi/g
15-937	F8B010143004	1	0.60	J	pCi/g
15-938	F8B010143005	1	0.64	J	pCi/g
15-939	F8B010143006	1	0.47	J	pCi/g
15-940	F8B010143007	1	0.61	J	pCi/g
15-941	F8B010143008	1	0.61	J	pCi/g
15-942	F8B010143009	1	0.62	J	pCi/g
15-943	F8B010143010	1	0.45	J	pCi/g
15-944	F8B010143011	1	0.75	J	pCi/g
15-945	F8B010143012	1	0.78	J	pCi/g
15-946	F8B010143013	1	0.65	J	pCi/g
15-947	F8B010143014	1	0.69	J	pCi/g
15-948	F8B010143015	1	0.47	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8B010143
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 02/21/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8B200000091MB
Preparation Batch : 8051091

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.099	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: F8B010143 **Lab ID:** TestAme

			Field Sample				Field Sample Duplicate						
Analysis Method	**Matrix**	**Analyte Name**	**Client Sample ID**	**Ana Type**	**Result**	**Lab Qualifier**	**Client Sample Duplicate ID**	**Ana Type**	**Result**	**Lab Qualifiers**	**RPD Dup* (%)**	**RPD Criteria (%)**	**Result Units**
DOE GA-01	SO	ACTINIUM-228	15-932	RES	0.37	U	15-933	RES	0.34		200.0		pCi/g
	SO	THORIUM-232		RES	0.37	U		RES	0.34		200.0		pCi/g
DOE A-01-	SO	URANIUM-235/236	15-942	RES	0.044	U	15-943	RES	0.054	J	200.0		pCi/g

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: ***3210.015D - Alameda-IR Sites 1,2+32***

LDC #: 18450I35
SDG #: F8B010143
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

MG

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-30-08 through 1-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff. or both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	D = 29+30, D = 9+10, D = 19+20
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1 1	15-934	11 1	15-944	21 2	15-924	31 1	15-934DUP
2 1	15-935	12 1	15-945	22 2	15-925	32 2	15-924DUP
3 1	15-936	13 1	15-946	23 2	15-926	33 1	PBS1
4 1	15-937	14 1	15-947	24 2	15-927	34 2	PBS2
5 1	15-938	15 1	15-948	25 2	15-928	35	
6 1	15-939	16 1	15-949	26 2	15-929	36	
7 1	15-940	17 1	15-950	27 2	15-930	37	
8 1	15-941	18 1	15-951	28 2	15-931	38	
9 1	15-942	19 1	15-952	29 2	15-932	39	
10 1	15-943	20 1	15-953	30 2	15-933	40	

Notes:

LDC #: 18450I59
SDG #: F8B010143
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-0
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-30-08 through 1-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (high RPD are both N.D.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW N~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	D = 29+30, D=9+10, D=19+20
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-934	11 1	15-944	21 2	15-924	31 1	15-934DUP
2 1	15-935	12 1	15-945	22 2	15-925	32 2	15-949DUP
3 1	15-936	13 1	15-946	23 2	15-926	33 3	15-951DUP
4 1	15-937	14 1	15-947	24 2	15-927	34 1	PBS1
5 1	15-938	15 1	15-948	25 3	15-928	35 2	PBS2
6 1	15-939	16 2	15-949	26 2	15-929	36 3	PBS3
7 1	15-940	17 2	15-950	27 2	15-930	37	
8 1	15-941	18 3	15-951	28 2	15-931	38	
9 1	15-942	19 2	15-952	29 2	15-932	39	
10 1	15-943	20 2	15-953	30 2	15-933	40	

Notes:

LDC #: 18450I61
SDG #: F8B010143
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: 9

4m 3

METHOD: Strontium-90 (DOE SR-0~~2~~3-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-30-08 through 1-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~SW~~ N A	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	15-938	11		21		31	
2	15-948	12		22		32	
3	15-928	13		23		33	
4	15-938DUP	14		24		34	
5	PBS	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18450I73
SDG #: F8B010143
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 3-31-0
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1-30-08 through 1-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by diff.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	~~SW~~ A	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	D = 29+30, D = 9+10, D = 19+20
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: all soil

1 1	15-934	11 1	15-944	21 2	15-924	31 1	15-934DUP
2 1	15-935	12 1	15-945	22 2	15-925	32 2	15-949DUP
3 1	15-936	13 1	15-946	23 2	15-926	33 3	15-952DUP
4 1	15-937	14 1	15-947	24 2	15-927	34 1	PBS1
5 1	15-938	15 1	15-948	25 2	15-928	35 2	PBS2
6 1	15-939	16 2	15-949	26 2	15-929	36 3	PBS3
7 1	15-940	17 2	15-950	27 2	15-930	37	
8 1	15-941	18 2	15-951	28 2	15-931	38	
9 1	15-942	19 3	15-952	29 2	15-932	39	
10 1	15-943	20 3	15-953	30 2	15-933	40	

Notes:

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31635

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0029552 10173411
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: Test America STLS

LABORATORY ID (FOR LABORATORY): F8A080280

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-355	12/10/07	8:35	1	X		S	30DY		B-1IR-6Ba	0"	6"	Res
15-356	12/10/07	8:40	1	X		S	30DY	F8B120265*	B-1IR-6Bb	6"	12"	Res
15-357	12/10/07	8:55	2	X		W	30DY	Field Blank	EQUIP. RINSATE Field Blank			FB
15-358			0			TB						
15-359	12/10/07	9:10	1	X		S	30DY		1IR-6B-02a	0"	6"	Res
15-360	12/10/07	9:12	2	X		S	30DY		1IR-6B-02b	6"	12"	Res
15-361	12/10/07	9:20	1	X		S	30DY		1IR-6B-03a	0"	6"	Res
15-362	12/10/07	9:22	1	X		S	30DY		1IR-6B-03b	6"	12"	Res
15-363	12/10/07	9:27	1	X		S	30DY		1IR-6B-04a	0"	6"	Res
15-364	12/10/07	9:30	1	X		S	30DY		1R-6B-04b	6"	12"	Res

RELINQUISHED BY (Signature)	DATE 1/9/08	RECEIVED BY (Signature)
COMPANY TEC/Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: ~~30DY~~ + 21 DY INGROWTHS

COMPOSITE DESCRIPTION: * no 3 comp - 1-8 08 SV * RL 220 VOA 403.0 2-8-08 SV

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
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San Diego, CA 92101 (619) 234-8696

NUMBER 31657

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: TR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.06395.22 7017341
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

LABORATORY NAME: Testamerica (52)

LABORATORY ID (FOR LABORATORY): F8A080208

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	Eu152 Gamma	Thorium	Uranium	Ra226 DOE 5A-01/52-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-487	12/13/07	8:47	1	X		S	21DY	X	X	X			B-IIR-15a	2'	25'	Reg
15-488	12/13/07	8:50	2	X		S	21DY	X	X	X	X		B-IIR-15b	25'	3'	Reg
15-489	12/13/07	8:55	2	X		W	21DY	X	X	X		F8B120265 *	Equipment Rinsate			ER
15-490	12/13/07	8:57	1	X		S	21DY	X	X	X			IIR-15-02a	0"	6"	Reg
15-491	12/13/07	9:00	1	X		S	21DY	X	X	X			IIR-15-02b	6"	12"	Reg
15-492	12/13/07	9:03	1	X		S	21DY	X	X	X			B-IIR-16a	2'	25'	Reg
15-493	12/13/07	9:05	1	X		S	21DY	X	X	X			B-IIR-16b	25'	3'	Reg
15-494	—	—	VOID										VOID			
15-495	—	—	VOID										VOID			
15-496	12/13/07	9:08	1	X		S	21DY	X	X	X			IIR-16-02a	2'	25'	Reg

ANALYSES REQUIRED

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: * no 3 day - 1-8-08 (52) 30 DY + 21 DY Ingrowths	SAMPLING COMMENT: IR = Installation Restoration
COMPANY: Tt EC Irvine	TIME	COMPANY		
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * RA-226 via 903.0M 2-8-08 sudoku	
COMPANY	TIME	COMPANY		
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)	
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN	

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31649

ENTERED

PROJECT NAME: IR Sites 12, & 32	PURCHASE ORDER NO.: DE 106.0629552 (10173-41)
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.0257
SAMPLER NAME: V. Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 714 656 7500

ANALYSES REQUIRED

LABORATORY NAME: Testamerica ~~STL~~

LABORATORY ID (FOR LABORATORY): F8A080200

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-508	12-13-07	0801	2	X		S	21 DY		IIR18ABC-01a	0"	6"	Reg.
15-509	12-13-07	0806	1	X		S	21 DY		IIR18ABC-01b	6"	1'	Reg.
15-510	12-13-07	0519	2	X		W	21 DY	F8B120265 *	Equipment Rinsate	/	/	ER
15-511	12-13-07	0827	1	X		S	21 DY		IIR18ABC-02a	0"	6"	Reg.
15-512	12-13-07	0830	1	X		S	21 DY		IIR18ABC-02b	6"	1'	Reg.
15-513	12-13-07	0839	1	X		S	21 DY		IIR18ABC-03a	0"	6"	Reg.
15-514	12-13-07	0841	1	X		S	21 DY		IIR18ABC-03b	6"	1'	Reg.
15-515	12-13-07	0853	1	X		S	21 DY		IIR18ABC-04a	2'	2.6'	Reg.
15-516	12-13-07	0857	1	X		S	21 DY		IIR18ABC-05a	2'	2.6'	Reg.
15-517	12-13-07	0904	1	X		S	21 DY		IIR18ABC-05b	2.6'	3'	Reg.

RELINQUISHED BY (Signature)	DATE 12/14/07	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: ~~3~~ DY + 21 DY * no 3 days SL Ingrowths
COMPANY TTFC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * Ref ~226 VIW 903.0m 2-8-08 SL
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

NUMBER 31632

CHAIN-OF-CUSTODY RECORD

D1.29

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: ~~101734~~ 106.0629 552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: ~~Testamerica~~ STL

LABORATORY ID (FOR LABORATORY): FBA080230

Project Information Section Do not submit to Laboratory

10 1

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Gamma	Thorium	Ur Anium	90 Sr DOE Sr-01	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-338	12/7/07	9:18	2	X		S	21DY	X	X	X	X		1IR-4-09a	0"	6"	Reg
15-339	12/7/07	9:20	1	X		S	21DY	X	X	X			1IR-4-09b	6"	12"	Reg
15-340	12/7/07	9:25	1	X		S	21DY	X	X	X			1IR-4-10a	0"	6"	Reg
15-341	12/7/07	9:28	1	X		S	21DY	X	X	X			1IR-4-10b	6"	12"	Reg
15-342	12/7/07	10:58	1	X		S	21DY	X	X	X			B-1IR-5ABa	0"	6	Reg
15-343	12/7/07	11:00	1	X		S	21DY	X	X	X			B-1IR-5ABb	6"	12"	Reg
15-344	12/7/07	11:10	2	X		W	21DY	X	X	X		FBB120657	Field Blank			FB
15-345	12/7/07	13:05	1	X		S	21DY	X	X	X			B-1IR-6Aa	0"	6"	Reg
15-346	12/7/07	13:07	1	X		S	21DY	X	X	X			B-1IR-6Ab	6"	12"	Reg
15-347	12/7/07	13:10	1	X		S	21DY	X	X	X			1IR-6A-02a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)
COMPANY TtSC/Fed Ex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

~~3 DY~~ + 21 DY INGROWTHS

COMPOSITE DESCRIPTION

no 3-day - 1-8-08 SL

* Ra-226 via 903.0M 2-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605909R

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31626

1-29 ENTHERE'D

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0029552 +017341
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowski	PROJECT CONTACT PHONE NUMBER: 949-756-7500

ANALYSES REQUIRED

LABORATORY NAME: STL Testamerica

LABORATORY ID (FOR LABORATORY): FBA080239

Project Information Section Do not submit to Laboratory

10 ℓ

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Thorium	Uranium	228 DOE SR-01/31-02 SR	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-294	12/6/07	8:35	1	X		S	21 Dy	X	X	X			B-1IR-B-1AB	4.0'	4.5'	Reg
15-295	12/6/07	8:42	1	X		S	21 Dy	X	X	X			B-1IR-B-1AB	4.5'	5.0'	Reg
15-296	12/6/07	8:55	2	X		W	21 Dy	X	X	X		FBB120265#	Field Blank	/	/	FB Reg
15-299	12/6/07	9:42	1	X		S	21 Dy	X	X	X			B-1IR-B-3CD	3.0'	3.5'	Reg
15-300	12/6/07	9:45	1	X		S	21 Dy	X	X	X			B-1IR-B3CDb	3.5'	4.0'	Reg
15-301	12/6/07	9:57	1	X		S	21 Dy	X	X	X			1IR-3-02a	0"	6"	Reg
15-302	12/6/07	10:00	1	X		S	21 Dy	X	X	X		OK Dis tonight	1IR-3-02b	6"	12"	Reg
15-303	12/6/07	10:07	1	X		S	21 Dy	X	X	X			1IR-3-03a	0"	6"	Reg
15-304	12/6/07	10:10	1	X		S	21 Dy	X	X	X			1IR-3-03b	6"	12"	Reg
15-305	12/6/07	10:15	1	X		S	21 Dy	X	X	X			1IR-3-04a	0"	6"	Reg

RELINQUISHED BY (Signature)	DATE 1/7/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 35d + 21 dy Ingrowths
COMPANY: TT / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION: * 3M0-3days 1-8-08 SL Ra-226 Vial * 903.0M 2-8-08 SL
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31664

ENTERED

PROJECT NAME: IR sites 1,2 & 32	PURCHASE ORDER NO. RCC-C429552 ~~1017341~~
PROJECT LOCATION: Alameda, CA	PROJECT NO. 3210, 028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: Lisa Bienkowskie	PROJECT CONTACT PHONE NUMBER: 949 756 7500

ANALYSES REQUIRED: EPA 901.1/M gamma*; Thorium; Uranium; 90 SR 01/SR02

LABORATORY NAME: Testamerica ~~StL~~
LABORATORY ID (FOR LABORATORY): FBA090153

Project Information Section — Do not submit to Laboratory
10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1/M gamma	Thorium	Uranium	90 SR 01/SR02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-550	12 13 07	0834	1	X		S	3DAY 21	X	X	X			B-1IR-21a	2.0'	2.5'	Reg
15-551	12 13 07	0840	1	X		S	3DAY 21	X	X	X			B-1IR-21b	2.5'	3.0'	Reg
15-552	12 13 07	0832	2	X		W	3DAY 21	X	X	X		F8B120265X	Equip. Rinse			ER
15-553	12 13 07	0855	1	X		S	3DAY 21	X	X	X			1IR-21-02a	2.0'	2.5'	Reg
15-554	12 13 07	0900	1	X		S	3DAY 21	X	X	X			1IR-21-02b	2.5'	3.0'	Reg
15-555	12 13 07	0905	1	X		S	3DAY 21	X	X	X			1IR-21-03a	2.0'	2.5'	Reg
15-556	12 13 07	0908	1	X		S	3DAY 21	X	X	X			1IR-21-03b	2.5'	3.0'	Reg
15-557	12 13 07	0913	1	X		S	3DAY 21	X	X	X			1IR-21-04a	2.0'	2.5'	Reg
15-558	12 13 07	0916	2	X		S	3DAY 21	X	X	X	X		1IR-21-04b	2.5'	3.0'	Reg
15-559	12 13 07	0924	1	X		S	3DAY 21	X	X	X			1IR-21-05a	0"	0.6"	Reg

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/8/08	
COMPANY: TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: * ~~21~~ 3-day 1-8-08 SC
3 Dy + 21 Dy Ingrowth SC

COMPOSITE DESCRIPTION: * Ra-226 via 903.0m - 2-8-08 SC

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25725

ENTERED

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO: 106.6295 52
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7918 3588 2414
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 m Gamma	Isotopic Thorium	Isotopics Uranium	Ra-226 DOE Sr-01/Sr-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-781	12-14-07	10:28	2	X		W	21 DY	X	X	X		FSB120265X	Equipment Rinsate	N/A	N/A	N
15-782	12-14-07	11:03	1	X		S	21 DY	X	X	X			B2IR-278a	2'	2.5'	N
15-783	12-14-07	11:06	1	X		S	21 DY	X	X	X			B2IR-278b	2.5'	3'	N
15-784	12-14-07	11:24	1	X		S	21 DY	X	X	X			2IR-278-01a	0"	6"	N
15-785	12-14-07	11:26	1	X		S	21 DY	X	X	X			2IR-278-01b	6"	12"	N
15-786	12-14-07	11:32	1	X		S	21 DY	X	X	X			2IR-278-02a	0"	6"	N
15-787	12-14-07	11:35	1	X		S	21 DY	X	X	X			2IR-278-02b	6"	12"	N
15-788	12-14-07	12:51	2	X		S	21 DY	X	X	X	X		2IR-278-03a	0"	6"	N
15-789	12-14-07	12:53	1	X		S	21 DY	X	X	X			2IR-278-03b	6"	12"	N
15-790	12-14-07	12:59	1	X		S	21 DY	X	X	X			2IR-278-04a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 1/21/08	RECEIVED BY (Signature)	
COMPANY T+E/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA22012T

Project Information Section Do not submit to Laboratory

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTHS

COMPOSITE DESCRIPTION: * Ra-226 via 903.0M . 2-8-08 SL

SAMPLING COMMENT: IR= Installation Restoration

SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25730

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO: 106.679552
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7992 5864 1241
PROJECT CONTACT: S Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

	EPA 901.1m Gamma	ISOTOPIC Thorium	ISOTOPIC URANIUM	90 SR DOE SR 01/SR02
15-818	X	X	X	X
15-819	X	X	X	
15-820	X	X	X	
15-821	X	X	X	
15-822	X	X	X	
15-823	X	X	X	
15-824	X	X	X	
15-825	X	X	X	
15-826	X	X	X	
15-827	X	X	X	

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): F8A220133

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-818	12.17.07	1234	1	X		S	21 DY		B2IR-341a	1'	1.5'	N
15-819	12.17.07	1236	1	X		S	21 DY		B2IR-341b	1.5'	2'	N
15-820	12.17.07	1242	2	X		W	21 DY	F8B120265*	Equipment Rinsate	N/A	N/A	N
15-821	12.17.07	1255	1	X		S	21 DY		B2IR-342a	1'	1.5'	N
15-822	12.17.07	1257	1	X		S	21 DY		B2IR-342b	1.5'	2'	N
15-823	12.17.07	1300	1	X		S	21 DY		2IR-342-01a	0"	6"	N
15-824	12.17.07	1302	1	X		S	21 DY		2IR-342-01b	6"	12"	N
15-825	12.17.07	1305	1	X		S	21 DY		2IR-342-02a	0"	6"	N
15-826	12.17.07	1307	1	X		S	21 DY		2IR-342-02b	6"	12"	N
15-827	12.17.07	1311	1	X		S	21 DY		2IR-342-03a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 12/21/07	RECEIVED BY (Signature)	
COMPANY ITEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaths

COMPOSITE DESCRIPTION: * Ra-226 via 903.0 Method 2-8-08 S

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25726

CHAIN-OF-CUSTODY RECORD

D2-18

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO: 1000.0295552
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7918 3588 2403
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA220112

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	Ra 228 SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-865	12-19-07	8:45	1	X		S	21 DY	X	X	X			B2IR-344a	2'	2.5'	N
15-866	12-19-07	8:47	1	X		S	21 DY	X	X	X			B2IR-344b	2.5'	3'	N
15-867	12-19-07	8:58	2	X		W	21 DY	X	X	X		FBA220245X	Equipment Rinsate	N/A	N/A	N
15-868	12-19-07	9:46	2	X		S	21 DY	X	X	X	X		B2IR-348a	2'	2.5'	N
15-869	12-19-07	9:49	1	X		S	21 DY	X	X	X			B2IR-348b	2.5'	3'	N
15-870	12-19-07	10:14	1	X		S	21 DY	X	X	X			B2IR-349a	2'	2.5'	N
15-871	12-19-07	10:17	1	X		S	21 DY	X	X	X			B2IR-349b	2.5'	3'	N
15-872	12-19-07	10:34	1	X		S	21 DY	X	X	X			2IR-349-01a	0"	6"	N
15-873	12-19-07	10:36	1	X		S	21 DY	X	X	X			2IR-349-01b	6"	12"	N
15-874	12-19-07	10:40	1	X		S	21 DY	X	X	X			2IR-349-02a	0"	6"	N

RELINQUISHED BY (Signature)	DATE 12/21/07	RECEIVED BY (Signature)	
COMPANY TtE Fed Ex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNAROUNDS

COMPOSITE DESCRIPTION: + Ra-226 via 903.0M 28-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1605932.2

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25746

ENTERED

PROJECT NAME	PURCHASE ORDER NO	LABORATORY NAME
IR sites 1,2 & 32	106.629552	TestAmerica

PROJECT LOCATION	PROJECT NO
Alameda CA	3210-028D

SAMPLER NAME	AIRBILL NUMBER
V Richards	7914 8334 1488

PROJECT CONTACT	PROJECT CONTACT PHONE NUMBER	LABORATORY ID (FOR LABORATORY)
S. Sudoko	949-756-7545	F8A240117

ANALYSES REQUIRED: EPA 901.1M Gamma; Isotopic Thorium; Isotopic Uranium; 90Sr DOE SR-01/SR-02

Project Information Section — Do not submit to Laboratory 10

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Isotopic Thorium	Isotopic Uranium	90Sr DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-740	12.14.07	10:50	1	X		S	21 DY	X	X	X			B-2IR-188a	2'	2.5'	N
15-741	12.14.07	10:52	1	X		S	21 DY	X	X	X			B-2IR-188b	2.5'	3'	N
15-742	12.14.07	11:12	2	X		W	21 DY	X	X	X		F8B120265*	EQUIPMENT RINSATE	N/A	N/A	N
15-743	12.14.07	11:18	1	X		S	21 DY	X	X	X			B-2IR-190a	2'	2.5'	N
15-744	12.14.07	11:19	1	X		S	21 DY	X	X	X			B-2IR-190b	2.5'	3'	N
15-745	12.14.07	11:35	1	X		S	21 DY	X	X	X			B-2IR-200a	2'	2.5'	N
15-746	12.14.07	11:38	1	X		S	21 DY	X	X	X			B-2IR-200b	2.5'	3'	N
15-747	12.14.07	12:40	1	X		S	21 DY	X	X	X			2IR-200-01a	0"	6"	N
15-748	12.14.07	12:42	2	X		S	21 DY	X	X	X	X		2IR-200-01b	6"	12"	N
15-749	12.14.07	13:00	1	X		S	21 DY	X	X	X			2IR-200-02a	0"	6"	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/23/08	
COMPANY: TtEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowths

COMPOSITE DESCRIPTION: * Ra-226 via 903.0M 2-8-08 SL

SAMPLING COMMENT: IR = Installation Restoration

✓

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

11-069227

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25755

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER:
PROJECT CONTACT: S. Sudko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1M Gamma Isotopic; Thorium Isotopic; Uranium

LABORATORY NAME: TESTAMERICA

LABORATORY ID (FOR LABORATORY): FBA250253

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-678	12.14.07	16:40	2	X		W	21 DY	FBB120265*	Equipment Rinsate	N/A	N/A	N
15-679	12.14.07	10:48	1	X		S	21 DY		2IR-11A-01a	2'	2.5'	N
15-680	12.14.07	10:50	1	X		S	21 DY		2IR-11A-01b	2.5'	3'	N
15-681	12.14.07	10:56	1	X		S	21 DY		2IR-11A-02a	2'	2.5'	N
15-682	12.14.07	10:58	1	X		S	21 DY		2IR-11A-02b	2.5'	3'	N
15-683	12.14.07	11:08	1	X		S	21 DY		B-2IR-11Ba	2'	2.5'	N
15-684	12.14.07	11:10	1	X		S	21 DY		B-2IR-11Bb	2.5'	3'	N
15-685	12.14.07	11:15	1	X		S	21 DY		2IR-11B-01a	2'	2.5'	N
15-686	12.14.07	11:17	1	X		S	21 DY		2IR-11B-01b	2.5'	3'	N
15-687	12.14.07	11:25	1	X		S	21 DY		2IR-11B-02a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 12/24/08	RECEIVED BY (Signature)	
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowths

COMPOSITE DESCRIPTION: * RA-226 via 903.0M 2-8-08 SL

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = INSTALLation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1L0459128

TETRATECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25741

ENTERED

D 2-14

PROJECT NAME	PURCHASE ORDER NO	LABORATORY NAME	Project Information Section Do not submit to Laboratory
IR sites 1, 2 & 32	106.6029552	TestAmerica	
PROJECT LOCATION: Alameda CA	PROJECT NO: 3310.028D		
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7914 8334 1488	LABORATORY ID (FOR LABORATORY): F8A260106	10
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545		

ANALYSES REQUIRED: (1) EPA 901.1m Gamma; (2) Isotopic Thorium; (3) Isotopic Uranium; (4) DOE SR-11/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	DOE SR-11/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-909	1.22.08	12:56	1	X		S	21 DY	X	X	X			B.32IR-113a	2'	2.5'	N
15-910	1.22.08	12:58	1	X		S	21 DY	X	X	X			B.32IR-113b	2.5'	3'	N
15-911	1.22.08	13:05	2	X		W	21 DY	X	X	X		F8B120265 *	Equipment Rinsate	N/A	N/A	N
15-912	1.22.08	13:15	1	X		S	21 DY	X	X	X			B.32IR-114a	2'	2.5'	N
15-913	1.22.08	13:17	1	X		S	21 DY	X	X	X			B.32IR.114b	2.5'	3'	N
15-914	1.22.08	13:28	1	X		S	21 DY	X	X	X			B.32IR.108a	2'	2.5'	N
15-915	1.22.08	13:30	1	X		S	21 DY	X	X	X			B.32IR-108b	2.5'	3'	N
15-916	1.22.08	13:35	1	X		S	21 DY	X	X	X			B.32IR-109a	2'	2.5'	N
15-917	1.22.08	13:37	1	X		S	21 DY	X	X	X			B.32IR-109b	2.5'	3'	N
15-918	1.22.08	13:56	2	X		S	21 DY	X	X	X	X		B.32IR-1a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	1/23/08	
COMPANY: TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowths

COMPOSITE DESCRIPTION: Ra-226 via 903.0M - 2-8-08 SV

SAMPLING COMMENT: IR= Installation Restoration

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SV

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

1t059330

Tetra Tech EC, Inc.

Client Sample ID: 15-489

Radiochemistry

Lab Sample ID: F8B120265-001
Work Order: KG085
Matrix: WATER

Date Collected: 12/13/07 0855
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 8044075	Yld % 105
Radium (226)	0.0	U	0.078	1.00	0.16	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

ld results are greater than the MDC

Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-510

Radiochemistry

Lab Sample ID: F8B120265-002
Work Order: KG09C
Matrix: WATER

Date Collected: 12/13/07 0819
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**		**Batch # 8044075**	**Yld % 106**
Radium (226)	0.014	U	0.088	1.00	0.17	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-357

Radiochemistry

Lab Sample ID: F8B120265-003
Work Order: KG09E
Matrix: WATER

Date Collected: 12/13/07 0840
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8044075**		**Yld % 109**
Radium (226)	0.016	U	0.072	1.00	0.14	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-344

Radiochemistry

Lab Sample ID: F8B120265-004
Work Order: KG09F
Matrix: WATER

Date Collected: 12/07/07 1110
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8044075**		**Yld % 104**
Radium (226)	-0.01	U	0.066	1.00	0.14	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-296

Radiochemistry

Lab Sample ID: F8B120265-005
Work Order: KG09H
Matrix: WATER

Date Collected: 12/06/07 0855
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L	Batch # 8044075		Yld % 105
Radium (226)	0.042	U	0.074	1.00	0.13	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-552

Radiochemistry

Lab Sample ID: F8B120265-006
Work Order: KG09J
Matrix: WATER

Date Collected: 12/13/07 0852
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 c+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8044075**		**Yld % 77**
Radium (226)	0.08	U	0.11	1.00	0.19	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-781

Radiochemistry

Lab Sample ID: F8B120265-008
Work Order: KG09N
Matrix: WATER

Date Collected: 12/14/07 1028
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 8044075	Yld % 109
Radium (226)	-0.002	U	0.087	1.00	0.17	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-820

Radiochemistry

Lab Sample ID: F8B120265-009
Work Order: KG09P
Matrix: WATER

Date Collected: 12/17/07 1242
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**		**Batch # 8044075**	**Yld % 110**
Radium (226)	0.053	U	0.093	1.00	0.16	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

ld results are greater than the MDC

Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-867

Radiochemistry

Lab Sample ID: F8B120265-010
Work Order: KG09R
Matrix: WATER

Date Collected: 12/19/07 0858
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8044075**		**Yld % 105**
Radium (226)	0.04	U	0.10	1.00	0.18	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

old results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-742

Radiochemistry

Lab Sample ID: F8B120265-011
Work Order: KG09T
Matrix: WATER

Date Collected: 12/14/07 1112
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 c+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 8044075	Yld % 110
Radium (226)	0.065	U	0.086	1.00	0.14	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-678

Radiochemistry

Lab Sample ID: F8B120265-012
Work Order: XG09X
Matrix: WATER

Date Collected: 12/14/07 1040
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				**pCi/L**		**Batch # 8044075**	**Yld % 110**
Radium (226)	-0.023	U	0.071	1.00	0.16	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-911

Radiochemistry

Lab Sample ID: F8B120265-013
Work Order: KG093
Matrix: WATER

Date Collected: 01/22/08 1305
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 8044075	Yld % 110
Radium (226)	0.051	U	0.091	1.00	0.16	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

ld results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-923

Radiochemistry

Lab Sample ID: F8B120265-014
Work Order: KG094
Matrix: WATER

Date Collected: 01/29/07 1330
Date Received: 02/12/08 0900

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD				pCi/L	Batch # 8044075		Yld % 63
Radium (226)	0.27	U	0.19	1.00	0.27	02/13/08	03/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

U Result is less than the sample detection limit.

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Dec-2007	15-296	F8B120265005	FB	Gen Prep	903.0 Mod	3
07-Dec-2007	15-344	F8B120265004	FB	Gen Prep	903.0 Mod	3
13-Dec-2007	15-489	F8B120265001	EB	Gen Prep	903.0 Mod	3
13-Dec-2007	15-510	F8B120265002	EB	Gen Prep	903.0 Mod	3
13-Dec-2007	15-357	F8B120265003	EB	Gen Prep	903.0 Mod	3
13-Dec-2007	15-552	F8B120265006	EB	Gen Prep	903.0 Mod	3
14-Dec-2007	15-781	F8B120265008	EB	Gen Prep	903.0 Mod	3
14-Dec-2007	15-742	F8B120265011	EB	Gen Prep	903.0 Mod	3
14-Dec-2007	15-678	F8B120265012	EB	Gen Prep	903.0 Mod	3
17-Dec-2007	15-820	F8B120265009	EB	Gen Prep	903.0 Mod	3
19-Dec-2007	15-867	F8B120265010	EB	Gen Prep	903.0 Mod	3
22-Jan-2008	15-911	F8B120265013	EB	Gen Prep	903.0 Mod	3
29-Jan-2008	15-923	F8B120265014	N	Gen Prep	903.0 Mod	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code

SDG: F8B120265

No Qualified Results

N = Normal Sample *TB = Trip Blank*

FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8B120265

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Attachment IV

Field Blank Summary

All Field QC were reported as ND

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

F8B120265

(No Outlier Reports)

LDC #: 18490F29 **VALIDATION COMPLETENESS WORKSHEET** Date: 4-2-08
SDG #: F8B120265 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: ✓

Radium-226 EPA 903.0 Mod

METHOD: ~~Total~~ Radium (~~DOE-GA-01-R MOD~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 12-6-07 through 1-29-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	No Dup
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A ~~N~~	(40-110)
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, * FB = 4, 5

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all water

1	15-489	11	15-678	21		31	
2	15-510	12	15-911	22		32	
3	15-357	13	15-923	23		33	
4	15-344	14	PBW	24		34	
5	15-296	15		25		35	
6	15-552	16		26		36	
7	15-781	17		27		37	
8	15-820	18		28		38	
9	15-867	19		29		39	
10	15-742	20		30		40	

Notes: * No extended C.O.C. for # 13 (#13 is N.D. also)

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31492

ENTERED

PROJECT NAME: IR Sites 1, 2 & 32	PURCHASE ORDER NO.: 106.429552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.C28D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7998 4078 4447
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949.756.7545

LABORATORY NAME: TEST America

LABORATORY ID (FOR LABORATORY): F8D220236

Project Information Section Do not submit to Laboratory

39

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 Gamma	Isotopic Uranium	Isotopic Thorium	Sr90 SR-01/SR-03	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-954	3.27.08	8:52	1	X		S	21 DY	X	X	X			B-32IR-3a	2'	2.5'	N
15-955	3.27.08	8:54	1	X		S	21 DY	X	X	X			B-32IR-3b	2.5'	3'	N
15-956	3.27.08	9:05	2	X		W	21 DY	X	X	X	X*	* Added 4-22-08 SR	Equipment Rinsate	N/A	N/A	N
15-957	3.27.08	9:10	1	X		S	21 DY	X	X	X			B-32IR-4Aa	2'	2.5'	N
15-958	3.27.08	9:12	2	X		S	21 DY	X	X	X	X		B-32IR-4Ab	2.5'	3'	N
15-959	3.27.08	9:20	1	X		S	21 DY	X	X	X			B-32IR-4Ba	2'	2.5'	N
15-960	3.27.08	9:23	1	X		S	21 DY	X	X	X			B-32IR-4Bb	2.5'	3'	N
15-961	3.27.08	9:41	1	X		S	21 DY	X	X	X			B-32IR-7a	2'	2.5'	N
15-962	3.27.08	9:44	1	X		S	21 DY	X	X	X			B-32IR-7b	2.5'	3'	N
15-963	3.27.08	10:00	1	X		S	21 DY	X	X	X			B-32IR-36a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	
COMPANY Tetra Tech	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowth

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31493

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.029552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210-078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7998 4078 4447
PROJECT CONTACT: S. Suduko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: test America

LABORATORY ID (FOR LABORATORY): F8D220236

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 9056 Gamma	Isotropic Thorium	Isotopic Uranium	SR90 DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-964	3.27.08	10:04	1	X		S	21 DY	X	X	X			B-32IR-36b	2.5'	3'	N
15-965	3.27.08	10:08	1	X		S	21 DY	X	X	X			B-32IR-37a	2'	2.5'	N
15-966	3.27.08	10:12	1	X		S	21 DY	X	X	X			B-32IR-37b	2.5'	3'	N
15-967	3.27.08	10:17	1	X		S	21 DY	X	X	X			B-32IR-41a	2'	2.5'	N
15-968	3.27.08	10:20	2	X		S	21 DY	X	X	X	X		B-32IR-41b	2.5'	3'	N
15-969	3.27.08	10:21	1	X		S	21 DY	X	X	X			B-32IR-43a	2'	2.5'	N
15-970	3.27.08	10:24	1	X		S	21 DY	X	X	X			B-32IR-43b	2.5'	3'	N
15-971	3.27.08	10:50	1	X		S	21 DY	X	X	X			B-32IR-47a	2'	2.5'	N
15-972	3.27.08	10:53	1	X		S	21 DY	X	X	X			B-32IR-47b	2.5'	3'	N
15-973	3.27.08	11:00	1	X		S	21 DY	X	X	X			32IR-48	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/2/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Inorganics
COMPANY TTEC/Tetra Tech	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31495

ENTERED

PROJECT NAME: IR sites 1, 2 3 23	PURCHASE ORDER NO.: 106.6795552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7926 8662 4290
PROJECT CONTACT: S. Sudeko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): FBO220236

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 6010M GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	SR90 DOE SR-01 ISR-03					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-974	3.27.08	11:10	1	X		S	21 DY	X	X	X							32IR-50	2'	2.5'	N
15-975	3.27.08	11:17	1	X		S	21 DY	X	X	X							32IR-51	2'	2.5'	N
15-976	3.27.08	11:23	1	X		S	21 DY	X	X	X							B-32IR-54a	2'	2.5'	N
15-977	3.27.08	11:25	1	X		S	21 DY	X	X	X							B-32IR-54b	2.5'	3'	N
15-978	3.27.08	12:58	2	X		S	21 DY	X	X	X	X						B-32IR-56a	2'	2.5'	N
15-979	3.27.08	13:01	1	X		S	21 DY	X	X	X							B-32IR-56b	2.5'	3'	N
15-980	3.27.08	13:19	1	X		S	21 DY	X	X	X							B-32IR-60a	2'	2.5'	N
15-981	3.27.08	13:23	1	X		S	21 DY	X	X	X							B-32IR-60b	2.5'	3'	N
15-982	3.27.08	13:30	1	X		S	21 DY	X	X	X							B-32IR-61a	2'	2.5'	N
15-983	3.27.08	13:33	1	X		S	21 DY	X	X	X							B-32IR-61b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 3/31/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowth
COMPANY TR / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31496

ENTERED

PROJECT NAME: JR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.679552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7926 8462 4290
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): FBD 220236

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	SR90 DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-954	3.27.08	13:39	1	X		S	21 DY	X	X	X			B-32IR-62a	2'	2.5'	N
15-955	3.27.08	13:43	1	X		S	21 DY	X	X	X			B-32IR-62b	2.5'	3'	N
15-956	3.27.08	13:48	1	X		S	21 DY	X	X	X			B-32IR-63a	2'	2.5'	N
15-957	3.27.08	13:51	1	X		S	21 DY	X	X	X			B-32IR-63b	2.5'	3'	N
15-958	3.27.08	13:54	2	X		S	21 DY	X	X	X	X		B-32IR-65a	2'	2.5'	N
15-959	3.27.08	14:00	1	X		S	21 DY	X	X	X			B-32IR-65b	2.5'	3'	N
15-990	3.27.08	14:07	1	X		S	21 DY	X	X	X			32IR-66	2'	2.5'	N
15-991	3.27.08	14:15	1	X		S	21 DY	X	X	X			B-32IR-67a	2'	2.5'	N
15-992	3.27.08	14:17	1	X		S	21 DY	X	X	X			B-32IR-67b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	
COMPANY Tetra Tech	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = INSTALLATION RESTORATION

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-954

Radiochemistry

Lab Sample ID: F8D220236-001
Work Order: KLQX0
Matrix: SOLID

Date Collected: 03/27/08 0852
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116257**		**Yld %**
Actinium 228	0.23		0.15		0.18	04/25/08	05/18/08
Americium 241	0.073	U	0.087		0.14	04/25/08	05/18/08
Cesium 137	-0.007	U	0.076	0.200	0.10	04/25/08	05/18/08
Cobalt 60	0.0	U	0.070		0.13	04/25/08	05/18/08
Europium 152	0.0	U	0.10		0.19	04/25/08	05/18/08
Europium 154	0.0	U	0.43		0.81	04/25/08	05/18/08
Potassium 40	7.6		1.5		0.5	04/25/08	05/18/08
Radium (226)	0.34	J	0.13	1.00	0.15	04/25/08	05/18/08
Thorium 232	0.23		0.15		0.18	04/25/08	05/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117091**		**Yld % 85**
Thorium 228	0.48	J	0.15	1.00	0.08	04/26/08	05/01/08
Thorium 230	0.66	J	0.18	1.00	0.06	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117093**		**Yld % 84**
Uranium 233/234	0.53	J	0.16	1.00	0.05	04/26/08	05/05/08
Uranium 235/236	0.013	U	0.026	1.00	0.036	04/26/08	05/05/08
Uranium 238	0.40	J	0.14	1.00	0.06	04/26/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-954 DUP

Radiochemistry

Lab Sample ID: F8D220236-001X
Work Order: KLQX0
Matrix: SOLID

Date Collected: 03/27/08 0852
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	-0.03	U	0.19		0.36	04/25/08	05/18/08
Americium 241	0.0004	U	0.084		0.15	04/25/08	05/18/08
Cesium 137	-0.002	U	0.042	0.200	0.081	04/25/08	05/18/08
Cobalt 60	0.009	U	0.055		0.10	04/25/08	05/18/08
Europium 152	0.0	U	0.069		0.14	04/25/08	05/18/08
Europium 154	-0.08	U	0.48		0.87	04/25/08	05/18/08
Potassium 40	8.3		1.6		0.6	04/25/08	05/18/08
Radium (226)	0.29	J	0.10	1.00	0.11	04/25/08	05/18/08
Thorium 232	-0.03	U	0.19		0.36	04/25/08	05/18/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117091		Yld % 80
Thorium 228	0.36	J	0.14	1.00	0.10	04/26/08	05/03/08
Thorium 230	0.53	J	0.16	1.00	0.07	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 81
Uranium 233/234	0.35	J	0.13	1.00	0.05	04/26/08	05/05/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/26/08	05/05/08
Uranium 238	0.43	J	0.14	1.00	0.05	04/26/08	05/05/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-955

Radiochemistry

Lab Sample ID: F8D220236-002
Work Order: KLQX8
Matrix: SOLID

Date Collected: 03/27/08 0854
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8116257**	**Yld %**
Actinium 228	0.42		0.16		0.25	04/25/08	05/16/08
Americium 241	-0.016	U	0.082		0.14	04/25/08	05/16/08
Cesium 137	0.058	J	0.036	0.200	0.046	04/25/08	05/16/08
Cobalt 60	0.008	U	0.032		0.064	04/25/08	05/16/08
Europium 152	0.0	U	0.13		0.23	04/25/08	05/16/08
Europium 154	0.0	U	0.16		0.35	04/25/08	05/16/08
Potassium 40	6.9		1.3		0.6	04/25/08	05/16/08
Radium (226)	0.28	J	0.11	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.42		0.16		0.25	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8117093**	**Yld % 85**
Uranium 233/234	0.49	J	0.15	1.00	0.05	04/26/08	05/01/08
Uranium 235/236	0.025	U	0.040	1.00	0.059	04/26/08	05/01/08
Uranium 238	0.53	J	0.16	1.00	0.05	04/26/08	05/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8128307**	**Yld % 85**
Thorium 228	0.31	J	0.12	1.00	0.07	05/07/08	05/11/08
Thorium 230	0.56	J	0.16	1.00	0.03	05/07/08	05/11/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-955 DUP

Radiochemistry

Lab Sample ID: F8D220236-002X
Work Order: KLOX8
Matrix: SOLID

Date Collected: 03/27/08 0854
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8128307		Yld % 95
Thorium 228	0.35	J	0.12	1.00	0.07	05/07/08	05/11/08
Thorium 230	0.48	J	0.14	1.00	0.03	05/07/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-956

Radiochemistry

Lab Sample ID: F8D220236-003
Work Order: KLQX9
Matrix: WATER

Date Collected: 03/27/08 0905
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/L**	**Batch # 8114124**		**Yld % 66**
Strontium 90	-0.31	U	0.78	3.00	1.4	04/23/08	05/01/08
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8115554**		**Yld %**
Actinium 228	4	U	20		38	04/24/08	04/25/08
Americium 241	6	U	10		17	04/24/08	04/25/08
Cesium 137	0.0	U	7.7	20.0	15	04/24/08	04/25/08
Cobalt 60	0.0	U	2.4		8.7	04/24/08	04/25/08
Europium 152	-0.3	U	15		29	04/24/08	04/25/08
Europium 154	11	U	57		110	04/24/08	04/25/08
Potassium 40	50	U	110		200	04/24/08	04/25/08
Thorium 232	4	U	20		38	04/24/08	04/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8115379**		**Yld % 37**
Thorium 228	-0.03	U	0.12	1.00	0.37	05/02/08	05/05/08
Thorium 230	**0.28**	**J**	0.25	1.00	**0.27**	**05/02/08**	**05/05/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8115380**		**Yld % 77**
Uranium 233/234	0.020	U	0.051	1.00	0.11	05/02/08	05/05/08
Uranium 235/236	0.025	U	0.063	1.00	0.13	05/02/08	05/05/08
Uranium 238	0.070	U	0.086	1.00	0.11	05/02/08	05/05/08
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8114195**		**Yld % 108**
Radium (226)	-0.01	U	0.19	1.00	0.38	04/23/08	05/15/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-956 DUP

Radiochemistry

Lab Sample ID: F8D220236-003X
Work Order: KLQX9
Matrix: WATER

Date Collected: 03/27/08 0905
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD			**pCi/L**		**Batch # 8115554**		**Yld %**
Actinium 228	8	U	27		49	04/24/08	04/25/08
Americium 241	-2	U	31		54	04/24/08	04/25/08
Cesium 137	2.6	U	7.5	20.0	14	04/24/08	04/25/08
Cobalt 60	1.0	U	7.5		15	04/24/08	04/25/08
Europium 152	8	U	19		33	04/24/08	04/25/08
Europium 154	1	U	47		93	04/24/08	04/25/08
Potassium 40	70	U	70		99	04/24/08	04/25/08
Thorium 232	8	U	27		49	04/24/08	04/25/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-957

Radiochemistry

Lab Sample ID: F8D220236-004
Work Order: KLQ0D
Matrix: SOLID

Date Collected: 03/27/08 0910
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.39		0.13		0.18	04/25/08	05/16/08
Americium 241	0.024	U	0.083		0.14	04/25/08	05/16/08
Cesium 137	0.0007	U	0.030	0.200	0.057	04/25/08	05/16/08
Cobalt 60	0.0	U	0.0078		0.029	04/25/08	05/16/08
Europium 152	-0.020	U	0.087		0.15	04/25/08	05/16/08
Europium 154	-0.007	U	0.28		0.52	04/25/08	05/16/08
Potassium 40	8.3		1.2		0.3	04/25/08	05/16/08
Radium (226)	0.36	J	0.11	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.39		0.13		0.18	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 70
Thorium 228	0.46	J	0.15	1.00	0.08	04/26/08	05/01/08
Thorium 230	0.56	J	0.16	1.00	0.05	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 68
Uranium 233/234	0.53	J	0.16	1.00	0.06	04/26/08	05/01/08
Uranium 235/236	0.040	J	0.047	1.00	0.036	04/26/08	05/01/08
Uranium 238	0.44	J	0.14	1.00	0.05	04/26/08	05/01/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-958

Radiochemistry

Lab Sample ID: F8D220236-005
Work Order: KLQ0N
Matrix: SOLID

Date Collected: 03/27/08 0912
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.49		0.21		0.20	04/25/08	05/16/08
Americium 241	0.018	U	0.074		0.13	04/25/08	05/16/08
Cesium 137	0.034	U	0.052	0.200	0.087	04/25/08	05/16/08
Cobalt 60	0.0	U	0.079		0.15	04/25/08	05/16/08
Europium 152	0.0003	U	0.12		0.22	04/25/08	05/16/08
Europium 154	0.22	U	0.38		0.64	04/25/08	05/16/08
Potassium 40	10.1		1.9		0.6	04/25/08	05/16/08
Radium (226)	0.61	J	0.15	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.49		0.21		0.20	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 84
Thorium 228	0.49	J	0.15	1.00	0.07	04/26/08	05/01/08
Thorium 230	0.48	J	0.15	1.00	0.06	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 85
Uranium 233/234	0.53	J	0.16	1.00	0.06	04/26/08	05/01/08
Uranium 235/236	0.026	U	0.037	1.00	0.036	04/26/08	05/01/08
Uranium 238	0.46	J	0.15	1.00	0.07	04/26/08	05/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8114125		Yld % 73
Strontium 90	-0.14	U	0.32	3.00	0.57	04/23/08	05/05/08

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-958 DUP

Radiochemistry

Lab Sample ID: F8D220236-005X
Work Order: KLO0N
Matrix: SOLID

Date Collected: 03/27/08 0912
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD			**pCi/g**			**Batch # 8114125**	**Yld % 64**
Strontium 90	-0.002	U	0.37	3.00	0.64	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-959

Radiochemistry

Lab Sample ID: F8D220236-006
Work Order: KLQ0V
Matrix: SOLID

Date Collected: 03/27/08 0920
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.29	U	0.15		0.29	04/25/08	05/16/08
Americium 241	-0.014	U	0.077		0.13	04/25/08	05/16/08
Cesium 137	0.005	U	0.048	0.200	0.096	04/25/08	05/16/08
Cobalt 60	0.028	U	0.039		0.064	04/25/08	05/16/08
Europium 152	-0.002	U	0.068		0.13	04/25/08	05/16/08
Europium 154	0.005	U	0.34		0.65	04/25/08	05/16/08
Potassium 40	8.6		1.6		1	04/25/08	05/16/08
Radium (226)	0.63	J	0.16	1.00	0.11	04/25/08	05/16/08
Thorium 232	0.29	U	0.15		0.29	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 78
Thorium 228	0.67	J	0.19	1.00	0.09	04/26/08	05/01/08
Thorium 230	0.74	J	0.20	1.00	0.06	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 90
Uranium 233/234	0.40	J	0.13	1.00	0.05	04/26/08	05/01/08
Uranium 235/236	0.037	J	0.043	1.00	0.033	04/26/08	05/01/08
Uranium 238	0.44	J	0.14	1.00	0.04	04/26/08	05/01/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-960

Radiochemistry

Lab Sample ID: F8D220236-007
Work Order: KLQ0X
Matrix: SOLID

Date Collected: 03/27/08 0923
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.46		0.11		0.17	04/25/08	05/16/08
Americium 241	-0.06	U	0.22		0.38	04/25/08	05/16/08
Cesium 137	0.043	J	0.029	0.200	0.041	04/25/08	05/16/08
Cobalt 60	0.0	U	0.050		0.090	04/25/08	05/16/08
Europium 152	0.0	U	0.080		0.14	04/25/08	05/16/08
Europium 154	-0.08	U	0.21		0.36	04/25/08	05/16/08
Potassium 40	10.1		1.2		0.2	04/25/08	05/16/08
Radium (226)	0.435	J	0.093	1.00	0.084	04/25/08	05/16/08
Thorium 232	0.46		0.11		0.17	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 89
Thorium 228	0.50	J	0.16	1.00	0.09	04/26/08	05/03/08
Thorium 230	0.52	J	0.16	1.00	0.05	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 83
Uranium 233/234	0.37	J	0.13	1.00	0.07	04/26/08	05/01/08
Uranium 235/236	0.014	U	0.028	1.00	0.038	04/26/08	05/01/08
Uranium 238	0.47	J	0.15	1.00	0.05	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-961

Radiochemistry

Lab Sample ID: F8D220236-008
Work Order: KLQ00
Matrix: SOLID

Date Collected: 03/27/08 0941
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.41		0.17		0.20	04/25/08	05/16/08
Americium 241	-0.009	U	0.097		0.17	04/25/08	05/16/08
Cesium 137	0.005	U	0.035	0.200	0.064	04/25/08	05/16/08
Cobalt 60	-0.011	U	0.049		0.088	04/25/08	05/16/08
Europium 152	-0.036	U	0.099		0.17	04/25/08	05/16/08
Europium 154	-0.05	U	0.29		0.52	04/25/08	05/16/08
Potassium 40	9.4		1.3		0.3	04/25/08	05/16/08
Radium (226)	0.67	J	0.13	1.00	0.10	04/25/08	05/16/08
Thorium 232	0.41		0.17		0.20	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117091		Yld % 84
Thorium 228	0.33	J	0.13	1.00	0.08	04/26/08	05/01/08
Thorium 230	0.57	J	0.16	1.00	0.03	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 84
Uranium 233/234	0.44	J	0.14	1.00	0.05	04/26/08	05/01/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/26/08	05/01/08
Uranium 238	0.30	J	0.12	1.00	0.06	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-962

Radiochemistry

Lab Sample ID: F8D220236-009
Work Order: KLQ02
Matrix: SOLID

Date Collected: 03/27/08 0944
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.13	U	0.15		0.25	04/25/08	05/16/08
Americium 241	0.002	U	0.095		0.16	04/25/08	05/16/08
Cesium 137	0.0	U	0.068	0.200	0.12	04/25/08	05/16/08
Cobalt 60	0.001	U	0.039		0.074	04/25/08	05/16/08
Europium 152	-0.04	U	0.14		0.23	04/25/08	05/16/08
Europium 154	0.09	U	0.31		0.55	04/25/08	05/16/08
Potassium 40	8.9		1.4		0.8	04/25/08	05/16/08
Radium (226)	1.34		0.19	1.00	0.09	04/25/08	05/16/08
Thorium 232	0.13	U	0.15		0.25	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117091		Yld % 84
Thorium 228	0.39	J	0.13	1.00	0.07	04/26/08	05/01/08
Thorium 230	0.43	J	0.14	1.00	0.03	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 89
Uranium 233/234	0.209	J	0.094	1.00	0.043	04/26/08	05/01/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/26/08	05/01/08
Uranium 238	0.27	J	0.11	1.00	0.04	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-963

Radiochemistry

Lab Sample ID: F8D220236-010
Work Order: KLQ04
Matrix: SOLID

Date Collected: 03/27/08 1000
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.31		0.20		0.27	04/25/08	05/16/08
Americium 241	0.14	U	0.11		0.17	04/25/08	05/16/08
Cesium 137	0.023	U	0.056	0.200	0.098	04/25/08	05/16/08
Cobalt 60	0.019	U	0.058		0.11	04/25/08	05/16/08
Europium 152	-0.07	U	0.16		0.27	04/25/08	05/16/08
Europium 154	0.13	U	0.37		0.66	04/25/08	05/16/08
Potassium 40	8.4		1.6		0.5	04/25/08	05/16/08
Radium (226)	2.71		0.35	1.00	0.18	04/25/08	05/16/08
Thorium 232	0.31		0.20		0.27	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 78
Thorium 228	0.58	J	0.18	1.00	0.1	04/26/08	05/01/08
Thorium 230	0.47	J	0.15	1.00	0.05	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 86
Uranium 233/234	0.29	J	0.12	1.00	0.07	04/26/08	05/01/08
Uranium 235/236	0.024	U	0.038	1.00	0.056	04/26/08	05/01/08
Uranium 238	0.31	J	0.12	1.00	0.06	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-964

Radiochemistry

Lab Sample ID: F8D220236-011
Work Order: KLQ06
Matrix: SOLID

Date Collected: 03/27/08 1004
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116257**		**Yld %**
Actinium 228	0.49		0.22		0.24	04/25/08	05/16/08
Americium 241	0.039	U	0.094		0.16	04/25/08	05/16/08
Cesium 137	-0.02	U	0.36	0.20	0.10	04/25/08	05/16/08
Cobalt 60	0.029	U	0.042		0.071	04/25/08	05/16/08
Europium 152	0.0	U	0.13		0.24	04/25/08	05/16/08
Europium 154	-0.007	U	0.34		0.67	04/25/08	05/16/08
Potassium 40	8.3		1.6		0.5	04/25/08	05/16/08
Radium (226)	0.74	J	0.17	1.00	0.09	04/25/08	05/16/08
Thorium 232	0.49		0.22		0.24	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117091**		**Yld % 90**
Thorium 228	0.37	J	0.13	1.00	0.04	04/26/08	05/01/08
Thorium 230	0.43	J	0.14	1.00	0.06	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117093**		**Yld % 60**
Uranium 233/234	0.36	J	0.15	1.00	0.06	04/26/08	05/01/08
Uranium 235/236	0.011	U	0.037	1.00	0.089	04/26/08	05/01/08
Uranium 238	0.39	J	0.15	1.00	0.06	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-965

Radiochemistry

Lab Sample ID: F8D220236-012
Work Order: KLQ09
Matrix: SOLID

Date Collected: 03/27/08 1008
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.40		0.15		0.18	04/25/08	05/16/08
Americium 241	-0.01	U	0.36		0.62	04/25/08	05/16/08
Cesium 137	-0.0009	U	0.033	0.200	0.061	04/25/08	05/16/08
Cobalt 60	-0.015	U	0.038		0.068	04/25/08	05/16/08
Europium 152	-0.020	U	0.078		0.14	04/25/08	05/16/08
Europium 154	0.02	U	0.24		0.45	04/25/08	05/16/08
Potassium 40	9.5		1.3		0.3	04/25/08	05/16/08
Radium (226)	0.87	J	0.14	1.00	0.1	04/25/08	05/16/08
Thorium 232	0.40		0.15		0.18	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 52
Thorium 228	0.36	J	0.17	1.00	0.12	04/26/08	05/01/08
Thorium 230	0.32	J	0.15	1.00	0.05	04/26/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 84
Uranium 233/234	0.32	J	0.12	1.00	0.06	04/26/08	05/01/08
Uranium 235/236	0.070	J	0.063	1.00	0.038	04/26/08	05/01/08
Uranium 238	0.35	J	0.13	1.00	0.06	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-966

Radiochemistry

Lab Sample ID: F8D220236-013
Work Order: KLQ1C
Matrix: SOLID

Date Collected: 03/27/08 1012
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.29		0.19		0.28	04/25/08	05/16/08
Americium 241	0.0002	U	0.099		0.17	04/25/08	05/16/08
Cesium 137	-0.001	U	0.049	0.200	0.090	04/25/08	05/16/08
Cobalt 60	0.0001	U	0.051		0.099	04/25/08	05/16/08
Europium 152	-0.03	U	0.13		0.22	04/25/08	05/16/08
Europium 154	0.05	U	0.32		0.59	04/25/08	05/16/08
Potassium 40	8.7		1.5		0.7	04/25/08	05/16/08
Radium (226)	0.53	J	0.14	1.00	0.1	04/25/08	05/16/08
Thorium 232	0.29		0.19		0.28	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117091		Yld % 48
Thorium 228	0.63	J	0.23	1.00	0.13	04/26/08	05/02/08
Thorium 230	0.20	J	0.13	1.00	0.09	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 85
Uranium 233/234	0.47	J	0.15	1.00	0.04	04/26/08	05/01/08
Uranium 235/236	0.050	U	0.053	1.00	0.056	04/26/08	05/01/08
Uranium 238	0.50	J	0.15	1.00	0.04	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-967

Radiochemistry

Lab Sample ID: F8D220236-014
Work Order: KLQ1E
Matrix: SOLID

Date Collected: 03/27/08 1017
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.16	U	0.18		0.30	04/25/08	05/16/08
Americium 241	0.035	U	0.094		0.16	04/25/08	05/16/08
Cesium 137	0.014	U	0.044	0.200	0.080	04/25/08	05/16/08
Cobalt 60	0.0	U	0.095		0.17	04/25/08	05/16/08
Europium 152	0.032	U	0.083		0.15	04/25/08	05/16/08
Europium 154	0.07	U	0.38		0.71	04/25/08	05/16/08
Potassium 40	**8.0**		1.6		0.7	04/25/08	05/16/08
Radium (226)	0.35	J	0.12	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.16	U	0.18		0.30	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 88
Uranium 233/234	0.32	J	0.12	1.00	0.06	04/26/08	05/01/08
Uranium 235/236	0.005	U	0.026	1.00	0.066	04/26/08	05/01/08
Uranium 238	0.29	J	0.11	1.00	0.08	04/26/08	05/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8128307		Yld % 88
Thorium 228	0.33	J	0.13	1.00	0.09	05/07/08	05/12/08
Thorium 230	0.50	J	0.15	1.00	0.06	05/07/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-968

Radiochemistry

Lab Sample ID: F8D220236-015
Work Order: KLQ1H
Matrix: SOLID

Date Collected: 03/27/08 1020
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.38		0.20		0.27	04/25/08	05/16/08
Americium 241	-0.014	U	0.089		0.15	04/25/08	05/16/08
Cesium 137	0.011	U	0.040	0.200	0.073	04/25/08	05/16/08
Cobalt 60	0.0	U	0.049		0.094	04/25/08	05/16/08
Europium 152	0.06	U	0.10		0.17	04/25/08	05/16/08
Europium 154	-0.03	U	0.33		0.61	04/25/08	05/16/08
Potassium 40	9.2		1.4		0.3	04/25/08	05/16/08
Radium (226)	0.42	J	0.13	1.00	0.14	04/25/08	05/16/08
Thorium 232	0.38		0.20		0.27	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117091		Yld % 89
Thorium 228	0.38	J	0.13	1.00	0.08	04/26/08	05/02/08
Thorium 230	0.46	J	0.14	1.00	0.04	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 82
Uranium 233/234	0.20	J	0.10	1.00	0.08	04/26/08	05/01/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/26/08	05/01/08
Uranium 238	0.46	J	0.15	1.00	0.06	04/26/08	05/01/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 59
Strontium 90	-0.007	U	0.40	3.00	0.69	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-969

Radiochemistry

Lab Sample ID: F8D220236-016
Work Order: KLQ1L
Matrix: SOLID

Date Collected: 03/27/08 1021
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.50		0.17		0.26	04/25/08	05/16/08
Americium 241	-0.006	U	0.088		0.15	04/25/08	05/16/08
Cesium 137	0.035	U	0.050	0.200	0.084	04/25/08	05/16/08
Cobalt 60	0.016	U	0.040		0.075	04/25/08	05/16/08
Europium 152	0.0	U	0.13		0.24	04/25/08	05/16/08
Europium 154	0.0	U	0.58		1.1	04/25/08	05/16/08
Potassium 40	10.2		1.7		0.7	04/25/08	05/16/08
Radium (226)	0.56	J	0.13	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.50		0.17		0.26	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 87
Uranium 233/234	0.33	J	0.12	1.00	0.08	04/26/08	05/01/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	04/26/08	05/01/08
Uranium 238	0.31	J	0.12	1.00	0.04	04/26/08	05/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8128307		Yld % 89
Thorium 228	0.43	J	0.14	1.00	0.09	05/07/08	05/11/08
Thorium 230	0.44	J	0.14	1.00	0.04	05/07/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-970

Radiochemistry

Lab Sample ID: F8D220236-017
Work Order: KLQ1N
Matrix: SOLID

Date Collected: 03/27/08 1024
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.43		0.20		0.25	04/25/08	05/16/08
Americium 241	-0.03	U	0.10		0.17	04/25/08	05/16/08
Cesium 137	0.0	U	0.057	0.200	0.10	04/25/08	05/16/08
Cobalt 60	0.0	U	0.0089		0.033	04/25/08	05/16/08
Europium 152	0.039	U	0.089		0.15	04/25/08	05/16/08
Europium 154	-0.02	U	0.25		0.48	04/25/08	05/16/08
Potassium 40	8.9		1.4		0.3	04/25/08	05/16/08
Radium (226)	0.73	J	0.13	1.00	0.04	04/25/08	05/16/08
Thorium 232	0.43		0.20		0.25	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 85
Uranium 233/234	0.44	J	0.14	1.00	0.04	04/26/08	05/01/08
Uranium 235/236	-0.0023	U	0.0046	1.00	0.052	04/26/08	05/01/08
Uranium 238	0.40	J	0.13	1.00	0.04	04/26/08	05/01/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8128307		Yld % 84
Thorium 228	0.62	J	0.17	1.00	0.05	05/07/08	05/11/08
Thorium 230	0.56	J	0.16	1.00	0.07	05/07/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-971

Radiochemistry

Lab Sample ID: F8D220236-018
Work Order: KLQ1V
Matrix: SOLID

Date Collected: 03/27/08 1050
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.35		0.24		0.34	04/25/08	05/16/08
Americium 241	0.039	U	0.077		0.13	04/25/08	05/16/08
Cesium 137	0.036	U	0.041	0.200	0.064	04/25/08	05/16/08
Cobalt 60	0.002	U	0.061		0.12	04/25/08	05/16/08
Europium 152	-0.006	U	0.11		0.20	04/25/08	05/16/08
Europium 154	0.0	U	0.47		0.89	04/25/08	05/16/08
Potassium 40	5.7		1.4		0.8	04/25/08	05/16/08
Radium (226)	0.30	J	0.13	1.00	0.16	04/25/08	05/16/08
Thorium 232	0.35		0.24		0.34	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 75
Thorium 228	0.45	J	0.15	1.00	0.07	04/26/08	05/02/08
Thorium 230	0.74	J	0.19	1.00	0.06	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 98
Uranium 233/234	0.50	J	0.15	1.00	0.05	04/26/08	05/01/08
Uranium 235/236	0.012	U	0.025	1.00	0.034	04/26/08	05/01/08
Uranium 238	0.227	J	0.097	1.00	0.042	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-972

Radiochemistry

Lab Sample ID: F8D220236-019
Work Order: KLQ1X
Matrix: SOLID

Date Collected: 03/27/08 1053
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116257		Yld %
Actinium 228	0.38		0.22		0.30	04/25/08	05/16/08
Americium 241	0.001	U	0.083		0.15	04/25/08	05/16/08
Cesium 137	-0.01	U	0.10	0.20	0.1	04/25/08	05/16/08
Cobalt 60	0.020	U	0.046		0.085	04/25/08	05/16/08
Europium 152	0.001	U	0.11		0.20	04/25/08	05/16/08
Europium 154	-0.08	U	0.44		0.80	04/25/08	05/16/08
Potassium 40	8.8		1.6		0.5	04/25/08	05/16/08
Radium (226)	0.48	J	0.14	1.00	0.09	04/25/08	05/16/08
Thorium 232	0.38		0.22		0.30	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117093		Yld % 89
Uranium 233/234	0.43	J	0.14	1.00	0.08	04/26/08	05/03/08
Uranium 235/236	0.066	J	0.060	1.00	0.036	04/26/08	05/03/08
Uranium 238	0.48	J	0.15	1.00	0.06	04/26/08	05/03/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8128307		Yld % 69
Thorium 228	0.44	J	0.16	1.00	0.10	05/07/08	05/12/08
Thorium 230	0.62	J	0.19	1.00	0.06	05/07/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-973

Radiochemistry

Lab Sample ID: F8D220236-020
Work Order: KLQ11
Matrix: SOLID

Date Collected: 03/27/08 1100
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.29		0.11		0.14	04/25/08	05/16/08
Americium 241	-0.04	U	0.30		0.52	04/25/08	05/16/08
Cesium 137	0.026	U	0.031	0.200	0.049	04/25/08	05/16/08
Cobalt 60	0.003	U	0.029		0.056	04/25/08	05/16/08
Europium 152	-0.017	U	0.083		0.15	04/25/08	05/16/08
Europium 154	0.04	U	0.23		0.43	04/25/08	05/16/08
Potassium 40	8.8		1.2		0.2	04/25/08	05/16/08
Radium (226)	0.48	J	0.11	1.00	0.10	04/25/08	05/16/08
Thorium 232	0.29		0.11		0.14	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117091		Yld % 83
Thorium 228	0.31	J	0.12	1.00	0.07	04/26/08	05/02/08
Thorium 230	0.68	J	0.19	1.00	0.03	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117093		Yld % 83
Uranium 233/234	0.36	J	0.13	1.00	0.05	04/26/08	05/01/08
Uranium 235/236	0.040	U	0.050	1.00	0.061	04/26/08	05/01/08
Uranium 238	0.38	J	0.14	1.00	0.05	04/26/08	05/01/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-974

Radiochemistry

Lab Sample ID: F8D220236-021
Work Order: KLQ12
Matrix: SOLID

Date Collected: 03/27/08 1110
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116257		Yld %
Actinium 228	0.42		0.16		0.26	04/25/08	05/16/08
Americium 241	-0.015	U	0.080		0.14	04/25/08	05/16/08
Cesium 137	-0.021	U	0.055	0.200	0.095	04/25/08	05/16/08
Cobalt 60	-0.005	U	0.047		0.090	04/25/08	05/16/08
Europium 152	0.0	U	0.11		0.19	04/25/08	05/16/08
Europium 154	-0.09	U	0.40		0.72	04/25/08	05/16/08
Potassium 40	7.3		1.4		1.1	04/25/08	05/16/08
Radium (226)	0.36	J	0.12	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.42		0.16		0.26	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 43
Thorium 228	0.85	J	0.29	1.00	0.19	04/26/08	05/09/08
Thorium 230	0.45	J	0.20	1.00	0.10	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 77
Uranium 233/234	0.55	J	0.17	1.00	0.05	04/26/08	05/12/08
Uranium 235/236	0.014	U	0.029	1.00	0.039	04/26/08	05/12/08
Uranium 238	0.63	J	0.18	1.00	0.05	04/26/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-975

Radiochemistry

Lab Sample ID: F8D220236-022
Work Order: KLQ13
Matrix: SOLID

Date Collected: 03/27/08 1117
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116259		Yld %
Actinium 228	0.41		0.17		0.31	04/25/08	05/16/08
Americium 241	-0.0008	U	0.092		0.16	04/25/08	05/16/08
Cesium 137	0.005	U	0.049	0.200	0.090	04/25/08	05/16/08
Cobalt 60	-0.008	U	0.052		0.10	04/25/08	05/16/08
Europium 152	-0.04	U	0.12		0.21	04/25/08	05/16/08
Europium 154	0.02	U	0.35		0.66	04/25/08	05/16/08
Potassium 40	8.8		1.6		0.9	04/25/08	05/16/08
Radium (226)	0.53	J	0.13	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.41		0.17		0.31	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 57
Thorium 228	0.58	J	0.20	1.00	0.13	04/26/08	05/12/08
Thorium 230	0.43	J	0.17	1.00	0.09	04/26/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 80
Uranium 233/234	0.56	J	0.17	1.00	0.07	04/26/08	05/12/08
Uranium 235/236	0.040	U	0.050	1.00	0.060	04/26/08	05/12/08
Uranium 238	0.47	J	0.15	1.00	0.06	04/26/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-975 DUP

Radiochemistry

Lab Sample ID: F8D220236-022X
Work Order: KLQ13
Matrix: SOLID

Date Collected: 03/27/08 1117
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.37		0.18		0.25	04/25/08	05/16/08
Americium 241	0.025	U	0.085		0.15	04/25/08	05/16/08
Cesium 137	0.018	U	0.042	0.200	0.072	04/25/08	05/16/08
Cobalt 60	0.0	U	0.077		0.14	04/25/08	05/16/08
Europium 152	-0.030	U	0.099		0.17	04/25/08	05/16/08
Europium 154	-0.01	U	0.35		0.64	04/25/08	05/16/08
Potassium 40	10		1.4		0.3	04/25/08	05/16/08
Radium (226)	0.55	J	0.14	1.00	0.14	04/25/08	05/16/08
Thorium 232	0.37		0.18		0.25	04/25/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-976

Radiochemistry

Lab Sample ID: F8D220236-023
Work Order: KLQ15
Matrix: SOLID

Date Collected: 03/27/08 1123
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.35		0.14		0.23	04/25/08	05/16/08
Americium 241	0.020	U	0.094		0.16	04/25/08	05/16/08
Cesium 137	-0.001	U	0.030	0.200	0.056	04/25/08	05/16/08
Cobalt 60	0.0	U	0.046		0.086	04/25/08	05/16/08
Europium 152	-0.03	U	0.11		0.19	04/25/08	05/16/08
Europium 154	-0.11	U	0.30		0.53	04/25/08	05/16/08
Potassium 40	9.1		1.3		0.3	04/25/08	05/16/08
Radium (226)	0.46	J	0.13	1.00	0.15	04/25/08	05/16/08
Thorium 232	0.35		0.14		0.23	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 63
Thorium 228	0.56	J	0.19	1.00	0.11	04/26/08	05/12/08
Thorium 230	0.76	J	0.22	1.00	0.04	04/26/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 76
Uranium 233/234	0.42	J	0.14	1.00	0.06	04/26/08	05/09/08
Uranium 235/236	0.044	J	0.050	1.00	0.039	04/26/08	05/09/08
Uranium 238	0.58	J	0.17	1.00	0.05	04/26/08	05/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-977

Radiochemistry

Lab Sample ID: F8D220236-024
Work Order: KLQ17
Matrix: SOLID

Date Collected: 03/27/08 1125
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.34		0.20		0.24	04/25/08	05/16/08
Americium 241	0.0	U	0.088		0.16	04/25/08	05/16/08
Cesium 137	0.0004	U	0.048	0.200	0.092	04/25/08	05/16/08
Cobalt 60	0.0	U	0.015		0.054	04/25/08	05/16/08
Europium 152	0.01	U	0.11		0.21	04/25/08	05/16/08
Europium 154	0.05	U	0.32		0.62	04/25/08	05/16/08
Potassium 40	7.1		1.6		1.3	04/25/08	05/16/08
Radium (226)	0.44	J	0.14	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.34		0.20		0.24	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 73
Thorium 228	0.71	J	0.20	1.00	0.09	04/26/08	05/09/08
Thorium 230	0.65	J	0.19	1.00	0.03	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 67
Uranium 233/234	0.36	J	0.15	1.00	0.09	04/26/08	05/13/08
Uranium 235/236	0.057	U	0.068	1.00	0.090	04/26/08	05/13/08
Uranium 238	0.49	J	0.17	1.00	0.04	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-978

Radiochemistry

Lab Sample ID: F8D220236-025
Work Order: KLQ19
Matrix: SOLID

Date Collected: 03/27/08 1258
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8116259	Yld %
Actinium 228	0.25		0.18		0.25	04/25/08	05/16/08
Americium 241	0.087	U	0.081		0.13	04/25/08	05/16/08
Cesium 137	-0.01	U	0.12	0.20	0.10	04/25/08	05/16/08
Cobalt 60	0.008	U	0.038		0.076	04/25/08	05/16/08
Europium 152	-0.001	U	0.10		0.19	04/25/08	05/16/08
Europium 154	0.07	U	0.30		0.56	04/25/08	05/16/08
Potassium 40	9.0		1.6		0.5	04/25/08	05/16/08
Radium (226)	0.31	J	0.13	1.00	0.15	04/25/08	05/16/08
Thorium 232	0.25		0.18		0.25	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117092	Yld % 73
Thorium 228	0.37	J	0.14	1.00	0.05	04/26/08	05/09/08
Thorium 230	0.57	J	0.18	1.00	0.08	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117095	Yld % 73
Uranium 233/234	0.29	J	0.12	1.00	0.05	04/26/08	05/09/08
Uranium 235/236	0.015	U	0.030	1.00	0.041	04/26/08	05/09/08
Uranium 238	0.26	J	0.12	1.00	0.07	04/26/08	05/09/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g		Batch # 8114125	Yld % 62
Strontium 90	-1.57	U	0.39	3.00	0.77	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-979

Radiochemistry

Lab Sample ID: F8D220236-026
Work Order: KLQ2A
Matrix: SOLID

Date Collected: 03/27/08 1301
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8116259	Yld %
Actinium 228	0.33		0.12		0.20	04/25/08	05/16/08
Americium 241	-0.13	U	0.30		0.50	04/25/08	05/16/08
Cesium 137	0.007	U	0.019	0.200	0.035	04/25/08	05/16/08
Cobalt 60	-0.008	U	0.031		0.057	04/25/08	05/16/08
Europium 152	-0.019	U	0.081		0.14	04/25/08	05/16/08
Europium 154	-0.06	U	0.23		0.41	04/25/08	05/16/08
Potassium 40	9.4		1.3		0.4	04/25/08	05/16/08
Radium (226)	0.397	J	0.098	1.00	0.087	04/25/08	05/16/08
Thorium 232	0.33		0.12		0.20	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117092	Yld % 52
Thorium 228	0.41	J	0.18	1.00	0.12	04/26/08	05/09/08
Thorium 230	0.54	J	0.20	1.00	0.05	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117095	Yld % 68
Uranium 233/234	0.43	J	0.15	1.00	0.06	04/26/08	05/09/08
Uranium 235/236	0.016	U	0.032	1.00	0.044	04/26/08	05/09/08
Uranium 238	0.35	J	0.14	1.00	0.06	04/26/08	05/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-980

Radiochemistry

Lab Sample ID: F8D220236-027
Work Order: KLO2E
Matrix: SOLID

Date Collected: 03/27/08 1319
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.34		0.14		0.27	04/25/08	05/16/08
Americium 241	0.001	U	0.090		0.16	04/25/08	05/16/08
Cesium 137	0.037	U	0.047	0.200	0.078	04/25/08	05/16/08
Cobalt 60	-0.021	U	0.054		0.096	04/25/08	05/16/08
Europium 152	0.057	U	0.086		0.14	04/25/08	05/16/08
Europium 154	-0.03	U	0.31		0.58	04/25/08	05/16/08
Potassium 40	9.7		1.5		0.6	04/25/08	05/16/08
Radium (226)	0.85	J	0.16	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.34		0.14		0.27	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 76
Thorium 228	0.49	J	0.17	1.00	0.11	04/26/08	05/09/08
Thorium 230	0.57	J	0.17	1.00	0.05	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 65
Uranium 233/234	0.49	J	0.17	1.00	0.09	04/26/08	05/09/08
Uranium 235/236	0.014	U	0.036	1.00	0.075	04/26/08	05/09/08
Uranium 238	0.46	J	0.17	1.00	0.08	04/26/08	05/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-981

Radiochemistry

Lab Sample ID: F8D220236-028
Work Order: KLQ2F
Matrix: SOLID

Date Collected: 03/27/08 1323
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8116259	Yld %
Actinium 228	0.31		0.19		0.27	04/25/08	05/16/08
Americium 241	-0.0007	U	0.088		0.16	04/25/08	05/16/08
Cesium 137	0.0	U	0.061	0.200	0.11	04/25/08	05/16/08
Cobalt 60	-0.012	U	0.048		0.089	04/25/08	05/16/08
Europium 152	0.0	U	0.12		0.22	04/25/08	05/16/08
Europium 154	0.0	U	0.47		0.86	04/25/08	05/16/08
Potassium 40	8.8		1.5		0.4	04/25/08	05/16/08
Radium (226)	0.47	J	0.13	1.00	0.11	04/25/08	05/16/08
Thorium 232	0.31		0.19		0.27	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117092	Yld % 66
Thorium 228	0.24	J	0.12	1.00	0.09	04/26/08	05/09/08
Thorium 230	0.56	J	0.18	1.00	0.04	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117095	Yld % 48
Uranium 233/234	0.50	J	0.20	1.00	0.08	04/26/08	05/09/08
Uranium 235/236	0.014	U	0.048	1.00	0.11	04/26/08	05/09/08
Uranium 238	0.33	J	0.16	1.00	0.08	04/26/08	05/09/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-982

Radiochemistry

Lab Sample ID: F8D220236-029
Work Order: KLQ2G
Matrix: SOLID

Date Collected: 03/27/08 1330
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.22	U	0.23		0.36	04/25/08	05/16/08
Americium 241	-0.03	U	0.11		0.19	04/25/08	05/16/08
Cesium 137	0.026	U	0.056	0.200	0.097	04/25/08	05/16/08
Cobalt 60	0.001	U	0.054		0.11	04/25/08	05/16/08
Europium 152	0.075	U	0.098		0.16	04/25/08	05/16/08
Europium 154	0.01	U	0.38		0.72	04/25/08	05/16/08
Potassium 40	6.5		1.5		1.5	04/25/08	05/16/08
Radium (226)	2.69		0.31	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.22	U	0.23		0.36	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 40
Thorium 228	0.41	J	0.20	1.00	0.1	04/26/08	05/09/08
Thorium 230	0.28	J	0.17	1.00	0.14	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 51
Uranium 233/234	0.36	J	0.17	1.00	0.11	04/26/08	05/13/08
Uranium 235/236	0.0	U	0.020	1.00	0.061	04/26/08	05/13/08
Uranium 238	0.20	J	0.12	1.00	0.08	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-983

Radiochemistry

Lab Sample ID: F8D220236-030
Work Order: KLQ2H
Matrix: SOLID

Date Collected: 03/27/08 1333
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.24	U	0.14		0.32	04/25/08	05/16/08
Americium 241	-0.05	U	0.13		0.21	04/25/08	05/16/08
Cesium 137	-0.003	U	0.054	0.200	0.096	04/25/08	05/16/08
Cobalt 60	-0.0002	U	0.048		0.090	04/25/08	05/16/08
Europium 152	-0.005	U	0.14		0.25	04/25/08	05/16/08
Europium 154	-0.06	U	0.38		0.68	04/25/08	05/16/08
Potassium 40	**8.2**		**1.2**		**0.3**	**04/25/08**	**05/16/08**
Radium (226)	**3.56**		**0.34**	**1.00**	**0.11**	**04/25/08**	**05/16/08**
Thorium 232	0.24	U	0.14		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 45
Thorium 228	**0.17**	**J**	**0.13**	**1.00**	**0.15**	**04/26/08**	**05/09/08**
Thorium 230	**0.47**	**J**	**0.20**	**1.00**	**0.06**	**04/26/08**	**05/09/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 77
Uranium 233/234	**0.44**	**J**	**0.15**	**1.00**	**0.05**	**04/26/08**	**05/13/08**
Uranium 235/236	0.015	U	0.030	1.00	0.040	04/26/08	05/13/08
Uranium 238	**0.30**	**J**	**0.12**	**1.00**	**0.06**	**04/26/08**	**05/13/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-984

Radiochemistry

Lab Sample ID: F8D220236-031
Work Order: KLQ2J
Matrix: SOLID

Date Collected: 03/27/08 1339
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116259		Yld %
Actinium 228	0.45		0.25		0.32	04/25/08	05/16/08
Americium 241	-0.002	U	0.087		0.16	04/25/08	05/16/08
Cesium 137	0.009	U	0.053	0.200	0.098	04/25/08	05/16/08
Cobalt 60	0.0	U	0.11		0.20	04/25/08	05/16/08
Europium 152	-0.04	U	0.12		0.22	04/25/08	05/16/08
Europium 154	-0.03	U	0.38		0.73	04/25/08	05/16/08
Potassium 40	7.1		1.6		0.9	04/25/08	05/16/08
Radium (226)	0.47	J	0.15	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.45		0.25		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 60
Thorium 228	0.26	J	0.14	1.00	0.12	04/26/08	05/09/08
Thorium 230	0.45	J	0.17	1.00	0.09	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 79
Uranium 233/234	0.189	J	0.094	1.00	0.048	04/26/08	05/13/08
Uranium 235/236	0.014	U	0.028	1.00	0.038	04/26/08	05/13/08
Uranium 238	0.177	J	0.091	1.00	0.048	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-985

Radiochemistry

Lab Sample ID: F8D220236-032
Work Order: KLQ2K
Matrix: SOLID

Date Collected: 03/27/08 1343
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116259		Yld %
Actinium 228	0.05	U	0.20		0.36	04/25/08	05/16/08
Americium 241	0.039	U	0.090		0.15	04/25/08	05/16/08
Cesium 137	-0.02	U	0.23	0.20	0.1	04/25/08	05/16/08
Cobalt 60	-0.002	U	0.048		0.094	04/25/08	05/16/08
Europium 152	-0.002	U	0.11		0.20	04/25/08	05/16/08
Europium 154	0.13	U	0.39		0.70	04/25/08	05/16/08
Potassium 40	**8.1**		1.5		0.4	04/25/08	05/16/08
Radium (226)	1.35		0.22	1.00	0.11	04/25/08	05/16/08
Thorium 232	0.05	U	0.20		0.36	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 58
Thorium 228	0.41	J	0.17	1.00	0.13	04/26/08	05/09/08
Thorium 230	0.32	J	0.14	1.00	0.07	04/26/08	05/09/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 82
Uranium 233/234	0.23	J	0.10	1.00	0.05	04/26/08	05/13/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	04/26/08	05/13/08
Uranium 238	0.27	J	0.11	1.00	0.05	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-986

Radiochemistry

Lab Sample ID: F8D220236-033
Work Order: KLQ2L
Matrix: SOLID

Date Collected: 03/27/08 1348
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116259		Yld %
Actinium 228	0.54		0.13		0.09	04/25/08	05/16/08
Americium 241	0.05	U	0.25		0.44	04/25/08	05/16/08
Cesium 137	0.003	U	0.031	0.200	0.057	04/25/08	05/16/08
Cobalt 60	-0.007	U	0.040		0.073	04/25/08	05/16/08
Europium 152	-0.011	U	0.075		0.13	04/25/08	05/16/08
Europium 154	0.0	U	0.16		0.31	04/25/08	05/16/08
Potassium 40	10.2		1.3		0.2	04/25/08	05/16/08
Radium (226)	0.48	J	0.11	1.00	0.08	04/25/08	05/16/08
Thorium 232	0.54		0.13		0.09	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 81
Thorium 228	0.51	J	0.16	1.00	0.08	04/26/08	05/10/08
Thorium 230	0.60	J	0.17	1.00	0.05	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 71
Uranium 233/234	0.37	J	0.14	1.00	0.08	04/26/08	05/13/08
Uranium 235/236	0.044	U	0.055	1.00	0.067	04/26/08	05/13/08
Uranium 238	0.31	J	0.13	1.00	0.07	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-987

Radiochemistry

Lab Sample ID: F8D220236-034
Work Order: KLQ2N
Matrix: SOLID

Date Collected: 03/27/08 1351
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.33		0.14		0.25	04/25/08	05/16/08
Americium 241	0.042	U	0.094		0.16	04/25/08	05/16/08
Cesium 137	-0.0007	U	0.041	0.200	0.077	04/25/08	05/16/08
Cobalt 60	0.0	U	0.056		0.11	04/25/08	05/16/08
Europium 152	0.007	U	0.069		0.13	04/25/08	05/16/08
Europium 154	-0.03	U	0.34		0.62	04/25/08	05/16/08
Potassium 40	7.8		1.4		1.0	04/25/08	05/16/08
Radium (226)	0.54	J	0.11	1.00	0.04	04/25/08	05/16/08
Thorium 232	0.33		0.14		0.25	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 66
Thorium 228	0.54	J	0.18	1.00	0.11	04/26/08	05/10/08
Thorium 230	0.53	J	0.18	1.00	0.08	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 69
Uranium 233/234	0.34	J	0.14	1.00	0.06	04/26/08	05/13/08
Uranium 235/236	0.010	U	0.034	1.00	0.080	04/26/08	05/13/08
Uranium 238	0.23	J	0.11	1.00	0.06	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-988

Radiochemistry

Lab Sample ID: F8D220236-035
Work Order: KLQ2Q
Matrix: SOLID

Date Collected: 03/27/08 1354
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.31		0.20		0.29	04/25/08	05/16/08
Americium 241	0.003	U	0.073		0.13	04/25/08	05/16/08
Cesium 137	0.0	U	0.068	0.200	0.12	04/25/08	05/16/08
Cobalt 60	0.010	U	0.048		0.090	04/25/08	05/16/08
Europium 152	-0.025	U	0.089		0.16	04/25/08	05/16/08
Europium 154	0.0	U	0.27		0.54	04/25/08	05/16/08
Potassium 40	9.2		1.5		0.4	04/25/08	05/16/08
Radium (226)	0.61	J	0.16	1.00	0.16	04/25/08	05/16/08
Thorium 232	0.31		0.20		0.29	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 57
Thorium 228	0.14	U	0.11	1.00	0.14	04/26/08	05/10/08
Thorium 230	0.48	J	0.18	1.00	0.08	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 62
Uranium 233/234	0.33	J	0.14	1.00	0.06	04/26/08	05/13/08
Uranium 235/236	0.035	U	0.049	1.00	0.047	04/26/08	05/13/08
Uranium 238	0.39	J	0.15	1.00	0.06	04/26/08	05/13/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 62
Strontium 90	-0.15	U	0.39	3.00	0.69	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-989

Radiochemistry

Lab Sample ID: F8D220236-036
Work Order: KLQ2R
Matrix: SOLID

Date Collected: 03/27/08 1400
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8116259**	**Yld %**
Actinium 228	0.25	U	0.17		0.25	04/25/08	05/16/08
Americium 241	0.025	U	0.080		0.14	04/25/08	05/16/08
Cesium 137	0.0003	U	0.040	0.200	0.074	04/25/08	05/16/08
Cobalt 60	0.005	U	0.039		0.074	04/25/08	05/16/08
Europium 152	0.030	U	0.079		0.14	04/25/08	05/16/08
Europium 154	-0.009	U	0.29		0.55	04/25/08	05/16/08
Potassium 40	8.9		1.3		0.3	04/25/08	05/16/08
Radium (226)	0.41	J	0.12	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.25	U	0.17		0.25	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8117092**	**Yld % 48**
Thorium 228	0.37	J	0.18	1.00	0.15	04/26/08	05/10/08
Thorium 230	0.47	J	0.19	1.00	0.05	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8117095**	**Yld % 72**
Uranium 233/234	0.22	J	0.11	1.00	0.05	04/26/08	05/13/08
Uranium 235/236	0.031	U	0.044	1.00	0.042	04/26/08	05/13/08
Uranium 238	0.33	J	0.13	1.00	0.05	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-990

Radiochemistry

Lab Sample ID: F8D220236-037
Work Order: KLQ2T
Matrix: SOLID

Date Collected: 03/27/08 1407
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116259		Yld %
Actinium 228	0.31		0.13		0.17	04/25/08	05/16/08
Americium 241	0.014	U	0.087		0.15	04/25/08	05/16/08
Cesium 137	0.001	U	0.040	0.200	0.076	04/25/08	05/16/08
Cobalt 60	-0.011	U	0.052		0.098	04/25/08	05/16/08
Europium 152	0.056	U	0.091		0.15	04/25/08	05/16/08
Europium 154	-0.04	U	0.35		0.66	04/25/08	05/16/08
Potassium 40	6.1		1.4		1.1	04/25/08	05/16/08
Radium (226)	0.73	J	0.17	1.00	0.10	04/25/08	05/16/08
Thorium 232	0.31		0.13		0.17	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117092		Yld % 41
Thorium 228	0.64	J	0.25	1.00	0.15	04/26/08	05/10/08
Thorium 230	0.43	J	0.20	1.00	0.06	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117095		Yld % 67
Uranium 233/234	0.30	J	0.13	1.00	0.08	04/26/08	05/13/08
Uranium 235/236	-0.0031	U	0.0063	1.00	0.071	04/26/08	05/13/08
Uranium 238	0.30	J	0.13	1.00	0.07	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-991

Radiochemistry

Lab Sample ID: F8D220236-038
Work Order: KLQ2V
Matrix: SOLID

Date Collected: 03/27/08 1415
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116259		Yld %
Actinium 228	0.38		0.19		0.26	04/25/08	05/16/08
Americium 241	-0.039	U	0.098		0.17	04/25/08	05/16/08
Cesium 137	-0.009	U	0.046	0.200	0.082	04/25/08	05/16/08
Cobalt 60	0.004	U	0.049		0.090	04/25/08	05/16/08
Europium 152	0.016	U	0.093		0.17	04/25/08	05/16/08
Europium 154	0.005	U	0.33		0.62	04/25/08	05/16/08
Potassium 40	9.3		1.4		0.3	04/25/08	05/16/08
Radium (226)	0.74	J	0.15	1.00	0.14	04/25/08	05/16/08
Thorium 232	0.38		0.19		0.26	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117092		Yld % 72
Thorium 228	0.54	J	0.18	1.00	0.10	04/26/08	05/10/08
Thorium 230	0.45	J	0.16	1.00	0.05	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117095		Yld % 63
Uranium 233/234	0.45	J	0.16	1.00	0.06	04/26/08	05/13/08
Uranium 235/236	0.011	U	0.036	1.00	0.086	04/26/08	05/13/08
Uranium 238	0.39	J	0.15	1.00	0.06	04/26/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-992

Radiochemistry

Lab Sample ID: F8D220236-039
Work Order: KLQ2W
Matrix: SOLID

Date Collected: 03/27/08 1417
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8116259	Yld %
Actinium 228	0.44		0.24		0.32	04/25/08	05/16/08
Americium 241	0.06	U	0.12		0.20	04/25/08	05/16/08
Cesium 137	-0.015	U	0.066	0.200	0.12	04/25/08	05/16/08
Cobalt 60	0.0	U	0.074		0.14	04/25/08	05/16/08
Europium 152	0.06	U	0.13		0.23	04/25/08	05/16/08
Europium 154	-0.04	U	0.46		0.85	04/25/08	05/16/08
Potassium 40	9.6		1.7		0.5	04/25/08	05/16/08
Radium (226)	2.38		0.32	1.00	0.15	04/25/08	05/16/08
Thorium 232	0.44		0.24		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117092	Yld % 62
Thorium 228	0.42	J	0.16	1.00	0.06	04/26/08	05/10/08
Thorium 230	0.36	J	0.15	1.00	0.09	04/26/08	05/10/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8117095	Yld % 69
Uranium 233/234	0.34	J	0.14	1.00	0.06	04/26/08	05/09/08
Uranium 235/236	0.016	U	0.032	1.00	0.043	04/26/08	05/09/08
Uranium 238	0.51	J	0.17	1.00	0.05	04/26/08	05/09/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

June 13, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 2nd, 2008.

LDC project# 18874:

SDG #	Fraction
F8D220236, F8D220249	Gamma Spec (DOE GA-01-R Mod)
F8D220260, F8D220274	Radium-226 (Method 903.0)
F8D220281	Isotopic Thorium (DOE A-01-R Mod)
	Isotopic Uranium (DOE A-01-R Mod)
	Strontium-90 (DOE SR-03-RC Mod)

The following deliverables are submitted under this report:

Attachment I	Sample ID Cross Reference and Data Review Level
Attachment II	Overall Data Qualification Summary
Attachment III	Tetra Tech EC Database Qualification Summary
Attachment IV	Field Blank Summary
Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-954	F8D220236001	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-954	F8D220236001	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-954	F8D220236001	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-954DUP	F8D220236001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-954DUP	F8D220236001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-954DUP	F8D220236001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-955	F8D220236002	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-955	F8D220236002	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-955	F8D220236002	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-955DUP	F8D220236002DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-956	F8D220236003	EB	Gen Prep	903.0 MOD	3
27-Mar-2008	15-956	F8D220236003	EB	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-956	F8D220236003	EB	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-956	F8D220236003	EB	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-956	F8D220236003	EB	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-956DUP	F8D220236003DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-957	F8D220236004	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-957	F8D220236004	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-957	F8D220236004	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-958	F8D220236005	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-958	F8D220236005	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-958	F8D220236005	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-958	F8D220236005	N	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-958DUP	F8D220236005DUP	DUP	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-959	F8D220236006	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-959	F8D220236006	N	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-959	F8D220236006	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-960	F8D220236007	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-960	F8D220236007	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-960	F8D220236007	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-961	F8D220236008	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-961	F8D220236008	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-961	F8D220236008	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-962	F8D220236009	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-962	F8D220236009	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-962	F8D220236009	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-963	F8D220236010	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-963	F8D220236010	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-963	F8D220236010	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-964	F8D220236011	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-964	F8D220236011	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-964	F8D220236011	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-965	F8D220236012	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-965	F8D220236012	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-965	F8D220236012	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-966	F8D220236013	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-966	F8D220236013	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-966	F8D220236013	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-967	F8D220236014	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-967	F8D220236014	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-967	F8D220236014	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-968	F8D220236015	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-968	F8D220236015	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-968	F8D220236015	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-968	F8D220236015	N	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-969	F8D220236016	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-969	F8D220236016	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-969	F8D220236016	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-970	F8D220236017	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-970	F8D220236017	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-970	F8D220236017	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-971	F8D220236018	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-971	F8D220236018	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-971	F8D220236018	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-972	F8D220236019	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-972	F8D220236019	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-972	F8D220236019	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-973	F8D220236020	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-973	F8D220236020	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-973	F8D220236020	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-974	F8D220236021	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-974	F8D220236021	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-974	F8D220236021	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-974DUP	F8D220236021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-974DUP	F8D220236021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-975	F8D220236022	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-975	F8D220236022	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-975	F8D220236022	N	Gen Prep	DOE GA-01-R MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-975DUP	F8D220236022DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-976	F8D220236023	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-976	F8D220236023	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-976	F8D220236023	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-977	F8D220236024	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-977	F8D220236024	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-977	F8D220236024	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-978	F8D220236025	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-978	F8D220236025	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-978	F8D220236025	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-978	F8D220236025	N	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-979	F8D220236026	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-979	F8D220236026	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-979	F8D220236026	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-980	F8D220236027	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-980	F8D220236027	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-980	F8D220236027	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-981	F8D220236028	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-981	F8D220236028	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-981	F8D220236028	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-982	F8D220236029	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-982	F8D220236029	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-982	F8D220236029	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-983	F8D220236030	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-983	F8D220236030	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-983	F8D220236030	N	Gen Prep	DOE GA-01-R MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-984	F8D220236031	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-984	F8D220236031	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-984	F8D220236031	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-985	F8D220236032	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-985	F8D220236032	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-985	F8D220236032	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-986	F8D220236033	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-986	F8D220236033	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-986	F8D220236033	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-987	F8D220236034	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-987	F8D220236034	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-987	F8D220236034	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-988	F8D220236035	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-988	F8D220236035	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-988	F8D220236035	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-988	F8D220236035	N	Gen Prep	)OE SR-03-RC MOI	3
27-Mar-2008	15-989	F8D220236036	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-989	F8D220236036	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-989	F8D220236036	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-990	F8D220236037	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-990	F8D220236037	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-990	F8D220236037	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-991	F8D220236038	N	Gen Prep	)OE A-01-R TH MOI	3
27-Mar-2008	15-991	F8D220236038	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-991	F8D220236038	N	Gen Prep	DOE GA-01-R MOD	3
27-Mar-2008	15-992	F8D220236039	N	Gen Prep	)OE A-01-R TH MOI	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2008	15-992	F8D220236039	N	Gen Prep	DOE A-01-R U MOD	3
27-Mar-2008	15-992	F8D220236039	N	Gen Prep	DOE GA-01-R MOD	3

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Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220236										
DOE A-01-R TH MOD	15-954	SO	N	THORIUM-230	1.00	0.66J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-955	SO	N	THORIUM-230	1.00	0.56J	0.16	J	pCi/g	
DOE A-01-R TH MOD	15-957	SO	N	THORIUM-230	1.00	0.56J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-958	SO	N	THORIUM-230	1.00	0.48J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-959	SO	N	THORIUM-230	1.00	0.74J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-960	SO	N	THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-961	SO	N	THORIUM-230	1.00	0.57J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-962	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-963	SO	N	THORIUM-230	1.00	0.47J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-964	SO	N	THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-965	SO	N	THORIUM-230	1.00	0.32J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-966	SO	N	THORIUM-230	1.00	0.20J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-967	SO	N	THORIUM-230	1.00	0.50J	0.15	J	pCi/g	
DOE A-01-R TH MOD	15-968	SO	N	THORIUM-230	1.00	0.46J	0.14	U	pCi/g	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220236										
DOE A-01-R TH MOD	15-969	SO	N	THORIUM-230	1.00	0.44J	0.14	UJ	pCi/g	
DOE A-01-R TH MOD	15-970	SO	N	THORIUM-230	1.00	0.56J	0.16	J	pCi/g	
DOE A-01-R TH MOD	15-971	SO	N	THORIUM-230	1.00	0.74J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-972	SO	N	THORIUM-230	1.00	0.62J	0.19	J	pCi/g	
DOE A-01-R TH MOD	15-973	SO	N	THORIUM-230	1.00	0.68J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-974	SO	N	THORIUM-230	1.00	0.45J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-975	SO	N	THORIUM-230	1.00	0.43J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-978	SO	N	THORIUM-230	1.00	0.57J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-979	SO	N	THORIUM-230	1.00	0.54J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-980	SO	N	THORIUM-230	1.00	0.57J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-981	SO	N	THORIUM-230	1.00	0.56J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-982	SO	N	THORIUM-230	1.00	0.28J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-983	SO	N	THORIUM-230	1.00	0.47J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-984	SO	N	THORIUM-230	1.00	0.45J	0.17	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220236										
DOE A-01-R TH MOD	15-985	SO	N	THORIUM-230	1.00	0.32J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-987	SO	N	THORIUM-230	1.00	0.53J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-988	SO	N	THORIUM-230	1.00	0.48J	0.18	U	pCi/g	
DOE A-01-R TH MOD	15-989	SO	N	THORIUM-230	1.00	0.47J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-990	SO	N	THORIUM-230	1.00	0.43J	0.20	U	pCi/g	
DOE A-01-R TH MOD	15-991	SO	N	THORIUM-230	1.00	0.45J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-992	SO	N	THORIUM-230	1.00	0.36J	0.15	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8D220236

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220236	15-954	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-955	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8D220236	15-957	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-958	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-959	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-960	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-961	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-962	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-963	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-964	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-965	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-966	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-967	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8D220236	15-968	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-969	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8D220236	15-969	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-970	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8D220236	15-971	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-972	DOE A-01-R TH MOD	14269637	J		THORIUM-230	LCS spike recovery
F8D220236	15-973	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-974	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-975	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-978	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-979	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-980	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-981	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-982	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-983	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-984	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-985	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-987	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-988	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Reason for Qualified Results

SDG Nos. : F8D220236

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220236	15-989	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-990	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-991	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220236	15-992	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

SDG	Method	QC Type	Client Sample ID	Sample Matrix	Sample Date	Analyte Name	Client Analyte ID	Lab Result	Units	Lab Qualifier	Reporting Lim
F8D220236	DOE A-01-R TH MOD	EB	15-956	AQ	03/27/2008 0:00	THORIUM-230	14269-63-7	0.28	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8D220236

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 8128307
Preparation Batch : 8128307
Lab Reporting Batch : F8D220236

Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Lab ID: TestAme

Analysis Date : 05/11/2008
Preparation Date :

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	Matrix	Analyte Name	Percent Recovery	RPD	Rejection Point	Lower Limit	Upper Limit	RPD
F8E070000307LCS	SO	THORIUM-230	112		10.00	30.00	110.00	40.00

Associated Samples

Client Sample ID	Lab Sample ID
15-955	F8D220236002
15-967	F8D220236014
15-969	F8D220236016
15-970	F8D220236017
15-972	F8D220236019

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 3210.015D - Alameda-IR Sites 1,2+32

Method Blank Outlier Report

Lab Reporting Batch : F8D220236
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8D260000091MB

Lab ID: TestAme
Analysis Date : 05/06/2008
Preparation Date :
Preparation Batch : 8117091

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.25	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-954	F8D220236001	1	0.66	J	pCi/g
15-957	F8D220236004	1	0.56	J	pCi/g
15-958	F8D220236005	1	0.48	J	pCi/g
15-959	F8D220236006	1	0.74	J	pCi/g
15-960	F8D220236007	1	0.52	J	pCi/g
15-961	F8D220236008	1	0.57	J	pCi/g
15-962	F8D220236009	1	0.43	J	pCi/g
15-963	F8D220236010	1	0.47	J	pCi/g
15-964	F8D220236011	1	0.43	J	pCi/g
15-965	F8D220236012	1	0.32	J	pCi/g
15-966	F8D220236013	1	0.20	J	pCi/g
15-968	F8D220236015	1	0.46	J	pCi/g
15-971	F8D220236018	1	0.74	J	pCi/g
15-973	F8D220236020	1	0.68	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220236
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/09/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D260000092MB
Preparation Batch : 8117092

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.114	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-974	F8D220236021	1	0.45	J	pCi/g
15-975	F8D220236022	1	0.43	J	pCi/g
15-978	F8D220236025	1	0.57	J	pCi/g
15-979	F8D220236026	1	0.54	J	pCi/g
15-980	F8D220236027	1	0.57	J	pCi/g
15-981	F8D220236028	1	0.56	J	pCi/g
15-982	F8D220236029	1	0.28	J	pCi/g
15-983	F8D220236030	1	0.47	J	pCi/g
15-984	F8D220236031	1	0.45	J	pCi/g
15-985	F8D220236032	1	0.32	J	pCi/g
15-987	F8D220236034	1	0.53	J	pCi/g
15-988	F8D220236035	1	0.48	J	pCi/g
15-989	F8D220236036	1	0.47	J	pCi/g
15-990	F8D220236037	1	0.43	J	pCi/g
15-991	F8D220236038	1	0.45	J	pCi/g
15-992	F8D220236039	1	0.36	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220236
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8E070000307MB

Lab ID: TestAme
Analysis Date : 05/11/2008
Preparation Date :
Preparation Batch : 8128307

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.088	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-969	F8D220236016	1	0.44	J	pCi/g

LDC #: 18874A29 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-9-08
SDG #: F8D220236 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: W

Radium 226 (EPA 903.0 Mod.)

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-07-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	Client specified (insufficient sample)
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A N	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER=1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
Water

1	15-956	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18874A35 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-9-08

SDG #: F8D220236 ADR Page: 1 of 1

Laboratory : Test America 9/4 Reviewer: MG

2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-27-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (both N.D. or OK by difference)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	ND	ER = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1 [1]	15-954 S	11 [1]	15-964 S	21 [1]	15-974 S	31 [2]	15-984 S
2 [1]	15-955 ↓	12 [1]	15-965	22 [2]	15-975	32 [2]	15-985
3 [3]	15-956 W	13 [1]	15-966	23 [2]	15-976	33 [2]	15-986
4 [1]	15-957 S	14 [1]	15-967	24 [2]	15-977	34 [2]	15-987
5 [1]	15-958	15 [1]	15-968	25 [2]	15-978	35 [2]	15-988
6 [1]	15-959	16 [1]	15-969	26 [2]	15-979	36 [2]	15-989
7 [1]	15-960	17 [1]	15-970	27 [2]	15-980	37 [2]	15-990
8 [1]	15-961	18 [1]	15-971	28 [2]	15-981	38 [2]	15-991
9 [1]	15-962	19 [1]	15-972	29 [2]	15-982	39 [2]	15-992
10 [1]	15-963 ↓	20 [1]	15-973 ↓	30 [2]	15-983 ↓	40 [1]	15-954DUP ↓
						41 [3]	15-956DUP W
						42 [2]	15-975DUP S

Notes:

1 PBS1
2 PBS2
3 PBW

LDC #: 18874A59
SDG #: F8D220236
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-27-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (outliers both N.D.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-954	S	11 1	15-964	S	21 2	15-974	S	31 2	15-984	S
2 1	15-955	↓	12 1	15-965	↓	22 2	15-975	↓	32 2	15-985	↓
3 3	15-956	W	13 1	15-966		23 2	15-976		33 2	15-986	
4 1	15-957	S	14 1	15-967		24 2	15-977		34 2	15-987	
5 1	15-958	↓	15 1	15-968		25 2	15-978		35 2	15-988	
6 1	15-959		16 1	15-969		26 2	15-979		36 2	15-989	
7 1	15-960		17 1	15-970		27 2	15-980		37 2	15-990	
8 1	15-961		18 1	15-971		28 2	15-981		38 2	15-991	
9 1	15-962		19 1	15-972		29 2	15-982		39 2	15-992	
10 1	15-963	↓	20 1	15-973	↓	30 2	15-983	↓	40 1	15-954DUP	
									41 2	15-974DUP	↓

Notes:

1 PBS1
2 PBS2
3 PBW

LDC #: 18874A61
SDG #: F8D220236
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3 only

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-27-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (both N.D.)
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	A N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-956 W	11		21		31	
2 2	15-958 S	12		22		32	
3 2	15-968	13		23		33	
4 2	15-978	14		24		34	
5 2	15-988	15		25		35	
6 2	15-958DUP	16		26		36	
7 1	PBW	17		27		37	
8 2	PBS	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 18874A73
SDG #: F8D220236
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: L

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-27-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	(ok by diff.) DUP
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	~~SW~~	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-954	S	11	1	15-964	S	21	2	15-974	S
2	3	15-955	↓	12	1	15-965	↓	22	2	15-975	↓
3	4	15-956	W	13	1	15-966		23	2	15-976	
4	1	15-957	S	14	3	15-967		24	2	15-977	
5	1	15-958	↓	15	1	15-968		25	2	15-978	
6	1	15-959		16	3	15-969		26	2	15-979	
7	1	15-960		17	3	15-970		27	2	15-980	
8	1	15-961		18	1	15-971		28	2	15-981	
9	1	15-962		19	3	15-972		29	2	15-982	
10	1	15-963	↓	20	1	15-973	↓	30	2	15-983	↓

31	2	15-984	S	40	1	15-954DUP	
32	2	15-985	↓	41	3	15-955DUP	
33	2	15-986		42	2	15-974DUP	↓
34	2	15-987					
35	2	15-988					
36	2	15-989					
37	2	15-990					
38	2	15-991					
39	2	15-992					

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBW

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31499

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.0279552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7993 1123 6165
PROJECT CONTACT: S. Suzuki	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): 180220249

Project Information Section Do not submit to Laboratory

27

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	6PH gamma spectroscopic isotopic Thorium	6PH gamma spectroscopic isotopic Uranium	6PH gamma spectroscopic isotopic Radium	6PH DOE 52-01/52-03					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-993	3.31.08	11:19	1	X		S	21 DY	X	X	X							B32IR-69a	2'	2.5'	N
15-994	3.31.08	11:23	1	X		S	21 DY	X	X	X							B32IR-69b	2.5'	3'	N
15-995	3.31.08	11:30	2	X		W	21 DY	X	X	X	X*					* Added 4-22-08 S2	Equipment Rinsate	N/A	N/A	N
15-996	3.31.08	13:07	1	X		S	21 DY	X	X	X							B32IR-71a	2'	2.5'	N
15-997	3.31.08	13:10	1	X		S	21 DY	X	X	X							B32IR-71b	2.5'	3'	N
15-998	3.31.08	13:15	2	X		S	21 DY	X	X	X	X						B32IR-73a	2'	2.5'	N
15-999	3.31.08	13:18	1	X		S	21 DY	X	X	X							B32IR-73b	2.5'	3'	N
15-1000	3.31.08	13:25	1	X		S	21 DY	X	X	X							B32IR-75a	2.0'	2.5'	N
15-1001	3.31.08	13:28	1	X		S	21 DY	X	X	X							B32IR-75b	2.5'	3'	N
15-1002	3.31.08	13:32	1	X		S	21 DY	X	X	X							B32IR-76a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/01/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH
COMPANY Tt/Fdx	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37183

ENTERED

PROJECT NAME: IR sites 1, 2 B 32	PURCHASE ORDER NO.: 106.6029552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7993 1123 6165
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): F8D220249

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 6010B GRAMMM	ISOTOPIC THORIUM	ISOTOPIC URANIUM	5% DUP 52-01/62-03	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1003	3.31.08	13:35	1	X		S	21 DY	X	X	X			B-32IR-76b	2.5'	3'	N
15-1004	3.31.08	13:40	1	X		S	21 DY	X	X	X			B-32IR-79a	2'	2.5'	N
15-1005	3.31.08	13:43	1	X		S	21 DY	X	X	X			B-32IR-79b	2.5'	3'	N
15-1006	3.31.08	13:48	1	X		S	21 DY	X	X	X			B-32IR-80a	2'	2.5'	N
15-1007	3.31.08	13:50	1	X		S	21 DY	X	X	X			B-32IR-80b	2.5'	3'	N
15-1008	3.31.08	13:55	2	X		S	21 DY	X	X	X	X		B-32IR-81a	2'	2.5'	N
15-1009	3.31.08	13:57	1	X		S	21 DY	X	X	X			B-32IR-81b	2.5'	3'	N
15-1010	3.31.08	14:02	1	X		S	21 DY	X	X	X			B-32IR-84a	2'	2.5'	N
15-1011	3.31.08	14:05	1	X		S	21 DY	X	X	X			B-32IR-84b	2.5'	3'	N
15-1012	3.31.08	14:12	1	X		S	21 DY	X	X	X			B-32IR-6a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/6/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY TURNOUTH
COMPANY TTC / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 31680

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.029552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7920 4324 4214
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): FBD220249

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	ISOTOPIC Thorium	ISOTOPIC URANIUM	Ra-226 DOE 3R-01/R2	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1013	3.31.08	14:17	1	X		S	21 DY	X	X	X			B-32IR-6b	2.5'	3'	N
15-1014	3.31.08	14:30	1	X		S	21 DY	X	X	X			B-32IR-5a	2'	2.5'	N
15-1015	3.31.08	14:33	1	X		S	21 DY	X	X	X			B-32IR-5b	2.5'	3'	N
15-1016	3.31.08	14:55	1	X		S	21 DY	X	X	X			B-IR1-134a	2'	2.5'	N
15-1017	3.31.08	14:57	1	X		S	21 DY	X	X	X			B-IR1-134b	2.5'	3'	N
15-1018	3.31.08	15:00	2	X		S	21 DY	X	X	X	X		B-IR1-135a	2'	2.5'	N
15-1019	3.31.08	15:03	1	X		S	21 DY	X	X	X			B-IR1 ~~135b~~ 135b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH
COMPANY TTSA/Foster	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-993

Radiochemistry

Lab Sample ID: F8D220249-001
Work Order: KLQ27
Matrix: SOLID

Date Collected: 03/31/08 1119
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.22		0.14		0.19	04/24/08	05/15/08
Americium 241	0.029	U	0.072		0.12	04/24/08	05/15/08
Cesium 137	-0.010	U	0.038	0.200	0.069	04/24/08	05/15/08
Cobalt 60	0.0	U	0.070		0.13	04/24/08	05/15/08
Europium 152	0.009	U	0.073		0.13	04/24/08	05/15/08
Europium 154	0.01	U	0.27		0.51	04/24/08	05/15/08
Potassium 40	6.0		1.2		0.8	04/24/08	05/15/08
Radium (226)	0.60	J	0.13	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.22		0.14		0.19	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 94
Thorium 228	0.48	J	0.14	1.00	0.07	04/26/08	05/07/08
Thorium 230	0.52	J	0.15	1.00	0.06	04/26/08	05/07/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 63
Uranium 233/234	0.37	J	0.14	1.00	0.07	04/26/08	05/02/08
Uranium 235/236	0.029	U	0.040	1.00	0.039	04/26/08	05/02/08
Uranium 238	0.36	J	0.13	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-993 DUP

Radiochemistry

Lab Sample ID: F8D220249-001X
Work Order: KLQ27
Matrix: SOLID

Date Collected: 03/31/08 1119
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115305		Yld %
Actinium 228	0.29		0.16		0.22	04/24/08	05/15/08
Americium 241	-0.012	U	0.079		0.14	04/24/08	05/15/08
Cesium 137	-0.008	U	0.038	0.200	0.068	04/24/08	05/15/08
Cobalt 60	0.007	U	0.033		0.061	04/24/08	05/15/08
Europium 152	0.067	U	0.077		0.13	04/24/08	05/15/08
Europium 154	0.002	U	0.30		0.55	04/24/08	05/15/08
Potassium 40	8.0		1.2		0.3	04/24/08	05/15/08
Radium (226)	0.56	J	0.13	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.29		0.16		0.22	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117175		Yld % 83
Thorium 228	0.45	J	0.15	1.00	0.10	04/26/08	05/07/08
Thorium 230	0.61	J	0.17	1.00	0.07	04/26/08	05/07/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117176		Yld % 84
Uranium 233/234	0.33	J	0.12	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.040	J	0.047	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.39	J	0.14	1.00	0.07	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-994

Radiochemistry

Lab Sample ID: F8D220249-002
Work Order: KLQ3E
Matrix: SOLID

Date Collected: 03/31/08 1123
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.19	U	0.19		0.30	04/24/08	05/15/08
Americium 241	0.0	U	0.14		0.24	04/24/08	05/15/08
Cesium 137	0.0	U	0.075	0.200	0.13	04/24/08	05/15/08
Cobalt 60	-0.020	U	0.067		0.12	04/24/08	05/15/08
Europium 152	0.07	U	0.14		0.25	04/24/08	05/15/08
Europium 154	-0.05	U	0.45		0.83	04/24/08	05/15/08
Potassium 40	9.5		1.7		0.8	04/24/08	05/15/08
Radium (226)	2.41		0.31	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.19	U	0.19		0.30	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 81
Thorium 228	0.42	J	0.14	1.00	0.07	04/26/08	05/02/08
Thorium 230	0.58	J	0.17	1.00	0.03	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 82
Uranium 233/234	0.32	J	0.12	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-995

Radiochemistry

Lab Sample ID: F8D220249-003
Work Order: KLQ3F
Matrix: WATER

Date Collected: 03/31/08 1130
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/L**	**Batch # 8114124**		**Yld % 67**
Strontium 90	1.07	U	0.81	3.00	1.3	04/23/08	05/01/08
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8115554**		**Yld %**
Actinium 228	10	U	26		47	04/24/08	04/25/08
Americium 241	-2	U	22		39	04/24/08	04/25/08
Cesium 137	1.7	U	8.3	20.0	15	04/24/08	04/25/08
Cobalt 60	-1.6	U	9.4		18	04/24/08	04/25/08
Europium 152	-5	U	21		38	04/24/08	04/25/08
Europium 154	18	U	63		120	04/24/08	04/25/08
Potassium 40	0.0	U	22		81	04/24/08	04/25/08
Thorium 232	10	U	26		47	04/24/08	04/25/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8115380**		**Yld % 60**
Uranium 233/234	0.006	U	0.054	1.00	0.15	05/02/08	05/05/08
Uranium 235/236	0.0	U	0.027	1.00	0.085	05/02/08	05/05/08
Uranium 238	0.016	U	0.052	1.00	0.12	05/02/08	05/05/08
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8114195**		**Yld % 106**
Radium (226)	0.05	U	0.17	1.00	0.32	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8128447**		**Yld % 82**
Thorium 228	-0.027	U	0.045	1.00	0.15	05/07/08	05/11/08
Thorium 230	**0.19**	**J**	0.12	1.00	**0.09**	**05/07/08**	**05/11/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-996

Radiochemistry

Lab Sample ID: F8D220249-004
Work Order: KLQ3K
Matrix: SOLID

Date Collected: 03/31/08 1307
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.47		0.23		0.28	04/24/08	05/15/08
Americium 241	0.04	U	0.11		0.19	04/24/08	05/15/08
Cesium 137	0.002	U	0.050	0.200	0.092	04/24/08	05/15/08
Cobalt 60	-0.004	U	0.052		0.10	04/24/08	05/15/08
Europium 152	-0.04	U	0.13		0.22	04/24/08	05/15/08
Europium 154	0.06	U	0.42		0.77	04/24/08	05/15/08
Potassium 40	8.0		1.5		0.7	04/24/08	05/15/08
Radium (226)	1.52		0.24	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.47		0.23		0.28	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 90
Thorium 228	0.41	J	0.14	1.00	0.08	04/26/08	05/02/08
Thorium 230	0.46	J	0.14	1.00	0.04	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 85
Uranium 233/234	0.41	J	0.14	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	04/26/08	05/02/08
Uranium 238	0.38	J	0.13	1.00	0.04	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-997

Radiochemistry

Lab Sample ID: F8D220249-005
Work Order: KLQ3L
Matrix: SOLID

Date Collected: 03/31/08 1310
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.54		0.26		0.36	04/24/08	05/15/08
Americium 241	0.13	U	0.20		0.33	04/24/08	05/15/08
Cesium 137	0.001	U	0.073	0.200	0.13	04/24/08	05/15/08
Cobalt 60	-0.003	U	0.074		0.13	04/24/08	05/15/08
Europium 152	-0.001	U	0.23		0.40	04/24/08	05/15/08
Europium 154	-0.21	U	0.57		0.97	04/24/08	05/15/08
Potassium 40	9.3		1.5		0.6	04/24/08	05/15/08
Radium (226)	8.65		0.69	1.00	0.22	04/24/08	05/15/08
Thorium 232	0.54		0.26		0.36	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 86
Thorium 228	0.41	J	0.14	1.00	0.05	04/26/08	05/02/08
Thorium 230	0.63	J	0.17	1.00	0.07	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 91
Uranium 233/234	0.36	J	0.12	1.00	0.04	04/26/08	05/02/08
Uranium 235/236	0.025	U	0.035	1.00	0.033	04/26/08	05/02/08
Uranium 238	0.40	J	0.13	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-998

Radiochemistry

Lab Sample ID: F8D220249-006
Work Order: KLQ3M
Matrix: SOLID

Date Collected: 03/31/08 1315
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115305		Yld %
Actinium 228	0.28	U	0.27		0.42	04/24/08	05/15/08
Americium 241	-0.09	U	0.17		0.28	04/24/08	05/15/08
Cesium 137	0.011	U	0.073	0.200	0.13	04/24/08	05/15/08
Cobalt 60	0.0	U	0.014		0.051	04/24/08	05/15/08
Europium 152	-0.009	U	0.17		0.30	04/24/08	05/15/08
Europium 154	0.0	U	0.51		0.95	04/24/08	05/15/08
Potassium 40	10.3		1.8		0.5	04/24/08	05/15/08
Radium (226)	5.34		0.54	1.00	0.20	04/24/08	05/15/08
Thorium 232	0.28	U	0.27		0.42	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117175		Yld % 86
Thorium 228	0.35	J	0.13	1.00	0.08	04/26/08	05/02/08
Thorium 230	0.48	J	0.15	1.00	0.03	04/26/08	05/02/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117176		Yld % 83
Uranium 233/234	0.27	J	0.11	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.36	J	0.13	1.00	0.05	04/26/08	05/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8114125		Yld % 41
Strontium 90	-0.09	U	0.57	3.00	1.0	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-999

Radiochemistry

Lab Sample ID: F8D220249-007
Work Order: KLQ3P
Matrix: SOLID

Date Collected: 03/31/08 1318
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.17	U	0.18		0.28	04/24/08	05/15/08
Americium 241	0.022	U	0.089		0.15	04/24/08	05/15/08
Cesium 137	-0.02	U	0.13	0.20	0.1	04/24/08	05/15/08
Cobalt 60	0.004	U	0.054		0.11	04/24/08	05/15/08
Europium 152	0.01	U	0.10		0.19	04/24/08	05/15/08
Europium 154	0.09	U	0.32		0.59	04/24/08	05/15/08
Potassium 40	9.8		1.7		0.5	04/24/08	05/15/08
Radium (226)	0.69	J	0.17	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.17	U	0.18		0.28	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 86**
Thorium 228	0.29	J	0.12	1.00	0.07	04/26/08	05/03/08
Thorium 230	0.38	J	0.13	1.00	0.03	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 89**
Uranium 233/234	0.25	J	0.11	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	-0.0024	U	0.0048	1.00	0.055	04/26/08	05/02/08
Uranium 238	0.24	J	0.10	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1000

Radiochemistry

Lab Sample ID: F8D220249-008
Work Order: KLQ33
Matrix: SOLID

Date Collected: 03/31/08 1325
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.40		0.14		0.17	04/24/08	05/15/08
Americium 241	0.06	U	0.34		0.58	04/24/08	05/15/08
Cesium 137	0.00009	U	0.028	0.200	0.052	04/24/08	05/15/08
Cobalt 60	-0.002	U	0.031		0.058	04/24/08	05/15/08
Europium 152	0.021	U	0.089		0.16	04/24/08	05/15/08
Europium 154	0.003	U	0.21		0.39	04/24/08	05/15/08
Potassium 40	8.3		1.1		0.2	04/24/08	05/15/08
Radium (226)	1.25		0.16	1.00	0.06	04/24/08	05/15/08
Thorium 232	0.40		0.14		0.17	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 68
Thorium 228	0.61	J	0.17	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.68	J	0.18	1.00	0.05	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 82
Uranium 233/234	0.57	J	0.16	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.022	U	0.038	1.00	0.065	04/26/08	05/02/08
Uranium 238	0.66	J	0.18	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1001

Radiochemistry

Lab Sample ID: F8D220249-009
Work Order: KLQ34
Matrix: SOLID

Date Collected: 03/31/08 1328
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.39		0.13		0.18	04/24/08	05/15/08
Americium 241	-0.037	U	0.097		0.16	04/24/08	05/15/08
Cesium 137	0.007	U	0.048	0.200	0.087	04/24/08	05/15/08
Cobalt 60	0.0	U	0.079		0.14	04/24/08	05/15/08
Europium 152	0.0515	U	0.0996		0.17	04/24/08	05/15/08
Europium 154	0.04	U	0.29		0.55	04/24/08	05/15/08
Potassium 40	7.7		1.4		1.1	04/24/08	05/15/08
Radium (226)	0.61	J	0.15	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.39		0.13		0.18	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 83
Thorium 228	0.46	J	0.15	1.00	0.07	04/26/08	05/03/08
Thorium 230	0.70	J	0.19	1.00	0.06	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 84
Uranium 233/234	0.49	J	0.15	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.44	J	0.14	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1002

Radiochemistry

Lab Sample ID: F8D220249-010
Work Order: KLQ38
Matrix: SOLID

Date Collected: 03/31/08 1332
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.51		0.32		0.49	04/24/08	05/15/08
Americium 241	0.11	U	0.23		0.38	04/24/08	05/15/08
Cesium 137	-0.041	U	0.091	0.200	0.15	04/24/08	05/15/08
Cobalt 60	-0.002	U	0.078		0.14	04/24/08	05/15/08
Europium 152	-0.08	U	0.28		0.48	04/24/08	05/15/08
Europium 154	0.22	U	0.65		1.1	04/24/08	05/15/08
Potassium 40	8.9		1.7		1	04/24/08	05/15/08
Radium (226)	11.1		0.87	1.00	0.22	04/24/08	05/15/08
Thorium 232	0.51		0.32		0.49	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 98
Thorium 228	0.34	J	0.12	1.00	0.07	04/26/08	05/03/08
Thorium 230	0.42	J	0.13	1.00	0.04	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 89
Uranium 233/234	0.44	J	0.14	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.027	U	0.038	1.00	0.037	04/26/08	05/02/08
Uranium 238	0.48	J	0.15	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1003

Radiochemistry

Lab Sample ID: F8D220249-011
Work Order: KLQ4A
Matrix: SOLID

Date Collected: 03/31/08 1335
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.24		0.15		0.22	04/24/08	05/15/08
Americium 241	0.004	U	0.095		0.17	04/24/08	05/15/08
Cesium 137	0.0003	U	0.042	0.200	0.077	04/24/08	05/15/08
Cobalt 60	0.0	U	0.045		0.085	04/24/08	05/15/08
Europium 152	-0.0003	U	0.088		0.16	04/24/08	05/15/08
Europium 154	-0.06	U	0.30		0.54	04/24/08	05/15/08
Potassium 40	6.8		1.2		0.6	04/24/08	05/15/08
Radium (226)	0.35	J	0.11	1.00	0.14	04/24/08	05/15/08
Thorium 232	0.24		0.15		0.22	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 84**
Thorium 228	0.49	J	0.16	1.00	0.1	04/26/08	05/03/08
Thorium 230	0.38	J	0.13	1.00	0.05	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 85**
Uranium 233/234	0.41	J	0.14	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.025	U	0.039	1.00	0.058	04/26/08	05/02/08
Uranium 238	0.42	J	0.14	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1004

Radiochemistry

Lab Sample ID: F8D220249-012
Work Order: KLQ4D
Matrix: SOLID

Date Collected: 03/31/08 1340
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.27	U	0.20		0.30	04/24/08	05/15/08
Americium 241	0.019	U	0.083		0.14	04/24/08	05/15/08
Cesium 137	-0.007	U	0.046	0.200	0.084	04/24/08	05/15/08
Cobalt 60	0.0	U	0.089		0.16	04/24/08	05/15/08
Europium 152	-0.014	U	0.094		0.17	04/24/08	05/15/08
Europium 154	0.0	U	0.28		0.55	04/24/08	05/15/08
Potassium 40	**9.4**		1.6		0.8	04/24/08	05/15/08
Radium (226)	**0.32**	J	0.11	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.27	U	0.20		0.30	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 83
Thorium 228	**0.41**	J	0.14	1.00	0.08	04/26/08	05/03/08
Thorium 230	**0.36**	J	0.13	1.00	0.03	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 78
Uranium 233/234	0.35	J	0.13	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.033	U	0.048	1.00	0.073	04/26/08	05/02/08
Uranium 238	**0.32**	J	0.13	1.00	0.08	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1005

Radiochemistry

Lab Sample ID: F8D220249-013
Work Order: KLQ4G
Matrix: SOLID

Date Collected: 03/31/08 1343
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8115305**	**Yld %**
Actinium 228	0.30		0.13		0.24	04/24/08	05/15/08
Americium 241	-0.03	U	0.10		0.18	04/24/08	05/15/08
Cesium 137	0.019	U	0.040	0.200	0.070	04/24/08	05/15/08
Cobalt 60	0.0	U	0.0082		0.030	04/24/08	05/15/08
Europium 152	0.033	U	0.074		0.13	04/24/08	05/15/08
Europium 154	0.05	U	0.33		0.59	04/24/08	05/15/08
Potassium 40	8.5		1.4		0.9	04/24/08	05/15/08
Radium (226)	0.52	J	0.14	1.00	0.15	04/24/08	05/15/08
Thorium 232	0.30		0.13		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8117175**	**Yld % 88**
Thorium 228	0.60	J	0.17	1.00	0.09	04/26/08	05/05/08
Thorium 230	0.40	J	0.13	1.00	0.04	04/26/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8117176**	**Yld % 87**
Uranium 233/234	0.31	J	0.12	1.00	0.08	04/26/08	05/02/08
Uranium 235/236	0.054	J	0.054	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.37	J	0.13	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1006

Radiochemistry

Lab Sample ID: F8D220249-014
Work Order: KLQ4J
Matrix: SOLID

Date Collected: 03/31/08 1348
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.30		0.19		0.24	04/24/08	05/15/08
Americium 241	-0.04	U	0.11		0.18	04/24/08	05/15/08
Cesium 137	0.015	U	0.048	0.200	0.088	04/24/08	05/15/08
Cobalt 60	-0.014	U	0.057		0.11	04/24/08	05/15/08
Europium 152	-0.05	U	0.13		0.23	04/24/08	05/15/08
Europium 154	-0.08	U	0.48		0.88	04/24/08	05/15/08
Potassium 40	7.8		1.6		0.6	04/24/08	05/15/08
Radium (226)	0.34	J	0.14	1.00	0.19	04/24/08	05/15/08
Thorium 232	0.30		0.19		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 93**
Thorium 228	0.37	J	0.13	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.35	J	0.12	1.00	0.03	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 83**
Uranium 233/234	0.30	J	0.12	1.00	0.08	04/26/08	05/02/08
Uranium 235/236	-0.0025	U	0.0051	1.00	0.058	04/26/08	05/02/08
Uranium 238	0.27	J	0.11	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1007

Radiochemistry

Lab Sample ID: F8D220249-015
Work Order: KLQ4K
Matrix: SOLID

Date Collected: 03/31/08 1350
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.44		0.18		0.33	04/24/08	05/15/08
Americium 241	0.068	U	0.092		0.15	04/24/08	05/15/08
Cesium 137	0.029	U	0.045	0.200	0.088	04/24/08	05/15/08
Cobalt 60	0.002	U	0.045		0.093	04/24/08	05/15/08
Europium 152	0.04	U	0.10		0.18	04/24/08	05/15/08
Europium 154	0.0	U	0.33		0.65	04/24/08	05/15/08
Potassium 40	9.6		1.7		0.5	04/24/08	05/15/08
Radium (226)	0.30	J	0.14	1.00	0.18	04/24/08	05/15/08
Thorium 232	0.44		0.18		0.33	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 81
Thorium 228	0.62	J	0.18	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.54	J	0.16	1.00	0.03	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 87
Uranium 233/234	0.32	J	0.12	1.00	0.04	04/26/08	05/02/08
Uranium 235/236	0.022	U	0.035	1.00	0.052	04/26/08	05/02/08
Uranium 238	0.40	J	0.13	1.00	0.04	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1008

Radiochemistry

Lab Sample ID: F8D220249-016
Work Order: KLQ4M
Matrix: SOLID

Date Collected: 03/31/08 1355
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.62		0.14		0.11	04/24/08	05/15/08
Americium 241	-0.02	U	0.32		0.56	04/24/08	05/15/08
Cesium 137	0.015	U	0.032	0.200	0.056	04/24/08	05/15/08
Cobalt 60	-0.002	U	0.033		0.063	04/24/08	05/15/08
Europium 152	-0.001	U	0.076		0.14	04/24/08	05/15/08
Europium 154	0.04	U	0.22		0.41	04/24/08	05/15/08
Potassium 40	9.5		1.3		0.3	04/24/08	05/15/08
Radium (226)	0.67	J	0.13	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.62		0.14		0.11	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117175		Yld % 81
Thorium 228	0.45	J	0.15	1.00	0.05	04/26/08	05/03/08
Thorium 230	0.55	J	0.17	1.00	0.07	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 92
Uranium 233/234	0.40	J	0.14	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/26/08	05/02/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 61
Strontium 90	0.17	U	0.40	3.00	0.67	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1009

Radiochemistry

Lab Sample ID: F8D220249-017
Work Order: KLQ4Q
Matrix: SOLID

Date Collected: 03/31/08 1357
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.31		0.16		0.20	04/24/08	05/15/08
Americium 241	0.021	U	0.085		0.14	04/24/08	05/15/08
Cesium 137	0.026	U	0.047	0.200	0.081	04/24/08	05/15/08
Cobalt 60	-0.013	U	0.048		0.088	04/24/08	05/15/08
Europium 152	-0.017	U	0.087		0.16	04/24/08	05/15/08
Europium 154	-0.08	U	0.41		0.74	04/24/08	05/15/08
Potassium 40	6.8		1.3		0.8	04/24/08	05/15/08
Radium (226)	0.52	J	0.13	1.00	0.07	04/24/08	05/15/08
Thorium 232	0.31		0.16		0.20	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 85**
Thorium 228	0.45	J	0.15	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.42	J	0.14	1.00	0.06	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 89**
Uranium 233/234	0.38	J	0.13	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.077	J	0.066	1.00	0.057	04/26/08	05/02/08
Uranium 238	0.35	J	0.13	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1010

Radiochemistry

Lab Sample ID: F8D220249-018
Work Order: KLQ4R
Matrix: SOLID

Date Collected: 03/31/08 1402
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.30		0.18		0.24	04/24/08	05/15/08
Americium 241	-0.021	U	0.086		0.15	04/24/08	05/15/08
Cesium 137	0.012	U	0.042	0.200	0.076	04/24/08	05/15/08
Cobalt 60	-0.014	U	0.051		0.095	04/24/08	05/15/08
Europium 152	0.0008	U	0.099		0.18	04/24/08	05/15/08
Europium 154	-0.08	U	0.46		0.83	04/24/08	05/15/08
Potassium 40	8.4		1.5		0.5	04/24/08	05/15/08
Radium (226)	0.47	J	0.13	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.30		0.18		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 84**
Thorium 228	0.96	J	0.22	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.64	J	0.18	1.00	0.06	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 65**
Uranium 233/234	0.72	J	0.19	1.00	0.07	04/26/08	05/02/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/26/08	05/02/08
Uranium 238	0.57	J	0.17	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1011

Radiochemistry

Lab Sample ID: F8D220249-019
Work Order: KLQ4W
Matrix: SOLID

Date Collected: 03/31/08 1405
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115305		Yld %
Actinium 228	0.41		0.16		0.19	04/24/08	05/15/08
Americium 241	0.053	U	0.073		0.12	04/24/08	05/15/08
Cesium 137	0.002	U	0.038	0.200	0.071	04/24/08	05/15/08
Cobalt 60	0.014	U	0.035		0.063	04/24/08	05/15/08
Europium 152	0.003	U	0.080		0.15	04/24/08	05/15/08
Europium 154	-0.05	U	0.33		0.60	04/24/08	05/15/08
Potassium 40	8.9		1.3		0.3	04/24/08	05/15/08
Radium (226)	0.53	J	0.13	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.41		0.16		0.19	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117175		Yld % 90
Thorium 228	0.48	J	0.15	1.00	0.08	04/26/08	05/03/08
Thorium 230	0.52	J	0.15	1.00	0.04	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8117176		Yld % 90
Uranium 233/234	0.41	J	0.13	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/26/08	05/02/08
Uranium 238	0.39	J	0.13	1.00	0.06	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1012

Radiochemistry

Lab Sample ID: F8D220249-020
Work Order: KLQ40
Matrix: SOLID

Date Collected: 03/31/08 1412
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115305**		**Yld %**
Actinium 228	0.48		0.18		0.27	04/24/08	05/15/08
Americium 241	-0.090	U	0.085		0.14	04/24/08	05/15/08
Cesium 137	0.011	U	0.030	0.200	0.055	04/24/08	05/15/08
Cobalt 60	-0.004	U	0.051		0.099	04/24/08	05/15/08
Europium 152	0.040	U	0.070		0.12	04/24/08	05/15/08
Europium 154	-0.07	U	0.38		0.69	04/24/08	05/15/08
Potassium 40	9.5		1.6		0.6	04/24/08	05/15/08
Radium (226)	0.53	J	0.14	1.00	0.1	04/24/08	05/15/08
Thorium 232	0.48		0.18		0.27	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117175**		**Yld % 78**
Thorium 228	0.40	J	0.15	1.00	0.09	04/26/08	05/03/08
Thorium 230	0.71	J	0.20	1.00	0.07	04/26/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8117176**		**Yld % 84**
Uranium 233/234	0.49	J	0.15	1.00	0.05	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/26/08	05/02/08
Uranium 238	0.43	J	0.14	1.00	0.05	04/26/08	05/02/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1013

Radiochemistry

Lab Sample ID: F8D220249-021
Work Order: KLQ41
Matrix: SOLID

Date Collected: 03/31/08 1417
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115305		Yld %
Actinium 228	0.36		0.17		0.21	04/24/08	05/15/08
Americium 241	-0.021	U	0.093		0.16	04/24/08	05/15/08
Cesium 137	-0.007	U	0.043	0.200	0.078	04/24/08	05/15/08
Cobalt 60	0.0	U	0.043		0.082	04/24/08	05/15/08
Europium 152	0.008	U	0.082		0.15	04/24/08	05/15/08
Europium 154	0.02	U	0.20		0.38	04/24/08	05/15/08
Potassium 40	9.1		1.3		0.3	04/24/08	05/15/08
Radium (226)	0.39	J	0.11	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.36		0.17		0.21	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8117176		Yld % 88
Uranium 233/234	0.55	J	0.16	1.00	0.06	04/26/08	05/02/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	04/26/08	05/02/08
Uranium 238	0.34	J	0.12	1.00	0.04	04/26/08	05/02/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8130115		Yld % 87
Thorium 228	0.50	J	0.16	1.00	0.08	05/09/08	05/15/08
Thorium 230	0.56	J	0.16	1.00	0.06	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1013 DUP

Radiochemistry

Lab Sample ID: F8D220249-021X
Work Order: KLO41
Matrix: SOLID

Date Collected: 03/31/08 1417
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8130115		Yld % 86
Thorium 228	0.79	J	0.20	1.00	0.08	05/09/08	05/15/08
Thorium 230	0.64	J	0.17	1.00	0.05	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

d results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1014

Radiochemistry

Lab Sample ID: F8D220249-022
Work Order: KLQ42
Matrix: SOLID

Date Collected: 03/31/08 1430
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.28		0.11		0.12	04/24/08	05/15/08
Americium 241	0.17	U	0.25		0.41	04/24/08	05/15/08
Cesium 137	-0.007	U	0.027	0.200	0.048	04/24/08	05/15/08
Cobalt 60	0.002	U	0.026		0.049	04/24/08	05/15/08
Europium 152	0.011	U	0.061		0.11	04/24/08	05/15/08
Europium 154	-0.07	U	0.24		0.43	04/24/08	05/15/08
Potassium 40	8.1		1.1		0.2	04/24/08	05/15/08
Radium (226)	0.315	J	0.093	1.00	0.098	04/24/08	05/15/08
Thorium 232	0.28		0.11		0.12	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 87**
Thorium 228	0.50	J	0.15	1.00	0.07	04/27/08	05/05/08
Thorium 230	0.43	J	0.14	1.00	0.03	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 68**
Uranium 233/234	0.45	J	0.15	1.00	0.06	04/27/08	05/04/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	04/27/08	05/04/08
Uranium 238	0.27	J	0.11	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1014 DUP

Radiochemistry

Lab Sample ID: F8D220249-022X
Work Order: KLQ42
Matrix: SOLID

Date Collected: 03/31/08 1430
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.30		0.18		0.24	04/24/08	05/15/08
Americium 241	-0.003	U	0.082		0.14	04/24/08	05/15/08
Cesium 137	0.0	U	0.050	0.200	0.091	04/24/08	05/15/08
Cobalt 60	0.021	U	0.041		0.072	04/24/08	05/15/08
Europium 152	0.014	U	0.083		0.15	04/24/08	05/15/08
Europium 154	-0.13	U	0.39		0.69	04/24/08	05/15/08
Potassium 40	7.7		1.4		0.6	04/24/08	05/15/08
Radium (226)	0.379	J	0.098	1.00	0.044	04/24/08	05/15/08
Thorium 232	0.30		0.18		0.24	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 88
Uranium 233/234	0.34	J	0.12	1.00	0.06	04/27/08	05/04/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	04/27/08	05/04/08
Uranium 238	0.34	J	0.12	1.00	0.06	04/27/08	05/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 82
Thorium 228	0.40	J	0.14	1.00	0.09	04/27/08	05/05/08
Thorium 230	0.52	J	0.16	1.00	0.05	04/27/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1015

Radiochemistry

Lab Sample ID: F8D220249-023
Work Order: KLQ43
Matrix: SOLID

Date Collected: 03/31/08 1433
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.42		0.14		0.25	04/24/08	05/15/08
Americium 241	-0.027	U	0.082		0.14	04/24/08	05/15/08
Cesium 137	-0.013	U	0.043	0.200	0.077	04/24/08	05/15/08
Cobalt 60	-0.0005	U	0.043		0.086	04/24/08	05/15/08
Europium 152	0.033	U	0.082		0.14	04/24/08	05/15/08
Europium 154	0.12	U	0.38		0.67	04/24/08	05/15/08
Potassium 40	7.9		1.4		0.4	04/24/08	05/15/08
Radium (226)	0.51	J	0.13	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.42		0.14		0.25	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 89**
Thorium 228	0.37	J	0.13	1.00	0.07	04/27/08	05/05/08
Thorium 230	0.41	J	0.14	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 89**
Uranium 233/234	0.38	J	0.13	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/27/08	05/04/08
Uranium 238	0.36	J	0.13	1.00	0.04	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1016

Radiochemistry

Lab Sample ID: F8D220249-024
Work Order: KLQ45
Matrix: SOLID

Date Collected: 03/31/08 1455
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.37		0.15		0.27	04/24/08	05/15/08
Americium 241	0.005	U	0.096		0.17	04/24/08	05/15/08
Cesium 137	0.006	U	0.034	0.200	0.062	04/24/08	05/15/08
Cobalt 60	0.022	U	0.030		0.049	04/24/08	05/15/08
Europium 152	-0.001	U	0.088		0.16	04/24/08	05/15/08
Europium 154	0.0	U	0.22		0.44	04/24/08	05/15/08
Potassium 40	9.4		1.5		0.6	04/24/08	05/15/08
Radium (226)	0.59	J	0.13	1.00	0.07	04/24/08	05/15/08
Thorium 232	0.37		0.15		0.27	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 79
Uranium 233/234	0.39	J	0.14	1.00	0.07	04/27/08	05/04/08
Uranium 235/236	0.015	U	0.029	1.00	0.039	04/27/08	05/04/08
Uranium 238	0.43	J	0.15	1.00	0.05	04/27/08	05/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8130115		Yld % 86
Thorium 228	0.33	J	0.12	1.00	0.08	05/09/08	05/15/08
Thorium 230	0.60	J	0.17	1.00	0.04	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1017

Radiochemistry

Lab Sample ID: F8D220249-025
Work Order: KLQ47
Matrix: SOLID

Date Collected: 03/31/08 1457
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.29		0.17		0.23	04/24/08	05/15/08
Americium 241	-0.05	U	0.10		0.18	04/24/08	05/15/08
Cesium 137	0.021	U	0.036	0.200	0.062	04/24/08	05/15/08
Cobalt 60	0.024	U	0.040		0.069	04/24/08	05/15/08
Europium 152	0.004	U	0.11		0.19	04/24/08	05/15/08
Europium 154	0.12	U	0.24		0.42	04/24/08	05/15/08
Potassium 40	10.1		1.5		0.6	04/24/08	05/15/08
Radium (226)	0.57	J	0.14	1.00	0.15	04/24/08	05/15/08
Thorium 232	0.29		0.17		0.23	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 90
Thorium 228	0.34	J	0.12	1.00	0.08	04/27/08	05/05/08
Thorium 230	0.40	J	0.13	1.00	0.04	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 91
Uranium 233/234	0.42	J	0.13	1.00	0.04	04/27/08	05/05/08
Uranium 235/236	0.008	U	0.026	1.00	0.061	04/27/08	05/05/08
Uranium 238	0.28	J	0.11	1.00	0.04	04/27/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1018

Radiochemistry

Lab Sample ID: F8D220249-026
Work Order: KLQ5A
Matrix: SOLID

Date Collected: 03/31/08 1500
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.42		0.15		0.25	04/24/08	05/15/08
Americium 241	-0.027	U	0.095		0.16	04/24/08	05/15/08
Cesium 137	0.005	U	0.040	0.200	0.072	04/24/08	05/15/08
Cobalt 60	-0.01	U	0.049		0.089	04/24/08	05/15/08
Europium 152	-0.010	U	0.087		0.16	04/24/08	05/15/08
Europium 154	-0.002	U	0.26		0.49	04/24/08	05/15/08
Potassium 40	10.8		1.5		0.3	04/24/08	05/15/08
Radium (226)	0.68	J	0.16	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.42		0.15		0.25	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 92**
Thorium 228	0.46	J	0.15	1.00	0.08	04/27/08	05/05/08
Thorium 230	0.54	J	0.16	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 89**
Uranium 233/234	0.48	J	0.15	1.00	0.04	04/27/08	05/04/08
Uranium 235/236	0.038	J	0.044	1.00	0.034	04/27/08	05/04/08
Uranium 238	0.47	J	0.14	1.00	0.04	04/27/08	05/04/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 65**
Strontium 90	-0.25	U	0.39	3.00	0.69	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1019

Radiochemistry

Lab Sample ID: F8D220249-027
Work Order: KLQ5D
Matrix: SOLID

Date Collected: 03/31/08 1503
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.46		0.26		0.35	04/24/08	05/15/08
Americium 241	0.04	U	0.11		0.19	04/24/08	05/15/08
Cesium 137	0.019	U	0.053	0.200	0.095	04/24/08	05/15/08
Cobalt 60	-0.029	U	0.077		0.14	04/24/08	05/15/08
Europium 152	-0.06	U	0.15		0.26	04/24/08	05/15/08
Europium 154	-0.03	U	0.46		0.87	04/24/08	05/15/08
Potassium 40	10.5		1.9		0.6	04/24/08	05/15/08
Radium (226)	0.56	J	0.15	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.46		0.26		0.35	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 94
Thorium 228	0.44	J	0.14	1.00	0.09	04/27/08	05/05/08
Thorium 230	0.42	J	0.13	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 80
Uranium 233/234	0.33	J	0.12	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	0.014	U	0.028	1.00	0.037	04/27/08	05/04/08
Uranium 238	0.43	J	0.14	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

June 13, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 2nd, 2008.

LDC project# 18874:

SDG #	Fraction
F8D220236, F8D220249 F8D220260, F8D220274 F8D220281	Gamma Spec (DOE GA-01-R Mod) Radium-226 (Method 903.0) Isotopic Thorium (DOE A-01-R Mod) Isotopic Uranium (DOE A-01-R Mod) Strontium-90 (DOE SR-03-RC Mod)

The following deliverables are submitted under this report:

Attachment I	Sample ID Cross Reference and Data Review Level
Attachment II	Overall Data Qualification Summary
Attachment III	Tetra Tech EC Database Qualification Summary
Attachment IV	Field Blank Summary
Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Mar-2008	15-993	F8D220249001	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-993	F8D220249001	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-993	F8D220249001	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-993DUP	F8D220249001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-993DUP	F8D220249001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-993DUP	F8D220249001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-994	F8D220249002	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-994	F8D220249002	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-994	F8D220249002	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-995	F8D220249003	EB	Gen Prep	903.0 MOD	3
31-Mar-2008	15-995	F8D220249003	EB	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-995	F8D220249003	EB	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-995	F8D220249003	EB	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-995	F8D220249003	EB	Gen Prep	)OE SR-03-RC MOI	3
31-Mar-2008	15-996	F8D220249004	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-996	F8D220249004	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-996	F8D220249004	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-997	F8D220249005	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-997	F8D220249005	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-997	F8D220249005	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-998	F8D220249006	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-998	F8D220249006	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-998	F8D220249006	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-998	F8D220249006	N	Gen Prep	)OE SR-03-RC MOI	3
31-Mar-2008	15-999	F8D220249007	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-999	F8D220249007	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Mar-2008	15-999	F8D220249007	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1000	F8D220249008	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1000	F8D220249008	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1000	F8D220249008	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1001	F8D220249009	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1001	F8D220249009	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1001	F8D220249009	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1002	F8D220249010	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1002	F8D220249010	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1002	F8D220249010	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1003	F8D220249011	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1003	F8D220249011	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1003	F8D220249011	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1004	F8D220249012	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1004	F8D220249012	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1004	F8D220249012	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1005	F8D220249013	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1005	F8D220249013	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1005	F8D220249013	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1006	F8D220249014	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1006	F8D220249014	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1006	F8D220249014	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1007	F8D220249015	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1007	F8D220249015	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1007	F8D220249015	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1008	F8D220249016	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Mar-2008	15-1008	F8D220249016	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1008	F8D220249016	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1008	F8D220249016	N	Gen Prep	)OE SR-03-RC MOI	3
31-Mar-2008	15-1009	F8D220249017	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1009	F8D220249017	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1009	F8D220249017	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1010	F8D220249018	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1010	F8D220249018	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1010	F8D220249018	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1011	F8D220249019	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1011	F8D220249019	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1011	F8D220249019	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1012	F8D220249020	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1012	F8D220249020	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1012	F8D220249020	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1013	F8D220249021	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1013	F8D220249021	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1013	F8D220249021	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1013DUP	F8D220249021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1014	F8D220249022	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1014	F8D220249022	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1014	F8D220249022	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1014DUP	F8D220249022DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1014DUP	F8D220249022DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1014DUP	F8D220249022DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1015	F8D220249023	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
31-Mar-2008	15-1015	F8D220249023	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1015	F8D220249023	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1016	F8D220249024	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1016	F8D220249024	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1016	F8D220249024	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1017	F8D220249025	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1017	F8D220249025	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1017	F8D220249025	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1018	F8D220249026	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1018	F8D220249026	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1018	F8D220249026	N	Gen Prep	DOE GA-01-R MOD	3
31-Mar-2008	15-1018	F8D220249026	N	Gen Prep	)OE SR-03-RC MOI	3
31-Mar-2008	15-1019	F8D220249027	N	Gen Prep	)OE A-01-R TH MOI	3
31-Mar-2008	15-1019	F8D220249027	N	Gen Prep	DOE A-01-R U MOD	3
31-Mar-2008	15-1019	F8D220249027	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
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MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220249										
DOE A-01-R TH MOD	15-1002	SO	N	THORIUM-230	1.00	0.42J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1003	SO	N	THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1004	SO	N	THORIUM-230	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1005	SO	N	THORIUM-230	1.00	0.40J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1006	SO	N	THORIUM-230	1.00	0.35J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-1009	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-995	AQ	EB	THORIUM-230	1.00	0.19J	0.12	U	pCi/L	
DOE A-01-R TH MOD	15-999	SO	N	THORIUM-230	1.00	0.38J	0.13	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8D220249

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220249	15-1002	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-1003	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-1004	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-1005	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-1006	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-1009	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-995	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220249	15-999	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

All Field QC were reported as ND

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8D220249

Method Blank Outlier Report

Lab Reporting Batch : F8D220249
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/02/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D260000175MB
Preparation Batch : 8117175

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.056	1.00	pCi/g	J	

THORIUM-228 contamination found in the method blank did not qualify any samples.

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.089	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1002	F8D220249010	1	0.42	J	pCi/g
15-1003	F8D220249011	1	0.38	J	pCi/g
15-1004	F8D220249012	1	0.36	J	pCi/g
15-1005	F8D220249013	1	0.40	J	pCi/g
15-1006	F8D220249014	1	0.35	J	pCi/g
15-1009	F8D220249017	1	0.42	J	pCi/g
15-999	F8D220249007	1	0.38	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220249
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/05/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D270000012MB
Preparation Batch : 8118012

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.052	1.00	pCi/g	J	

THORIUM-228 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8D220249
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8E070000447MB
Preparation Batch : 8128447

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.22	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-995	F8D220249003	1	0.19	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8D220249
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/15/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8E090000115MB
Preparation Batch : 8130115

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.061	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18874B29
SDG #: F8D220249
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

Radium 226 (EPA 903.0 Mod)

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	Client specified, insufficient sample
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A N	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	15-995	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 18874B35 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-9-08
SDG #: F8D220249 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	(SDG: F8D220236)
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (outliers are both N.D.)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-993	S	11	1	15-1003	S	21	1	15-1013	S	31	1	PBS1
2	1	15-994		12	1	15-1004		22	2	15-1014		32	2	PBS2
3	3	15-995	W	13	1	15-1005		23	2	15-1015		33	3	PBW
4	1	15-996	S	14	1	15-1006		24	2	15-1016		34		
5	1	15-997		15	1	15-1007		25	2	15-1017		35		
6	1	15-998		16	1	15-1008		26	2	15-1018		36		
7	1	15-999		17	1	15-1009		27	2	15-1019		37		
8	1	15-1000		18	1	15-1010		28	1	15-993DUP		38		
9	1	15-1001		19	1	15-1011		29	2	15-1014DUP		39		
10	1	15-1002		20	1	15-1012		30				40		

Notes:

LDC #: 18874B59
SDG #: F8D220249
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: V

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (outliers are both N.D.)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X.	Field blanks	ND	ER=3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	2	15-993	S	11	2	15-1003	S	21	2	15-1013	S	31	1	PBS1
2	2	15-994	↓	12	2	15-1004	↓	22	1	15-1014	↓	32	2	PBS2
3	3	15-995	W	13	2	15-1005		23	1	15-1015		33	3	PBW
4	2	15-996	S	14	2	15-1006		24	1	15-1016		34		
5	2	15-997		15	2	15-1007		25	1	15-1017		35		
6	2	15-998		16	2	15-1008		26	1	15-1018		36		
7	2	15-999		17	2	15-1009		27	1	15-1019		37		
8	2	15-1000		18	2	15-1010		28	2	15-993DUP		38		
9	2	15-1001		19	2	15-1011		29	1	15-1014DUP	↓	39		
10	2	15-1002	↓	20	2	15-1012	↓	30				40		

Notes:

LDC #: 18874B61
SDG #: F8D220249
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-9-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8D220236) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	A ~~N~~	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-995 W	11		21		31		
2	2	15-998 S	12		22		32		
3	2	15-1008	13		23		33		
4	2	15-1018	14		24		34		
5	1	PBW	15		25		35		
6	2	PBS	16		26		36		
7			17		27		37		
8			18		28		38		
9			19		29		39		
10			20		30		40		

Notes:

LDC #: 18874B73 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-9-08
SDG #: F8D220249 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer: [signature]

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 3-31-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (OK by difference)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	~~SW~~	ER = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	2	15-993	S	11	2	15-1003	S	21	3	15-1013	S	31	1	PBS1
2	2	15-994	↓	12	2	15-1004	↓	22	1	15-1014	↓	32	2	PBS2
3	4	15-995	W	13	2	15-1005		23	1	15-1015		33	3	PBS3
4	2	15-996	S	14	2	15-1006		24	3	15-1016		34	4	PBW
5	2	15-997	↓	15	2	15-1007		25	1	15-1017		35		
6	2	15-998		16	2	15-1008		26	1	15-1018		36		
7	2	15-999		17	2	15-1009		27	1	15-1019		37		
8	2	15-1000		18	2	15-1010		28	2	15-993DUP		38		
9	2	15-1001		19	2	15-1011		29	3	15-1013DUP		39		
10	2	15-1002	↓	20	2	15-1012	↓	30	1	15-1014DUP	↓	40		

Notes: _____

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37175

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites L2 B32	106.429552	TESTAMERICA
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D	LABORATORY ID (FOR LABORATORY): F8D220260
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7920 4324 4214	
PROJECT CONTACT: S. Suzoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545	

Project Information Section
Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1M GAMMA; ISOTOPIC THORIUM; ISOTOPIC URANIUM; 9% 1/2 DOE SR-01/SR-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	9% 1/2 DOE SR-01/SR-02					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1020	4.1.08	9:17	1	X		S	21 DY	X	X	X							B.32IR-85a	2'	2.5'	N
15-1021	4.1.08	9:20	1	X		S	21 DY	X	X	X							B.32IR-85b	2.5'	3'	N
15-1022	4.1.08	9:26	1	X		S	21 DY	X	X	X							B.32IR-86a	2'	2.5'	N
15-1023	4.1.08	9:30	1	X		S	21 DY	X	X	X							B.32IR-86b	2.5'	3'	N
15-1024	4.1.08	9:34	1	X		S	21 DY	X	X	X							B.32IR-87a	2'	2.5'	N
15-1025	4.1.08	9:38	1	X		S	21 DY	X	X	X							B.32IR-87b	2.5'	3'	N
15-1026	4.1.08	9:41	1	X		S	21 DY	X	X	X							B.32IR-88a	2'	2.5'	N
15-1027	4.1.08	9:45	1	X		S	21 DY	X	X	X							B.32IR-88b	2.5'	3'	N
15-1028	4.1.08	9:50	2	X		S	21 DY	X	X	X	X						B.32IR-89a	2'	2.5'	N
15-1029	4.1.08	9:53	1	X		S	21 DY	X	X	X							B.32IR-89b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	4/21/08	
COMPANY: TtEC / FedEx	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Restoration

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37176

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7926 9663 0090
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): F8D220260

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 9010 GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	% MOISTURE SW-846					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1030	4.1.08	9:57	2	X		W	21 DY	X	X	X	X*					*Added 4-22-08 SL	Equipment RINSATE	N/A	N/A	N
15-1031	4.1.08	10:02	1	X		S	21 DY	X	X	X							B-32IR-90a	2'	2.5'	N
15-1032	4.1.08	10:05	1	X		S	21 DY	X	X	X							B-32IR-90b	2.5'	3'	N
15-1033	4.1.08	10:10	1	X		S	21 DY	X	X	X							B-32IR-91a	2'	2.5'	N
15-1034	4.1.08	10:13	1	X		S	21 DY	X	X	X							B-32IR-91b	2.5'	3'	N
15-1035	4.1.08	10:18	1	X		S	21 DY	X	X	X							B-32IR-92a	2'	2.5'	N
15-1036	4.1.08	10:21	1	X		S	21 DY	X	X	X							B-32IR-92b	2.5'	3'	N
15-1037	4.1.08	10:28	1	X		S	21 DY	X	X	X							B-32IR-93a	2'	2.5'	N
15-1038	4.1.08	10:32	2	X		S	21 DY	X	X	X	X						B-32IR-93b	2.5'	3'	N
15-1039	4.1.08	10:40	1	X		S	21 DY	X	X	X							B-32IR-94a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Ingrowth
COMPANY: TtE / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR=INSTALLATION Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRATECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37177

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.6295552
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7926 9663 0090
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-757-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): FSD 220260

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 6010 CALCIUM GAMMA	ISOTOPIC THORIUM	ISOTOPIC PLUTONIUM	Sr 90 DNG SR-01 Rev 2	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1040	4.1.08	10:43	1	X		S	21 DY	X	X	X			B-32IR-94b	2.5'	3'	N
15-1041	4.1.08	12:58	1	X		S	21 DY	X	X	X			B-32IR-95a	2'	2.5'	N
15-1042	4.1.08	13:01	1	X		S	21 DY	X	X	X			B-32IR-95b	2.5'	3'	N
15-1043	4.1.08	13:21	1	X		S	21 DY	X	X	X			B-32IR-96a	2'	2.5'	N
15-1044	4.1.08	13:25	1	X		S	21 DY	X	X	X			B-32IR-96b	2.5'	3'	N
15-1045	4.1.08	13:45	1	X		S	21 DY	X	X	X			B-32IR-97a	2'	2.5'	N
15-1046	4.1.08	13:48	1	X		S	21 DY	X	X	X			B-32IR-97b	2.5'	3'	N
15-1047	4.1.08	13:55	1	X		S	21 DY	X	X	X			B-32IR-98a	2'	2.5'	N
15-1048	4.1.08	14:00	2	X		S	21 DY	X	X	X	X		B-32IR-98b	2.5'	3'	N
15-1049	4.1.08	14:15	1	X		S	21 DY	X	X	X			B-32IR-99a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/6/08	RECEIVED BY (Signature)	
COMPANY TT/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR= Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 750
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 37180

LOGGED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 166.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210-028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7920 4325 0687
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): FBD220260

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1050	4.1.08	14:18	1	X		S	21 DY	X	X	X		B-32IR-99b	2.5'	3'	N
15-1051	4.1.08	14:20	1	X		S	21 DY	X	X	X		B-32IR-100a	2'	2.5'	N
15-1052	4.1.08	14:22	1	X		S	21 DY	X	X	X		B-32IR-100b	2.5'	3'	N
15-1053	4.1.08	14:25	1	X		S	21 DY	X	X	X		B-32IR-101a	2'	2.5'	N
15-1054	4.1.08	14:28	1	X		S	21 DY	X	X	X		B-32IR-101b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 4/2/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH
COMPANY TTEC	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-1020

Radiochemistry

Lab Sample ID: F8D220260-001
Work Order: KLQ5X
Matrix: SOLID

Date Collected: 04/01/08 0917
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.30	U	0.13		0.34	04/24/08	05/15/08
Americium 241	0.004	U	0.073		0.13	04/24/08	05/15/08
Cesium 137	0.007	U	0.057	0.200	0.11	04/24/08	05/15/08
Cobalt 60	0.047	U	0.058		0.094	04/24/08	05/15/08
Europium 152	0.006	U	0.11		0.19	04/24/08	05/15/08
Europium 154	0.0	U	0.076		0.28	04/24/08	05/15/08
Potassium 40	**10.5**		**1.8**		**0.5**	**04/24/08**	**05/15/08**
Radium (226)	**0.59**	**J**	0.15	1.00	**0.08**	**04/24/08**	**05/15/08**
Thorium 232	0.30	U	0.13		0.34	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 75**
Uranium 233/234	**0.57**	**J**	0.17	1.00	**0.05**	**04/27/08**	**05/04/08**
Uranium 235/236	0.024	U	0.043	1.00	0.073	04/27/08	05/04/08
Uranium 238	**0.45**	**J**	0.15	1.00	**0.05**	**04/27/08**	**05/04/08**
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8130115**		**Yld % 90**
Thorium 228	**0.36**	**J**	0.13	1.00	**0.08**	**05/09/08**	**05/15/08**
Thorium 230	**0.44**	**J**	0.14	1.00	**0.03**	**05/09/08**	**05/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1021

Radiochemistry

Lab Sample ID: F8D220260-002
Work Order: KLQ51
Matrix: SOLID

Date Collected: 04/01/08 0920
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.45		0.12		0.17	04/24/08	05/15/08
Americium 241	0.11	U	0.27		0.46	04/24/08	05/15/08
Cesium 137	-0.0008	U	0.028	0.200	0.053	04/24/08	05/15/08
Cobalt 60	0.0004	U	0.031		0.060	04/24/08	05/15/08
Europium 152	0.015	U	0.062		0.11	04/24/08	05/15/08
Europium 154	0.002	U	0.23		0.43	04/24/08	05/15/08
Potassium 40	9.4		1.2		0.2	04/24/08	05/15/08
Radium (226)	0.42	J	0.10	1.00	0.1	04/24/08	05/15/08
Thorium 232	0.45		0.12		0.17	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 89
Thorium 228	0.44	J	0.15	1.00	0.09	04/27/08	05/05/08
Thorium 230	0.64	J	0.18	1.00	0.05	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 86
Uranium 233/234	0.49	J	0.15	1.00	0.06	04/27/08	05/04/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/27/08	05/04/08
Uranium 238	0.48	J	0.15	1.00	0.06	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1022

Radiochemistry

Lab Sample ID: F8D220260-003
Work Order: KLQ52
Matrix: SOLID

Date Collected: 04/01/08 0926
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.40		0.15		0.26	04/24/08	05/15/08
Americium 241	0.088	U	0.084		0.13	04/24/08	05/15/08
Cesium 137	0.028	U	0.048	0.200	0.081	04/24/08	05/15/08
Cobalt 60	-0.011	U	0.047		0.087	04/24/08	05/15/08
Europium 152	0.016	U	0.089		0.16	04/24/08	05/15/08
Europium 154	0.0	U	0.38		0.71	04/24/08	05/15/08
Potassium 40	7.4		1.4		1	04/24/08	05/15/08
Radium (226)	0.30	J	0.11	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.40		0.15		0.26	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 86
Thorium 228	0.29	J	0.12	1.00	0.07	04/27/08	05/05/08
Thorium 230	0.46	J	0.15	1.00	0.03	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 86
Uranium 233/234	0.30	J	0.12	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	-0.0025	U	0.0051	1.00	0.058	04/27/08	05/04/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1023

Radiochemistry

Lab Sample ID: F8D220260-004
Work Order: KLQ53
Matrix: SOLID

Date Collected: 04/01/08 0930
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.21	U	0.19		0.28	04/24/08	05/15/08
Americium 241	-0.005	U	0.093		0.16	04/24/08	05/15/08
Cesium 137	-0.008	U	0.046	0.200	0.084	04/24/08	05/15/08
Cobalt 60	-0.002	U	0.046		0.091	04/24/08	05/15/08
Europium 152	-0.003	U	0.10		0.19	04/24/08	05/15/08
Europium 154	-0.08	U	0.41		0.75	04/24/08	05/15/08
Potassium 40	**9.3**		1.6		0.5	04/24/08	05/15/08
Radium (226)	**0.33**	J	0.13	1.00	0.17	04/24/08	05/15/08
Thorium 232	0.21	U	0.19		0.28	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 68
Thorium 228	**0.50**	J	0.16	1.00	0.09	04/27/08	05/05/08
Thorium 230	**0.39**	J	0.14	1.00	0.05	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 82
Uranium 233/234	**0.32**	J	0.12	1.00	0.06	04/27/08	05/04/08
Uranium 235/236	0.019	U	0.039	1.00	0.072	04/27/08	05/04/08
Uranium 238	**0.35**	J	0.13	1.00	0.08	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1024

Radiochemistry

Lab Sample ID: F8D220260-005
Work Order: KLQ55
Matrix: SOLID

Date Collected: 04/01/08 0934
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115306		Yld %
Actinium 228	0.37		0.15		0.24	04/24/08	05/15/08
Americium 241	0.037	U	0.090		0.15	04/24/08	05/15/08
Cesium 137	-0.004	U	0.032	0.200	0.060	04/24/08	05/15/08
Cobalt 60	0.0	U	0.0087		0.032	04/24/08	05/15/08
Europium 152	-0.02	U	0.10		0.18	04/24/08	05/15/08
Europium 154	-0.06	U	0.33		0.59	04/24/08	05/15/08
Potassium 40	10.2		1.5		0.3	04/24/08	05/15/08
Radium (226)	0.36	J	0.12	1.00	0.15	04/24/08	05/15/08
Thorium 232	0.37		0.15		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 84
Thorium 228	0.39	J	0.14	1.00	0.07	04/27/08	05/05/08
Thorium 230	0.34	J	0.13	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 85
Uranium 233/234	0.33	J	0.13	1.00	0.08	04/27/08	05/04/08
Uranium 235/236	0.0	U	0.012	1.00	0.038	04/27/08	05/04/08
Uranium 238	0.33	J	0.13	1.00	0.06	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1025

Radiochemistry

Lab Sample ID: F8D220260-006
Work Order: KLQ57
Matrix: SOLID

Date Collected: 04/01/08 0938
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.36		0.15		0.30	04/24/08	05/15/08
Americium 241	0.0	U	0.087		0.15	04/24/08	05/15/08
Cesium 137	0.020	U	0.042	0.200	0.073	04/24/08	05/15/08
Cobalt 60	0.009	U	0.041		0.080	04/24/08	05/15/08
Europium 152	0.0	U	0.098		0.18	04/24/08	05/15/08
Europium 154	-0.03	U	0.40		0.74	04/24/08	05/15/08
Potassium 40	8.0		1.6		1.0	04/24/08	05/15/08
Radium (226)	0.41	J	0.12	1.00	0.08	04/24/08	05/15/08
Thorium 232	0.36		0.15		0.30	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 91**
Thorium 228	0.49	J	0.15	1.00	0.08	04/27/08	05/05/08
Thorium 230	0.57	J	0.16	1.00	0.05	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 85**
Uranium 233/234	0.29	J	0.12	1.00	0.08	04/27/08	05/04/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.057	04/27/08	05/04/08
Uranium 238	0.39	J	0.13	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1026

Radiochemistry

Lab Sample ID: F8D220260-007
Work Order: KLQ58
Matrix: SOLID

Date Collected: 04/01/08 0941
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116341**		**Yld %**
Actinium 228	0.40		0.14		0.23	04/25/08	05/16/08
Americium 241	0.0	U	0.11		0.19	04/25/08	05/16/08
Cesium 137	0.010	U	0.038	0.200	0.068	04/25/08	05/16/08
Cobalt 60	0.017	U	0.045		0.082	04/25/08	05/16/08
Europium 152	0.033	U	0.086		0.15	04/25/08	05/16/08
Europium 154	-0.05	U	0.32		0.59	04/25/08	05/16/08
Potassium 40	10.1		1.6		0.6	04/25/08	05/16/08
Radium (226)	0.45	J	0.13	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.40		0.14		0.23	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 87**
Thorium 228	0.58	J	0.17	1.00	0.1	04/27/08	05/05/08
Thorium 230	0.54	J	0.16	1.00	0.05	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8130118**		**Yld % 84**
Uranium 233/234	0.30	J	0.11	1.00	0.04	05/09/08	05/15/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	05/09/08	05/15/08
Uranium 238	0.31	J	0.12	1.00	0.04	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1026 DUP

Radiochemistry

Lab Sample ID: F8D220260-007X
Work Order: KLQ58
Matrix: SOLID

Date Collected: 04/01/08 0941
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8116341**		**Yld %**
Actinium 228	0.51		0.16		0.20	04/25/08	05/16/08
Americium 241	-0.0007	U	0.066		0.12	04/25/08	05/16/08
Cesium 137	0.022	U	0.047	0.200	0.081	04/25/08	05/16/08
Cobalt 60	0.004	U	0.037		0.072	04/25/08	05/16/08
Europium 152	-0.008	U	0.090		0.16	04/25/08	05/16/08
Europium 154	-0.1	U	0.34		0.61	04/25/08	05/16/08
Potassium 40	11.2		1.5		0.3	04/25/08	05/16/08
Radium (226)	0.51	J	0.13	1.00	0.14	04/25/08	05/16/08
Thorium 232	0.51		0.16		0.20	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8130118**		**Yld % 89**
Uranium 233/234	0.43	J	0.14	1.00	0.07	05/09/08	05/15/08
Uranium 235/236	0.056	U	0.057	1.00	0.068	05/09/08	05/15/08
Uranium 238	0.33	J	0.12	1.00	0.03	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1027

Radiochemistry

Lab Sample ID: F8D220260-008
Work Order: KLQ6C
Matrix: SOLID

Date Collected: 04/01/08 0945
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.30		0.13		0.22	04/24/08	05/15/08
Americium 241	0.002	U	0.083		0.14	04/24/08	05/15/08
Cesium 137	-0.015	U	0.042	0.200	0.074	04/24/08	05/15/08
Cobalt 60	0.011	U	0.031		0.057	04/24/08	05/15/08
Europium 152	-0.011	U	0.097		0.17	04/24/08	05/15/08
Europium 154	-0.12	U	0.35		0.61	04/24/08	05/15/08
Potassium 40	7.8		1.3		0.9	04/24/08	05/15/08
Radium (226)	0.48	J	0.12	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.30		0.13		0.22	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 91**
Uranium 233/234	0.39	J	0.13	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	0.013	U	0.026	1.00	0.036	04/27/08	05/04/08
Uranium 238	0.31	J	0.12	1.00	0.05	04/27/08	05/04/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8130115**		**Yld % 80**
Thorium 228	0.75	J	0.20	1.00	0.11	05/09/08	05/15/08
Thorium 230	0.63	J	0.18	1.00	0.07	05/09/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1028

Radiochemistry

Lab Sample ID: F8D220260-009
Work Order: KLQ6D
Matrix: SOLID

Date Collected: 04/01/08 0950
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115306**		**Yld %**
Actinium 228	0.29	U	0.23		0.34	04/24/08	05/15/08
Americium 241	-0.02	U	0.10		0.18	04/24/08	05/15/08
Cesium 137	0.004	U	0.033	0.200	0.065	04/24/08	05/15/08
Cobalt 60	0.0	U	0.10		0.19	04/24/08	05/15/08
Europium 152	-0.03	U	0.11		0.19	04/24/08	05/15/08
Europium 154	-0.07	U	0.39		0.72	04/24/08	05/15/08
Potassium 40	**9.8**		**1.8**		**0.5**	**04/24/08**	**05/15/08**
Radium (226)	**0.58**	**J**	**0.14**	**1.00**	**0.11**	**04/24/08**	**05/15/08**
Thorium 232	0.29	U	0.23		0.34	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118012**		**Yld % 82**
Thorium 228	**0.79**	**J**	**0.20**	**1.00**	**0.09**	**04/27/08**	**05/05/08**
Thorium 230	**0.52**	**J**	**0.16**	**1.00**	**0.03**	**04/27/08**	**05/05/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118011**		**Yld % 90**
Uranium 233/234	**0.30**	**J**	**0.12**	**1.00**	**0.04**	**04/27/08**	**05/04/08**
Uranium 235/236	0.024	U	0.038	1.00	0.056	04/27/08	05/04/08
Uranium 238	**0.41**	**J**	**0.14**	**1.00**	**0.04**	**04/27/08**	**05/04/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 66**
Strontium 90	-0.20	U	0.38	3.00	0.67	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1029

Radiochemistry

Lab Sample ID: F8D220260-010
Work Order: KLQ6F
Matrix: SOLID

Date Collected: 04/01/08 0953
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.32		0.16		0.32	04/25/08	05/16/08
Americium 241	-0.01	U	0.10		0.18	04/25/08	05/16/08
Cesium 137	0.0004	U	0.037	0.200	0.072	04/25/08	05/16/08
Cobalt 60	0.0	U	0.063		0.12	04/25/08	05/16/08
Europium 152	0.014	U	0.089		0.16	04/25/08	05/16/08
Europium 154	-0.15	U	0.42		0.75	04/25/08	05/16/08
Potassium 40	7.9		1.5		0.5	04/25/08	05/16/08
Radium (226)	0.21	J	0.12	1.00	0.18	04/25/08	05/16/08
Thorium 232	0.32		0.16		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 90
Thorium 228	0.68	J	0.18	1.00	0.07	04/27/08	05/05/08
Thorium 230	0.51	J	0.15	1.00	0.03	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 67
Uranium 233/234	0.28	J	0.12	1.00	0.07	04/27/08	05/04/08
Uranium 235/236	0.014	U	0.028	1.00	0.038	04/27/08	05/04/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1030

Radiochemistry

Lab Sample ID: F8D220260-011
Work Order: KLQ6H
Matrix: WATER

Date Collected: 04/01/08 0957
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/L**		**Batch # 8114124**	**Yld % 67**
Strontium 90	0.74	U	0.80	3.00	1.3	04/23/08	05/01/08
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**		**Batch # 8115554**	**Yld %**
Actinium 228	0.6	U	25		49	04/24/08	04/25/08
Americium 241	2.2	U	8.2		15	04/24/08	04/25/08
Cesium 137	2.4	U	8.2	20.0	15	04/24/08	04/25/08
Cobalt 60	0.0	U	2.4		8.7	04/24/08	04/25/08
Europium 152	4	U	17		31	04/24/08	04/25/08
Europium 154	0.0	U	56		110	04/24/08	04/25/08
Potassium 40	-30	U	110		210	04/24/08	04/25/08
Thorium 232	0.6	U	25		49	04/24/08	04/25/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**		**Batch # 8115379**	**Yld % 41**
Thorium 228	-0.078	U	0.052	1.00	0.34	05/02/08	05/05/08
Thorium 230	0.15	U	0.19	1.00	0.27	05/02/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**		**Batch # 8115380**	**Yld % 87**
Uranium 233/234	0.069	U	0.087	1.00	0.12	05/02/08	05/05/08
Uranium 235/236	0.0	U	0.023	1.00	0.072	05/02/08	05/05/08
Uranium 238	0.023	U	0.063	1.00	0.13	05/02/08	05/05/08
Radium 226 by EPA 903.0 MOD				**pCi/L**		**Batch # 8114195**	**Yld % 106**
Radium (226)	0.12	U	0.19	1.00	0.32	04/23/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1031

Radiochemistry

Lab Sample ID: F8D220260-012
Work Order: KLQ68
Matrix: SOLID

Date Collected: 04/01/08 1002
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.34		0.23		0.32	04/25/08	05/16/08
Americium 241	-0.004	U	0.090		0.16	04/25/08	05/16/08
Cesium 137	-0.0007	U	0.034	0.200	0.067	04/25/08	05/16/08
Cobalt 60	0.0	U	0.068		0.13	04/25/08	05/16/08
Europium 152	0.0691	U	0.0997		0.17	04/25/08	05/16/08
Europium 154	-0.05	U	0.34		0.64	04/25/08	05/16/08
Potassium 40	10.1		1.7		0.7	04/25/08	05/16/08
Radium (226)	0.45	J	0.12	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.34		0.23		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 89
Thorium 228	0.43	J	0.14	1.00	0.04	04/27/08	05/05/08
Thorium 230	0.49	J	0.15	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 78
Uranium 233/234	0.28	J	0.12	1.00	0.07	04/27/08	05/04/08
Uranium 235/236	0.0	U	0.013	1.00	0.040	04/27/08	05/04/08
Uranium 238	0.27	J	0.12	1.00	0.07	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1032

Radiochemistry

Lab Sample ID: F8D220260-013
Work Order: KLQ69
Matrix: SOLID

Date Collected: 04/01/08 1005
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116341		Yld %
Actinium 228	0.35		0.13		0.22	04/25/08	05/16/08
Americium 241	-0.027	U	0.093		0.16	04/25/08	05/16/08
Cesium 137	0.0	U	0.021	0.200	0.043	04/25/08	05/16/08
Cobalt 60	0.010	U	0.043		0.079	04/25/08	05/16/08
Europium 152	-0.0264	U	0.0998		0.17	04/25/08	05/16/08
Europium 154	0.06	U	0.30		0.54	04/25/08	05/16/08
Potassium 40	9.7		1.5		0.8	04/25/08	05/16/08
Radium (226)	0.40	J	0.12	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.35		0.13		0.22	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8118012		Yld % 87
Thorium 228	0.46	J	0.15	1.00	0.08	04/27/08	05/05/08
Thorium 230	0.46	J	0.14	1.00	0.03	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8118011		Yld % 88
Uranium 233/234	0.35	J	0.12	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	0.039	J	0.045	1.00	0.035	04/27/08	05/04/08
Uranium 238	0.45	J	0.14	1.00	0.04	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1033

Radiochemistry

Lab Sample ID: F8D220260-014
Work Order: KLQ7A
Matrix: SOLID

Date Collected: 04/01/08 1010
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.29	U	0.21		0.29	04/25/08	05/16/08
Americium 241	0.048	U	0.091		0.15	04/25/08	05/16/08
Cesium 137	0.011	U	0.061	0.200	0.11	04/25/08	05/16/08
Cobalt 60	-0.006	U	0.064		0.12	04/25/08	05/16/08
Europium 152	-0.02	U	0.12		0.22	04/25/08	05/16/08
Europium 154	0.0	U	0.66		1.2	04/25/08	05/16/08
Potassium 40	9.2		1.8		1.0	04/25/08	05/16/08
Radium (226)	0.62	J	0.15	1.00	0.11	04/25/08	05/16/08
Thorium 232	0.29	U	0.21		0.29	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 88
Thorium 228	0.57	J	0.16	1.00	0.04	04/27/08	05/05/08
Thorium 230	0.50	J	0.15	1.00	0.06	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 82
Uranium 233/234	0.38	J	0.14	1.00	0.07	04/27/08	05/04/08
Uranium 235/236	0.014	U	0.028	1.00	0.038	04/27/08	05/04/08
Uranium 238	0.49	J	0.15	1.00	0.05	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1034

Radiochemistry

Lab Sample ID: F8D220260-015
Work Order: KLQ7C
Matrix: SOLID

Date Collected: 04/01/08 1013
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.48		0.22		0.25	04/25/08	05/16/08
Americium 241	0.041	U	0.094		0.16	04/25/08	05/16/08
Cesium 137	-0.02	U	0.24	0.20	0.11	04/25/08	05/16/08
Cobalt 60	0.027	U	0.060		0.11	04/25/08	05/16/08
Europium 152	0.08	U	0.11		0.18	04/25/08	05/16/08
Europium 154	-0.10	U	0.43		0.79	04/25/08	05/16/08
Potassium 40	10.5		1.8		0.5	04/25/08	05/16/08
Radium (226)	0.44	J	0.15	1.00	0.18	04/25/08	05/16/08
Thorium 232	0.48		0.22		0.25	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118012		Yld % 88
Thorium 228	0.46	J	0.15	1.00	0.08	04/27/08	05/05/08
Thorium 230	0.45	J	0.14	1.00	0.03	04/27/08	05/05/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118011		Yld % 85
Uranium 233/234	0.34	J	0.12	1.00	0.05	04/27/08	05/04/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/27/08	05/04/08
Uranium 238	0.38	J	0.13	1.00	0.06	04/27/08	05/04/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1035

Radiochemistry

Lab Sample ID: F8D220260-016
Work Order: KLQ7E
Matrix: SOLID

Date Collected: 04/01/08 1018
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.56		0.16		0.19	04/25/08	05/16/08
Americium 241	-0.12	U	0.33		0.56	04/25/08	05/16/08
Cesium 137	0.020	U	0.030	0.200	0.051	04/25/08	05/16/08
Cobalt 60	-0.0001	U	0.027		0.053	04/25/08	05/16/08
Europium 152	0.014	U	0.079		0.14	04/25/08	05/16/08
Europium 154	0.12	U	0.22		0.38	04/25/08	05/16/08
Potassium 40	10.7		1.3		0.2	04/25/08	05/16/08
Radium (226)	0.48	J	0.10	1.00	0.09	04/25/08	05/16/08
Thorium 232	0.56		0.16		0.19	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 86
Thorium 228	0.59	J	0.17	1.00	0.08	04/27/08	05/12/08
Thorium 230	0.51	J	0.15	1.00	0.03	04/27/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 88
Uranium 233/234	0.38	J	0.13	1.00	0.04	04/27/08	05/11/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/27/08	05/11/08
Uranium 238	0.33	J	0.12	1.00	0.04	04/27/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1035 DUP

Radiochemistry

Lab Sample ID: F8D220260-016X
Work Order: KLQ7E
Matrix: SOLID

Date Collected: 04/01/08 1018
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8118037**	**Yld % 89**
Thorium 228	**0.33**	**J**	**0.13**	1.00	**0.09**	**04/27/08**	**05/14/08**
Thorium 230	**0.39**	**J**	**0.13**	1.00	**0.04**	**04/27/08**	**05/14/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8118038**	**Yld % 77**
Uranium 233/234	**0.34**	**J**	**0.13**	1.00	**0.05**	**04/27/08**	**05/11/08**
Uranium 235/236	0.015	U	0.030	1.00	0.040	04/27/08	05/11/08
Uranium 238	**0.33**	**J**	**0.13**	1.00	**0.05**	**04/27/08**	**05/11/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1036

Radiochemistry

Lab Sample ID: F8D220260-017
Work Order: KLQ7F
Matrix: SOLID

Date Collected: 04/01/08 1021
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.42		0.18		0.20	04/25/08	05/16/08
Americium 241	0.010	U	0.087		0.15	04/25/08	05/16/08
Cesium 137	0.053	U	0.044	0.200	0.067	04/25/08	05/16/08
Cobalt 60	0.011	U	0.042		0.078	04/25/08	05/16/08
Europium 152	-0.018	U	0.093		0.16	04/25/08	05/16/08
Europium 154	0.003	U	0.29		0.55	04/25/08	05/16/08
Potassium 40	10.5		1.5		0.6	04/25/08	05/16/08
Radium (226)	0.47	J	0.12	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.42		0.18		0.20	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 91
Thorium 228	0.35	J	0.13	1.00	0.08	04/27/08	05/12/08
Thorium 230	0.140	J	0.076	1.00	0.027	04/27/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 86
Uranium 233/234	0.33	J	0.12	1.00	0.07	04/27/08	05/11/08
Uranium 235/236	0.011	U	0.027	1.00	0.057	04/27/08	05/11/08
Uranium 238	0.31	J	0.12	1.00	0.06	04/27/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1037

Radiochemistry

Lab Sample ID: F8D220260-018
Work Order: KLQ7H
Matrix: SOLID

Date Collected: 04/01/08 1028
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.35		0.20		0.26	04/25/08	05/16/08
Americium 241	0.047	U	0.098		0.17	04/25/08	05/16/08
Cesium 137	-0.017	U	0.054	0.200	0.096	04/25/08	05/16/08
Cobalt 60	0.0	U	0.012		0.043	04/25/08	05/16/08
Europium 152	-0.01	U	0.10		0.19	04/25/08	05/16/08
Europium 154	0.0	U	0.49		0.89	04/25/08	05/16/08
Potassium 40	8.8		1.6		0.7	04/25/08	05/16/08
Radium (226)	0.47	J	0.12	1.00	0.09	04/25/08	05/16/08
Thorium 232	0.35		0.20		0.26	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 92
Thorium 228	1.10		0.23	1.00	0.04	04/27/08	05/12/08
Thorium 230	0.67	J	0.17	1.00	0.06	04/27/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 83
Uranium 233/234	0.54	J	0.16	1.00	0.05	04/27/08	05/11/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	04/27/08	05/11/08
Uranium 238	0.58	J	0.17	1.00	0.05	04/27/08	05/11/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1038

Radiochemistry

Lab Sample ID: F8D220260-019
Work Order: KLQ7J
Matrix: SOLID

Date Collected: 04/01/08 1032
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.47		0.20		0.26	04/25/08	05/16/08
Americium 241	-0.03	U	0.11		0.18	04/25/08	05/16/08
Cesium 137	-0.008	U	0.042	0.200	0.076	04/25/08	05/16/08
Cobalt 60	-0.011	U	0.046		0.084	04/25/08	05/16/08
Europium 152	-0.03	U	0.10		0.18	04/25/08	05/16/08
Europium 154	0.12	U	0.33		0.57	04/25/08	05/16/08
Potassium 40	11.1		1.5		0.3	04/25/08	05/16/08
Radium (226)	0.43	J	0.13	1.00	0.16	04/25/08	05/16/08
Thorium 232	0.47		0.20		0.26	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 84
Thorium 228	0.48	J	0.15	1.00	0.08	04/27/08	05/12/08
Thorium 230	0.42	J	0.14	1.00	0.03	04/27/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 86
Uranium 233/234	0.31	J	0.12	1.00	0.07	04/27/08	05/12/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/27/08	05/12/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/27/08	05/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 64
Strontium 90	-0.10	U	0.38	3.00	0.67	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1039

Radiochemistry

Lab Sample ID: F8D220260-020
Work Order: KLQ7L
Matrix: SOLID

Date Collected: 04/01/08 1040
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.32		0.20		0.27	04/25/08	05/16/08
Americium 241	-0.01	U	0.088		0.15	04/25/08	05/16/08
Cesium 137	0.017	U	0.036	0.200	0.063	04/25/08	05/16/08
Cobalt 60	-0.010	U	0.067		0.12	04/25/08	05/16/08
Europium 152	0.027	U	0.093		0.17	04/25/08	05/16/08
Europium 154	-0.003	U	0.33		0.64	04/25/08	05/16/08
Potassium 40	10		1.7		0.7	04/25/08	05/16/08
Radium (226)	0.52	J	0.12	1.00	0.05	04/25/08	05/16/08
Thorium 232	0.32		0.20		0.27	04/25/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 87
Uranium 233/234	0.43	J	0.14	1.00	0.04	04/27/08	05/12/08
Uranium 235/236	0.025	U	0.036	1.00	0.034	04/27/08	05/12/08
Uranium 238	0.25	J	0.10	1.00	0.05	04/27/08	05/12/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8136165		Yld % 48
Thorium 228	0.40	J	0.28	2.00	0.32	05/15/08	05/18/08
Thorium 230	0.56	J	0.30	2.00	0.16	05/15/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1039 DUP

Radiochemistry

Lab Sample ID: F8D220260-020X
Work Order: KLQ7L
Matrix: SOLID

Date Collected: 04/01/08 1040
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8136165		Yld % 76
Thorium 228	1.18	J	0.35	2.00	0.10	05/15/08	05/18/08
Thorium 230	0.49	J	0.23	2.00	0.15	05/15/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Detected results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1040

Radiochemistry

Lab Sample ID: F8D220260-021
Work Order: KLQ7N
Matrix: SOLID

Date Collected: 04/01/08 1043
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116341**		**Yld %**
Actinium 228	0.47		0.16		0.22	04/25/08	05/16/08
Americium 241	-0.024	U	0.086		0.15	04/25/08	05/16/08
Cesium 137	0.007	U	0.045	0.200	0.081	04/25/08	05/16/08
Cobalt 60	-0.021	U	0.056		0.098	04/25/08	05/16/08
Europium 152	-0.03	U	0.11		0.20	04/25/08	05/16/08
Europium 154	0.08	U	0.25		0.46	04/25/08	05/16/08
Potassium 40	10.4		1.5		0.3	04/25/08	05/16/08
Radium (226)	0.46	J	0.13	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.47		0.16		0.22	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118037**		**Yld % 80**
Thorium 228	0.47	J	0.15	1.00	0.09	04/27/08	05/13/08
Thorium 230	0.42	J	0.14	1.00	0.03	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118038**		**Yld % 88**
Uranium 233/234	0.33	J	0.12	1.00	0.04	04/27/08	05/12/08
Uranium 235/236	0.012	U	0.025	1.00	0.034	04/27/08	05/12/08
Uranium 238	0.30	J	0.11	1.00	0.04	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1041

Radiochemistry

Lab Sample ID: F8D220260-022
Work Order: KLQ7Q
Matrix: SOLID

Date Collected: 04/01/08 1258
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.14	U	0.27		0.45	04/25/08	05/16/08
Americium 241	-0.001	U	0.18		0.31	04/25/08	05/16/08
Cesium 137	0.0001	U	0.072	0.200	0.13	04/25/08	05/16/08
Cobalt 60	0.00006	U	0.080		0.15	04/25/08	05/16/08
Europium 152	0.04	U	0.17		0.30	04/25/08	05/16/08
Europium 154	0.23	U	0.57		1.0	04/25/08	05/16/08
Potassium 40	**6.9**		**1.6**		**1.1**	**04/25/08**	**05/16/08**
Radium (226)	**4.85**		**0.51**	1.00	**0.21**	**04/25/08**	**05/16/08**
Thorium 232	0.14	U	0.27		0.45	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 86
Thorium 228	**0.40**	**J**	0.14	1.00	0.09	04/27/08	05/13/08
Thorium 230	**0.59**	**J**	0.17	1.00	0.06	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 84
Uranium 233/234	**0.46**	**J**	0.15	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.0	U	0.012	1.00	0.036	04/27/08	05/12/08
Uranium 238	**0.32**	**J**	0.12	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1042

Radiochemistry

Lab Sample ID: F8D220260-023
Work Order: KLQ7V
Matrix: SOLID

Date Collected: 04/01/08 1301
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.41		0.20		0.21	04/25/08	05/16/08
Americium 241	0.030	U	0.089		0.15	04/25/08	05/16/08
Cesium 137	-0.04	U	0.34	0.20	0.12	04/25/08	05/16/08
Cobalt 60	-0.0004	U	0.062		0.12	04/25/08	05/16/08
Europium 152	-0.01	U	0.10		0.19	04/25/08	05/16/08
Europium 154	-0.14	U	0.47		0.84	04/25/08	05/16/08
Potassium 40	9.2		1.7		0.5	04/25/08	05/16/08
Radium (226)	0.38	J	0.13	1.00	0.15	04/25/08	05/16/08
Thorium 232	0.41		0.20		0.21	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 81
Thorium 228	0.50	J	0.16	1.00	0.09	04/27/08	05/13/08
Thorium 230	0.42	J	0.14	1.00	0.06	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 85
Uranium 233/234	0.31	J	0.12	1.00	0.07	04/27/08	05/12/08
Uranium 235/236	0.038	U	0.047	1.00	0.057	04/27/08	05/12/08
Uranium 238	0.23	J	0.10	1.00	0.06	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1043

Radiochemistry

Lab Sample ID: F8D220260-024
Work Order: KLQ7X
Matrix: SOLID

Date Collected: 04/01/08 1321
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.28		0.13		0.17	04/25/08	05/16/08
Americium 241	-0.006	U	0.31		0.54	04/25/08	05/16/08
Cesium 137	0.009	U	0.023	0.200	0.041	04/25/08	05/16/08
Cobalt 60	-0.008	U	0.031		0.056	04/25/08	05/16/08
Europium 152	-0.031	U	0.088		0.15	04/25/08	05/16/08
Europium 154	0.06	U	0.23		0.40	04/25/08	05/16/08
Potassium 40	7.8		1.1		0.2	04/25/08	05/16/08
Radium (226)	1.34		0.17	1.00	0.06	04/25/08	05/16/08
Thorium 232	0.28		0.13		0.17	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 86
Thorium 228	0.30	J	0.12	1.00	0.09	04/27/08	05/13/08
Thorium 230	0.38	J	0.13	1.00	0.06	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 85
Uranium 233/234	0.42	J	0.14	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	-0.0050	U	0.0070	1.00	0.065	04/27/08	05/12/08
Uranium 238	0.23	J	0.10	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1044

Radiochemistry

Lab Sample ID: F8D220260-025
Work Order: KLQ70
Matrix: SOLID

Date Collected: 04/01/08 1325
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.36		0.21		0.30	04/25/08	05/16/08
Americium 241	-0.009	U	0.093		0.16	04/25/08	05/16/08
Cesium 137	-0.005	U	0.047	0.200	0.084	04/25/08	05/16/08
Cobalt 60	0.0	U	0.055		0.10	04/25/08	05/16/08
Europium 152	0.0015	U	0.0998		0.18	04/25/08	05/16/08
Europium 154	-0.10	U	0.36		0.64	04/25/08	05/16/08
Potassium 40	4.7		1.1		1	04/25/08	05/16/08
Radium (226)	1.22		0.19	1.00	0.07	04/25/08	05/16/08
Thorium 232	0.36		0.21		0.30	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 78
Thorium 228	0.64	J	0.19	1.00	0.11	04/27/08	05/13/08
Thorium 230	0.63	J	0.18	1.00	0.06	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 86
Uranium 233/234	0.31	J	0.12	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.0	U	0.011	1.00	0.036	04/27/08	05/12/08
Uranium 238	0.26	J	0.11	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1045

Radiochemistry

Lab Sample ID: F8D220260-026
Work Order: KLQ72
Matrix: SOLID

Date Collected: 04/01/08 1345
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.35		0.21		0.29	04/25/08	05/16/08
Americium 241	0.027	U	0.089		0.15	04/25/08	05/16/08
Cesium 137	-0.006	U	0.039	0.200	0.073	04/25/08	05/16/08
Cobalt 60	0.003	U	0.049		0.095	04/25/08	05/16/08
Europium 152	0.024	U	0.094		0.17	04/25/08	05/16/08
Europium 154	0.0	U	0.38		0.72	04/25/08	05/16/08
Potassium 40	7.1		1.4		0.7	04/25/08	05/16/08
Radium (226)	0.46	J	0.14	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.35		0.21		0.29	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 80
Thorium 228	0.44	J	0.15	1.00	0.08	04/27/08	05/14/08
Thorium 230	0.52	J	0.16	1.00	0.03	04/27/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 85
Uranium 233/234	0.41	J	0.14	1.00	0.07	04/27/08	05/12/08
Uranium 235/236	-0.0075	U	0.0086	1.00	0.072	04/27/08	05/12/08
Uranium 238	0.37	J	0.13	1.00	0.03	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1046

Radiochemistry

Lab Sample ID: F8D220260-027
Work Order: KLQ73
Matrix: SOLID

Date Collected: 04/01/08 1348
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.29		0.15		0.19	04/25/08	05/16/08
Americium 241	0.003	U	0.079		0.14	04/25/08	05/16/08
Cesium 137	0.0002	U	0.017	0.200	0.035	04/25/08	05/16/08
Cobalt 60	-0.007	U	0.038		0.069	04/25/08	05/16/08
Europium 152	-0.015	U	0.082		0.15	04/25/08	05/16/08
Europium 154	-0.07	U	0.28		0.50	04/25/08	05/16/08
Potassium 40	7.4		1.2		0.7	04/25/08	05/16/08
Radium (226)	0.59	J	0.13	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.29		0.15		0.19	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 87
Thorium 228	0.44	J	0.14	1.00	0.07	04/27/08	05/13/08
Thorium 230	0.38	J	0.13	1.00	0.03	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 91
Uranium 233/234	0.27	J	0.11	1.00	0.06	04/27/08	05/12/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/27/08	05/12/08
Uranium 238	0.30	J	0.11	1.00	0.04	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1047

Radiochemistry

Lab Sample ID: F8D220260-028
Work Order: KLQ74
Matrix: SOLID

Date Collected: 04/01/08 1355
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116341		Yld %
Actinium 228	0.26	U	0.21		0.32	04/25/08	05/16/08
Americium 241	0.032	U	0.083		0.14	04/25/08	05/16/08
Cesium 137	-0.020	U	0.052	0.200	0.091	04/25/08	05/16/08
Cobalt 60	-0.0005	U	0.061		0.12	04/25/08	05/16/08
Europium 152	0.01	U	0.11		0.19	04/25/08	05/16/08
Europium 154	0.01	U	0.27		0.53	04/25/08	05/16/08
Potassium 40	9.8		1.7		0.7	04/25/08	05/16/08
Radium (226)	0.40	J	0.11	1.00	0.05	04/25/08	05/16/08
Thorium 232	0.26	U	0.21		0.32	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 86
Thorium 228	0.38	J	0.13	1.00	0.09	04/27/08	05/13/08
Thorium 230	0.35	J	0.12	1.00	0.03	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 84
Uranium 233/234	0.22	J	0.10	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/27/08	05/12/08
Uranium 238	0.25	J	0.11	1.00	0.06	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1048

Radiochemistry

Lab Sample ID: F8D220260-029
Work Order: KLQ75
Matrix: SOLID

Date Collected: 04/01/08 1400
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.31		0.17		0.23	04/25/08	05/16/08
Americium 241	0.068	U	0.074		0.12	04/25/08	05/16/08
Cesium 137	0.01	U	0.038	0.200	0.068	04/25/08	05/16/08
Cobalt 60	0.0	U	0.081		0.14	04/25/08	05/16/08
Europium 152	-0.02	U	0.12		0.21	04/25/08	05/16/08
Europium 154	0.06	U	0.29		0.54	04/25/08	05/16/08
Potassium 40	8.7		1.4		0.7	04/25/08	05/16/08
Radium (226)	0.35	J	0.12	1.00	0.15	04/25/08	05/16/08
Thorium 232	0.31		0.17		0.23	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 87
Thorium 228	0.39	J	0.13	1.00	0.05	04/27/08	05/13/08
Thorium 230	0.33	J	0.12	1.00	0.07	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 79
Uranium 233/234	0.31	J	0.12	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.0	U	0.012	1.00	0.039	04/27/08	05/12/08
Uranium 238	0.42	J	0.14	1.00	0.05	04/27/08	05/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 62
Strontium 90	0.08	U	0.40	3.00	0.68	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1048 DUP

Radiochemistry

Lab Sample ID: F8D220260-029X
Work Order: KLQ75
Matrix: SOLID

Date Collected: 04/01/08 1400
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.34		0.19		0.26	04/25/08	05/16/08
Americium 241	0.038	U	0.097		0.16	04/25/08	05/16/08
Cesium 137	0.005	U	0.045	0.200	0.083	04/25/08	05/16/08
Cobalt 60	0.0	U	0.082		0.15	04/25/08	05/16/08
Europium 152	-0.02	U	0.11		0.19	04/25/08	05/16/08
Europium 154	-0.01	U	0.36		0.68	04/25/08	05/16/08
Potassium 40	9.7		1.6		0.6	04/25/08	05/16/08
Radium (226)	0.44	J	0.13	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.34		0.19		0.26	04/25/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1049

Radiochemistry

Lab Sample ID: F8D220260-030
Work Order: KLQ77
Matrix: SOLID

Date Collected: 04/01/08 1415
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.46		0.20		0.23	04/25/08	05/16/08
Americium 241	-0.024	U	0.095		0.16	04/25/08	05/16/08
Cesium 137	0.016	U	0.044	0.200	0.078	04/25/08	05/16/08
Cobalt 60	-0.012	U	0.057		0.10	04/25/08	05/16/08
Europium 152	-0.022	U	0.081		0.14	04/25/08	05/16/08
Europium 154	0.11	U	0.28		0.50	04/25/08	05/16/08
Potassium 40	12.2		1.8		0.6	04/25/08	05/16/08
Radium (226)	0.73	J	0.14	1.00	0.04	04/25/08	05/16/08
Thorium 232	0.46		0.20		0.23	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 80
Thorium 228	0.51	J	0.16	1.00	0.08	04/27/08	05/13/08
Thorium 230	0.61	J	0.17	1.00	0.03	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 82
Uranium 233/234	0.51	J	0.16	1.00	0.07	04/27/08	05/12/08
Uranium 235/236	0.011	U	0.028	1.00	0.058	04/27/08	05/12/08
Uranium 238	0.32	J	0.12	1.00	0.06	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1050

Radiochemistry

Lab Sample ID: F8D220260-031
Work Order: KLQ78
Matrix: SOLID

Date Collected: 04/01/08 1418
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.60		0.20		0.23	04/25/08	05/16/08
Americium 241	-0.008	U	0.060		0.10	04/25/08	05/16/08
Cesium 137	0.021	U	0.037	0.200	0.064	04/25/08	05/16/08
Cobalt 60	-0.007	U	0.050		0.090	04/25/08	05/16/08
Europium 152	-0.016	U	0.078		0.14	04/25/08	05/16/08
Europium 154	-0.01	U	0.27		0.50	04/25/08	05/16/08
Potassium 40	12.5		1.5		0.3	04/25/08	05/16/08
Radium (226)	0.41	J	0.11	1.00	0.11	04/25/08	05/16/08
Thorium 232	0.60		0.20		0.23	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 81
Thorium 228	0.70	J	0.19	1.00	0.09	04/27/08	05/13/08
Thorium 230	0.72	J	0.19	1.00	0.05	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 81
Uranium 233/234	0.40	J	0.14	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.036	U	0.049	1.00	0.068	04/27/08	05/12/08
Uranium 238	0.40	J	0.14	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1051

Radiochemistry

Lab Sample ID: F8D220260-032
Work Order: KLQ8A
Matrix: SOLID

Date Collected: 04/01/08 1420
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.48		0.17		0.28	04/25/08	05/16/08
Americium 241	0.017	U	0.088		0.15	04/25/08	05/16/08
Cesium 137	0.029	U	0.047	0.200	0.080	04/25/08	05/16/08
Cobalt 60	0.0	U	0.065		0.12	04/25/08	05/16/08
Europium 152	-0.001	U	0.088		0.16	04/25/08	05/16/08
Europium 154	0.0	U	0.071		0.26	04/25/08	05/16/08
Potassium 40	12.1		1.9		0.5	04/25/08	05/16/08
Radium (226)	0.50	J	0.15	1.00	0.17	04/25/08	05/16/08
Thorium 232	0.48		0.17		0.28	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 91
Thorium 228	0.46	J	0.14	1.00	0.07	04/27/08	05/13/08
Thorium 230	0.54	J	0.15	1.00	0.05	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 83
Uranium 233/234	0.38	J	0.13	1.00	0.04	04/27/08	05/12/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	04/27/08	05/12/08
Uranium 238	0.39	J	0.13	1.00	0.04	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1052

Radiochemistry

Lab Sample ID: F8D220260-033
Work Order: KLQ8C
Matrix: SOLID

Date Collected: 04/01/08 1422
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116342**		**Yld %**
Actinium 228	0.47		0.16		0.27	04/25/08	05/16/08
Americium 241	-0.002	U	0.065		0.12	04/25/08	05/16/08
Cesium 137	0.019	U	0.053	0.200	0.098	04/25/08	05/16/08
Cobalt 60	0.025	U	0.060		0.11	04/25/08	05/16/08
Europium 152	-0.003	U	0.097		0.18	04/25/08	05/16/08
Europium 154	0.0	U	0.46		0.85	04/25/08	05/16/08
Potassium 40	10.8		1.7		0.4	04/25/08	05/16/08
Radium (226)	0.48	J	0.14	1.00	0.12	04/25/08	05/16/08
Thorium 232	0.47		0.16		0.27	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118037**		**Yld % 90**
Thorium 228	0.61	J	0.17	1.00	0.08	04/27/08	05/13/08
Thorium 230	0.65	J	0.17	1.00	0.06	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118038**		**Yld % 81**
Uranium 233/234	0.36	J	0.13	1.00	0.05	04/27/08	05/12/08
Uranium 235/236	0.0	U	0.012	1.00	0.037	04/27/08	05/12/08
Uranium 238	0.36	J	0.13	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1053

Radiochemistry

Lab Sample ID: F8D220260-034
Work Order: KLQ8D
Matrix: SOLID

Date Collected: 04/01/08 1425
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8116342**		**Yld %**
Actinium 228	0.67		0.14		0.05	04/25/08	05/16/08
Americium 241	-0.04	U	0.27		0.46	04/25/08	05/16/08
Cesium 137	0.002	U	0.025	0.200	0.046	04/25/08	05/16/08
Cobalt 60	0.002	U	0.024		0.047	04/25/08	05/16/08
Europium 152	0.010	U	0.058		0.10	04/25/08	05/16/08
Europium 154	0.10	U	0.18		0.32	04/25/08	05/16/08
Potassium 40	10.9		1.3		0.2	04/25/08	05/16/08
Radium (226)	0.45	J	0.10	1.00	0.1	04/25/08	05/16/08
Thorium 232	0.67		0.14		0.05	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118037**		**Yld % 83**
Thorium 228	0.57	J	0.17	1.00	0.10	04/27/08	05/13/08
Thorium 230	0.75	J	0.19	1.00	0.05	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8118038**		**Yld % 82**
Uranium 233/234	0.49	J	0.16	1.00	0.08	04/27/08	05/12/08
Uranium 235/236	0.006	U	0.029	1.00	0.074	04/27/08	05/12/08
Uranium 238	0.50	J	0.15	1.00	0.03	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1054

Radiochemistry

Lab Sample ID: F8D220260-035
Work Order: KLQ8F
Matrix: SOLID

Date Collected: 04/01/08 1428
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8116342		Yld %
Actinium 228	0.35		0.14		0.24	04/25/08	05/16/08
Americium 241	0.008	U	0.090		0.15	04/25/08	05/16/08
Cesium 137	0.011	U	0.032	0.200	0.056	04/25/08	05/16/08
Cobalt 60	0.006	U	0.053		0.098	04/25/08	05/16/08
Europium 152	0.023	U	0.091		0.16	04/25/08	05/16/08
Europium 154	0.11	U	0.29		0.52	04/25/08	05/16/08
Potassium 40	10.5		1.5		0.6	04/25/08	05/16/08
Radium (226)	0.41	J	0.12	1.00	0.13	04/25/08	05/16/08
Thorium 232	0.35		0.14		0.24	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118037		Yld % 85
Thorium 228	0.71	J	0.18	1.00	0.08	04/27/08	05/13/08
Thorium 230	0.65	J	0.17	1.00	0.03	04/27/08	05/13/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8118038		Yld % 83
Uranium 233/234	0.44	J	0.15	1.00	0.07	04/27/08	05/12/08
Uranium 235/236	0.027	U	0.039	1.00	0.037	04/27/08	05/12/08
Uranium 238	0.45	J	0.15	1.00	0.05	04/27/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

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U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

June 13, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 2nd, 2008.

LDC project# 18874:

SDG #	Fraction
F8D220236, F8D220249 F8D220260, F8D220274 F8D220281	Gamma Spec (DOE GA-01-R Mod) Radium-226 (Method 903.0) Isotopic Thorium (DOE A-01-R Mod) Isotopic Uranium (DOE A-01-R Mod) Strontium-90 (DOE SR-03-RC Mod)

The following deliverables are submitted under this report:

Attachment I	Sample ID Cross Reference and Data Review Level
Attachment II	Overall Data Qualification Summary
Attachment III	Tetra Tech EC Database Qualification Summary
Attachment IV	Field Blank Summary
Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Apr-2008	15-1020	F8D220260001	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1020	F8D220260001	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1020	F8D220260001	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1021	F8D220260002	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1021	F8D220260002	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1021	F8D220260002	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1022	F8D220260003	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1022	F8D220260003	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1022	F8D220260003	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1023	F8D220260004	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1023	F8D220260004	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1023	F8D220260004	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1024	F8D220260005	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1024	F8D220260005	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1024	F8D220260005	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1025	F8D220260006	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1025	F8D220260006	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1025	F8D220260006	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1026	F8D220260007	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1026	F8D220260007	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1026	F8D220260007	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1026DUP	F8D220260007DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1026DUP	F8D220260007DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1027	F8D220260008	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1027	F8D220260008	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1027	F8D220260008	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Apr-2008	15-1028	F8D220260009	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1028	F8D220260009	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1028	F8D220260009	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1028	F8D220260009	N	Gen Prep	)OE SR-03-RC MO[	3
01-Apr-2008	15-1029	F8D220260010	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1029	F8D220260010	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1029	F8D220260010	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1030	F8D220260011	EB	Gen Prep	903.0 MOD	3
01-Apr-2008	15-1030	F8D220260011	EB	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1030	F8D220260011	EB	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1030	F8D220260011	EB	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1030	F8D220260011	EB	Gen Prep	)OE SR-03-RC MO[	3
01-Apr-2008	15-1031	F8D220260012	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1031	F8D220260012	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1031	F8D220260012	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1032	F8D220260013	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1032	F8D220260013	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1032	F8D220260013	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1033	F8D220260014	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1033	F8D220260014	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1033	F8D220260014	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1034	F8D220260015	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1034	F8D220260015	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1034	F8D220260015	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1035	F8D220260016	N	Gen Prep	)OE A-01-R TH MO[	3
01-Apr-2008	15-1035	F8D220260016	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Apr-2008	15-1035	F8D220260016	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1035DUP	F8D220260016DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1035DUP	F8D220260016DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1036	F8D220260017	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1036	F8D220260017	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1036	F8D220260017	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1037	F8D220260018	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1037	F8D220260018	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1037	F8D220260018	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1038	F8D220260019	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1038	F8D220260019	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1038	F8D220260019	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1038	F8D220260019	N	Gen Prep	)OE SR-03-RC MOI	3
01-Apr-2008	15-1039	F8D220260020	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1039	F8D220260020	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1039	F8D220260020	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1039DUP	F8D220260020DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1040	F8D220260021	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1040	F8D220260021	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1040	F8D220260021	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1041	F8D220260022	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1041	F8D220260022	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1041	F8D220260022	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1042	F8D220260023	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1042	F8D220260023	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1042	F8D220260023	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Apr-2008	15-1043	F8D220260024	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1043	F8D220260024	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1043	F8D220260024	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1044	F8D220260025	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1044	F8D220260025	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1044	F8D220260025	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1045	F8D220260026	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1045	F8D220260026	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1045	F8D220260026	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1046	F8D220260027	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1046	F8D220260027	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1046	F8D220260027	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1047	F8D220260028	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1047	F8D220260028	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1047	F8D220260028	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1048	F8D220260029	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1048	F8D220260029	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1048	F8D220260029	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1048	F8D220260029	N	Gen Prep	)OE SR-03-RC MOI	3
01-Apr-2008	15-1048DUP	F8D220260029DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1049	F8D220260030	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1049	F8D220260030	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1049	F8D220260030	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1050	F8D220260031	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1050	F8D220260031	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1050	F8D220260031	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Apr-2008	15-1051	F8D220260032	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1051	F8D220260032	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1051	F8D220260032	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1052	F8D220260033	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1052	F8D220260033	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1052	F8D220260033	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1053	F8D220260034	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1053	F8D220260034	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1053	F8D220260034	N	Gen Prep	DOE GA-01-R MOD	3
01-Apr-2008	15-1054	F8D220260035	N	Gen Prep	)OE A-01-R TH MOI	3
01-Apr-2008	15-1054	F8D220260035	N	Gen Prep	DOE A-01-R U MOD	3
01-Apr-2008	15-1054	F8D220260035	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220260										
DOE A-01-R TH MOD	15-1035	SO	N	THORIUM-230	1.00	0.51J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-1036	SO	N	THORIUM-230	1.00	0.140J	0.076	U	pCi/g	
DOE A-01-R TH MOD	15-1038	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1040	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1042	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1043	SO	N	THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1045	SO	N	THORIUM-230	1.00	0.52J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-1046	SO	N	THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1047	SO	N	THORIUM-230	1.00	0.35J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-1048	SO	N	THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-1051	SO	N	THORIUM-230	1.00	0.54J	0.15	U	pCi/g	
DOE A-01-R U MOD	15-1026	SO	N	URANIUM-233/234	1.00	0.30J	0.11	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8D220260

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220260	15-1026	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220260	15-1035	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1036	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1038	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1040	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1042	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1043	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1045	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1046	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1047	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1048	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220260	15-1051	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

All Field QC were reported as ND

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8D220260

Method Blank Outlier Report

Lab Reporting Batch : F8D220260
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/05/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D270000012MB
Preparation Batch : 8118012

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.052	1.00	pCi/g	J	

THORIUM-228 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8D220260
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D270000037MB
Preparation Batch : 8118037

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.110	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1035	F8D220260016	1	0.51	J	pCi/g
15-1036	F8D220260017	1	0.140	J	pCi/g
15-1038	F8D220260019	1	0.42	J	pCi/g
15-1040	F8D220260021	1	0.42	J	pCi/g
15-1042	F8D220260023	1	0.42	J	pCi/g
15-1043	F8D220260024	1	0.38	J	pCi/g
15-1045	F8D220260026	1	0.52	J	pCi/g
15-1046	F8D220260027	1	0.38	J	pCi/g
15-1047	F8D220260028	1	0.35	J	pCi/g
15-1048	F8D220260029	1	0.33	J	pCi/g
15-1051	F8D220260032	1	0.54	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220260 **Lab ID:** TestAme

Analysis Method : DOE A-01-R TH MOD **Analysis Date :** 05/15/2008

Preparation Type : Gen Prep **Preparation Date :**

Method Blank Lab Sample ID : F8E090000115MB **Preparation Batch :** 8130115

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.061	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8D220260
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 05/15/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8E090000118MB
Preparation Batch : 8130118

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.066	1.00	pCi/g	J	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1026	F8D220260007	1	0.30	J	pCi/g

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.044	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

LDC #: 18874C29 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-10-08

SDG #: F8D220260 ADR Page: 1 of 1

Laboratory: Test America 9/16 Reviewer: MG

Radium 226 (EPA 903.0 Mod) 2nd Reviewer: ~

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-1-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	Client specified, insufficient sample
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A N	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER=1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	15-1030	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 18874C35 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-10-08
SDG #: F8D220260 ADR Page: 1 of 1
Laboratory : Test America Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-1-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	outliers are both N.D.
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP (SDG: F8D220249, F8D220236)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX	Field blanks	ND	ER = 11

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	3	15-1020	S	11	4	15-1030	W	21	1	15-1040	S	31	2	15-1050	S
2	3	15-1021		12	1	15-1031	S	22	1	15-1041		32	2	15-1051	
3	3	15-1022		13	1	15-1032		23	1	15-1042		33	2	15-1052	
4	3	15-1023		14	1	15-1033		24	1	15-1043		34	2	15-1053	
5	3	15-1024		15	1	15-1034		25	1	15-1044		35	2	15-1054	
6	3	15-1025		16	1	15-1035		26	1	15-1045		36	1	15-1026DUP	
7	1	15-1026		17	1	15-1036		27	1	15-1046		37	2	15-1048DUP	
8	3	15-1027		18	1	15-1037		28	1	15-1047		38	1	PBS1	
9	3	15-1028		19	1	15-1038		29	2	15-1048		39	2	PBS2	
10	1	15-1029		20	1	15-1039		30	2	15-1049		40	3	PBS3	

Notes: 4 PBW

LDC #: 18874C59 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-10-08
SDG #: F8D220260 ADR Page: 1 of 1
Laboratory: Test America Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-1-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (SDG: F8D220249) outliers are both N.D.
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 11

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	1	15-1020	S	11	4	15-1030	W	21	2	15-1040	S
2	1	15-1021		12	1	15-1031	S	22	2	15-1041	
3	1	15-1022		13	1	15-1032		23	2	15-1042	
4	1	15-1023		14	1	15-1033		24	2	15-1043	
5	1	15-1024		15	1	15-1034		25	2	15-1044	
6	1	15-1025		16	2	15-1035		26	2	15-1045	
7	3	15-1026		17	2	15-1036		27	2	15-1046	
8	1	15-1027		18	2	15-1037		28	2	15-1047	
9	1	15-1028		19	2	15-1038		29	2	15-1048	
10	1	15-1029		20	2	15-1039		30	2	15-1049	

31	2	15-1050	S
32	2	15-1051	
33	2	15-1052	
34	2	15-1053	
35	2	15-1054	
36	3	15-1026DUP	
37	2	15-1035DUP	
38	1	PBS1	
39	2	PBS2	
40	3	PBS3	
4		PBW	

Notes:

LDC #: 18874C61
SDG #: F8D220260
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

3 9MS

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-1-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (SDG: F8D220236) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	A N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-1028 S	11		21		31		
2 2	15-1030 W	12		22		32		
3 1	15-1038 S	13		23		33		
4 1	15-1048 ↓	14		24		34		
5 1	PBS	15		25		35		
6 2	PBW	16		26		36		
7		17		27		37		
8		18		28		38		
9		19		29		39		
10		20		30		40		

Notes:

LDC #: 18874C73
SDG #: F8D220260
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-1-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (SDG: F8D220249) outliers OK by diff.
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 11

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	4	15-1020	S	11	5	15-1030	W	21	2	15-1040	S	31	2	15-1050	S
2	1	15-1021		12	1	15-1031	S	22	2	15-1041		32	2	15-1051	
3	1	15-1022		13	1	15-1032		23	2	15-1042		33	2	15-1052	
4	1	15-1023		14	1	15-1033		24	2	15-1043		34	2	15-1053	
5	1	15-1024		15	1	15-1034		25	2	15-1044		35	2	15-1054	
6	1	15-1025		16	2	15-1035		26	2	15-1045		36	2	15-1035DUP	
7	1	15-1026		17	2	15-1036		27	2	15-1046		37	3	15-1039DUP	
8	4	15-1027		18	2	15-1037		28	2	15-1047		38	1	PBS1	
9	1	15-1028		19	2	15-1038		29	2	15-1048		39	2	PBS2	
10	1	15-1029		20	3	15-1039		30	2	15-1049		40	3	PBS3	

Notes:
4 PBS4
5 PBW

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25658

ENTERED

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: IR sites 1,2 & 32	PURCHASE ORDER NO.: 106.629552	LABORATORY NAME: Test America	Project Information Section Do not submit to Laboratory
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D		
SAMPLER NAME: V. Richards	AIRBILL NUMBER: 7920 4325 (09) 0687	LABORATORY ID (FOR LABORATORY): F8D220274	
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545		49

ANALYSES REQUIRED: EPA 901.1m Gamma; Isotopic Thorium; Isotopic Uranium; 32 DOE Sr-01/Sr-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	32 DOE Sr-01/Sr-02					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1055	4.2.08	8:35	1	X		S	21 DY	X	X	X							B.32IR-102a	2'	2.5'	N
15-1056	4.2.08	8:38	1	X		S	21 DY	X	X	X							B.32IR-102b	2.5'	3'	N
15-1057	4.2.08	8:43	1	X		S	21 DY	X	X	X							B.32IR-103a	2'	2.5'	N
15-1058	4.2.08	8:45	2	X		S	21 DY	X	X	X	X						B.32IR-103b	2.5'	3'	N
15-1059	4.2.08	8:50	1	X		S	21 DY	X	X	X							B.32IR-104a	2'	2.5'	N
15-1060	4.2.08	8:53	1	X		S	21 DY	X	X	X							B.32IR-104b	2.5'	3'	N
15-1061	4.2.08	8:56	1	X		S	21 DY	X	X	X							B.32IR-105a	2'	2.5'	N
15-1062	4.2.08	8:59	1	X		S	21 DY	X	X	X							B.32IR-105b	2.5'	3'	N
15-1063	4.2.08	9:03	1	X		S	21 DY	X	X	X							B.32IR-106a	2'	2.5'	N
15-1064	4.2.08	9:06	1	X		S	21 DY	X	X	X							B.32IR-106b	2.5'	3'	N

RELINQUISHED BY (Signature): V. Richards	DATE: 4/21/08	RECEIVED BY (Signature):
COMPANY: TtEC / Fedex	TIME:	COMPANY:
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):
COMPANY:	TIME:	COMPANY:
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):
COMPANY:	TIME:	COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowth

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25659

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V. Richards	AIRBILL NUMBER: 7918 8803 1003
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1m Gamma; ISOTOPIC Thorium; ISOTOPIC Uranium; 90Sr DOE sr-01/sr-02

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F80220274

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1065	4.2.08	9:15	1	X		S	21 DY		B-32IR-107a	2'	2.5'	N
15-1066	4.2.08	9:18	1	X		S	21 DY		B-32IR-107b	2.5'	3'	N
15-1067	4.2.08	9:30	1	X		S	21 DY		B-32IR-113a	2'	2.5'	N
15-1068	4.2.08	9:33	2	X		S	21 DY		B-32IR-113b	2.5'	3'	N
15-1069	4.2.08	9:40	1	X		S	21 DY		B-32IR-114a	2'	2.5'	N
15-1070	4.2.08	9:43	1	X		S	21 DY		B-32IR-114b	2.5'	3'	N
15-1071	4.2.08	9:45	1	X		S	21 DY		B-32IR-115a	2'	2.5'	N
15-1072	4.2.08	9:48	1	X		S	21 DY		B-32IR-115b	2.5'	3'	N
15-1073	4.2.08	9:56	1	X		S	21 DY		B-32IR-116a	2'	2.5'	N
15-1074	4.2.08	10:00	1	X		S	21 DY		B-32IR-116b	2.5'	3'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	
COMPANY TTFW/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 Dy Ingrowth

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 25660

CHAIN-OF-CUSTODY RECORD

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.6295552
PROJECT LOCATION: Alameda, CA	PROJECT NO.: 3210.078D
SAMPLER NAME: V. Richards	AIRBILL NUMBER: 7918 9803 1003
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F8D 220274

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	Gamma Spectroscopy 6010	Isotopic Thorium	Isotopic Uranium	90/Sr DOE SR-01/SR-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1075	4.2.08	10:07	1	X		S	21 DY	X	X	X			B-32IR-118a	2'	2.5'	N
15-1076	4.2.08	10:10	1	X		S	21 DY	X	X	X			B-32IR-118b	2.5'	3'	N
15-1077	4.2.08	10:25	1	X		S	21 DY	X	X	X			B-32IR-119a	2'	2.5'	N
15-1078	4.2.08	10:28	2	X		S	21 DY	X	X	X	X		B-32IR-119b	2.5'	3'	N
15-1079	4.2.08	10:59	1	X		S	21 DY	X	X	X			B-32IR-120a	2'	2.5'	N
15-1080	4.2.08	11:02	1	X		S	21 DY	X	X	X			B-32IR-120b	2.5'	3'	N
15-1081	4.2.08	11:10	2	X		W	21 DY	X	X	X	X	* Added SR90 4-22-8 S2	Equipment Rinsate	N/A	N/A	N
15-1082	4.2.08	13:05	1	X		S	21 DY	X	X	X			B-32IR-126a	2'	2.5'	N
15-1083	4.2.08	13:08	1	X		S	21 DY	X	X	X			B-32IR-126b	2.5'	3'	N
15-1084	4.2.08	13:13	1	X		S	21 DY	X	X	X			B-32IR-129a	2'	2.5'	N

RELINQUISHED BY (Signature): Vincent Richards	DATE: 4/21/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Lingrowth
COMPANY: T+C / Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25661

ENTERED

PROJECT NAME	PURCHASE ORDER NO.	LABORATORY NAME
IR sites 1,2 B32	106.6029552	TEST AMERICA
PROJECT LOCATION	**PROJECT NO.**	**LABORATORY ID (FOR LABORATORY)**
Alameda CA	3210.028D	F8D220274
SAMPLER NAME	**AIRBILL NUMBER**	
V. Richards	7989 2432 0397	
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
S. Sudoko	949-756-7545	

Project Information Section — Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	ANALYSES REQUIRED: EPA 901.1M Gamma	Isotopic Thorium	Isotopic Uranium	90Sr DOE SR-01/SR-02						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1085	4.2.08	13:16	1	X		S	21 DY	X	X	X								B.32IR-129b	2.5'	3'	N
15-1086	4.2.08	13:30	1	X		S	21 DY	X	X	X								B.32IR-131a	2'	2.5'	N
15-1087	4.2.08	13:33	1	X		S	21 DY	X	X	X								B.32IR-131b	2.5'	3'	N
15-1088	4.2.08	13:43	2	X		S	21 DY	X	X	X	X							B.32IR-133a	2'	2.5'	N
15-1089	4.2.08	13:46	1	X		S	21 DY	X	X	X								B.32IR-133b	2.5'	3'	N
15-1090	4.2.08	13:50	1	X		S	21 DY	X	X	X								B.32IR-134a	2'	2.5'	N
15-1091	4.2.08	13:53	1	X		S	21 DY	X	X	X								B.32IR-134b	2.5'	3'	N
15-1092	4.2.08	13:55	1	X		S	21 DY	X	X	X								B.32IR-135a	2'	2.5'	N
15-1093	4.2.08	13:58	1	X		S	21 DY	X	X	X								B.32IR-135b	2.5'	3'	N
15-1094	4.2.08	14:02	1	X		S	21 DY	X	X	X								B.32IR-136a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	4/21/08	
COMPANY	**TIME**	**COMPANY**
TTEC / FedEx		
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**
RELINQUISHED BY (Signature)	**DATE**	**RECEIVED BY (Signature)**
COMPANY	**TIME**	**COMPANY**

LABORATORY INSTRUCTIONS/COMMENTS
21 DAY Ingrowth

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:
IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25662

ENTERED

PROJECT NAME: IR sites 1, 23, 32	PURCHASE ORDER NO.: 106.0295552
PROJECT LOCATION: Alameda CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V. Richards	AIRBILL NUMBER: 7989 2432 0397
PROJECT CONTACT: S. Sudduth	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED

LABORATORY NAME: Test America

LABORATORY ID (FOR LABORATORY): F8D220274

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	4/8 DOE 52-01 /52-02	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1095	4.2.08	14:05	1	X		S	21 DY	X	X	X			B-32IR-136b	2.5'	3'	N
15-1096	4.2.08	14:07	1	X		S	21 DY	X	X	X			B-32IR-137a	2'	2.5'	N
15-1097	4.2.08	14:10	1	X		S	21 DY	X	X	X			B-32IR-137b	2.5'	3'	N
15-1098	4.2.08	14:15	2	X		S	21 DY	X	X	X	X		B-32IR-138a	2'	2.5'	N
15-1099	4.2.08	14:18	1	X		S	21 DY	X	X	X			B-32IR-138b	2.5'	3'	N
15-1100	4.2.08	14:21	1	X		S	21 DY	X	X	X			B-32IR-139a	2'	2.5'	N
15-1101	4.2.08	14:24	1	X		S	21 DY	X	X	X			B-32IR-139b	2.5'	3'	N
15-1102	4.2.08	14:25	1	X		S	21 DY	X	X	X			B-32IR-140a	2'	2.5'	N
15-1103	4.2.08	14:28	1	X		S	21 DY	X	X	X			B-32IR-140b	2.5'	3'	N
													Blank	N/A	N/A	N

RELINQUISHED BY (Signature): Paul Ryan	DATE: 4/21/08	RECEIVED BY (Signature):	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Turnaround
COMPANY: TTFC/Fedex	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)**
COMPANY:	TIME:	COMPANY:	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Tetra Tech EC, Inc.

Client Sample ID: 15-1055

Radiochemistry

Lab Sample ID: F8D220274-001
Work Order: KLQ8W
Matrix: SOLID

Date Collected: 04/02/08 0835
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8116341		Yld %
Actinium 228	0.39		0.13		0.18	04/25/08	05/16/08
Americium 241	0.044	U	0.093		0.16	04/25/08	05/16/08
Cesium 137	0.001	U	0.037	0.200	0.068	04/25/08	05/16/08
Cobalt 60	0.002	U	0.036		0.068	04/25/08	05/16/08
Europium 152	-0.020	U	0.093		0.16	04/25/08	05/16/08
Europium 154	0.02	U	0.17		0.33	04/25/08	05/16/08
Potassium 40	13.5		1.6		0.3	04/25/08	05/16/08
Radium (226)	0.52	J	0.13	1.00	0.14	04/25/08	05/16/08
Thorium 232	0.39		0.13		0.18	04/25/08	05/16/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8119127		Yld % 18
Thorium 228	0.73	J	0.42	1.00	0.41	04/28/08	05/14/08
Thorium 230	0.36	J	0.29	1.00	0.29	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8119125		Yld % 83
Uranium 233/234	0.34	J	0.12	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	0.014	U	0.027	1.00	0.037	04/28/08	05/13/08
Uranium 238	0.39	J	0.13	1.00	0.05	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1055 DUP

Radiochemistry

Lab Sample ID: F8D220274-001X
Work Order: KLO8W
Matrix: SOLID

Date Collected: 04/02/08 0835
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119127**	**Yld % 27**
Thorium 228	**0.54**	**J**	**0.28**	1.00	**0.15**	**04/28/08**	**05/15/08**
Thorium 230	**0.58**	**J**	**0.30**	1.00	**0.21**	**04/28/08**	**05/15/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119125**	**Yld % 89**
Uranium 233/234	**0.30**	**J**	**0.11**	1.00	**0.04**	**04/28/08**	**05/13/08**
Uranium 235/236	0.025	U	0.036	1.00	0.034	04/28/08	05/13/08
Uranium 238	**0.39**	**J**	**0.13**	1.00	**0.04**	**04/28/08**	**05/13/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1056

Radiochemistry

Lab Sample ID: F8D220274-002
Work Order: KLQ81
Matrix: SOLID

Date Collected: 04/02/08 0838
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.55		0.17		0.17	04/23/08	05/14/08
Americium 241	0.053	U	0.076		0.13	04/23/08	05/14/08
Cesium 137	0.007	U	0.033	0.200	0.059	04/23/08	05/14/08
Cobalt 60	0.001	U	0.047		0.087	04/23/08	05/14/08
Europium 152	-0.03	U	0.10		0.18	04/23/08	05/14/08
Europium 154	0.07	U	0.29		0.53	04/23/08	05/14/08
Potassium 40	11.4		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.45	J	0.12	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.55		0.17		0.17	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 53
Thorium 228	0.69	J	0.23	1.00	0.13	04/28/08	05/15/08
Thorium 230	0.60	J	0.21	1.00	0.05	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 92
Uranium 233/234	0.41	J	0.13	1.00	0.06	04/28/08	05/13/08
Uranium 235/236	0.035	U	0.043	1.00	0.053	04/28/08	05/13/08
Uranium 238	0.48	J	0.15	1.00	0.05	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1056 DUP

Radiochemistry

Lab Sample ID: F8D220274-002X
Work Order: KLQ81
Matrix: SOLID

Date Collected: 04/02/08 0838
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.46		0.18		0.18	04/23/08	05/14/08
Americium 241	0.001	U	0.098		0.17	04/23/08	05/14/08
Cesium 137	0.008	U	0.027	0.200	0.051	04/23/08	05/14/08
Cobalt 60	0.0	U	0.010		0.038	04/23/08	05/14/08
Europium 152	-0.009	U	0.099		0.18	04/23/08	05/14/08
Europium 154	-0.05	U	0.32		0.60	04/23/08	05/14/08
Potassium 40	11.7		1.7		0.4	04/23/08	05/14/08
Radium (226)	0.51	J	0.14	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.46		0.18		0.18	04/23/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1057

Radiochemistry

Lab Sample ID: F8D220274-003
Work Order: KLQ83
Matrix: SOLID

Date Collected: 04/02/08 0843
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115303		Yld %
Actinium 228	0.43		0.14		0.21	04/24/08	05/15/08
Americium 241	0.016	U	0.082		0.14	04/24/08	05/15/08
Cesium 137	0.022	U	0.033	0.200	0.056	04/24/08	05/15/08
Cobalt 60	0.0	U	0.068		0.12	04/24/08	05/15/08
Europium 152	-0.027	U	0.088		0.15	04/24/08	05/15/08
Europium 154	-0.04	U	0.31		0.56	04/24/08	05/15/08
Potassium 40	11.7		1.6		0.5	04/24/08	05/15/08
Radium (226)	0.59	J	0.12	1.00	0.07	04/24/08	05/15/08
Thorium 232	0.43		0.14		0.21	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8119127		Yld % 71
Thorium 228	0.59	J	0.18	1.00	0.1	04/28/08	05/15/08
Thorium 230	0.70	J	0.20	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8119125		Yld % 98
Uranium 233/234	0.40	J	0.13	1.00	0.04	04/28/08	05/13/08
Uranium 235/236	0.018	U	0.033	1.00	0.056	04/28/08	05/13/08
Uranium 238	0.44	J	0.13	1.00	0.04	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1057 DUP

Radiochemistry

Lab Sample ID: F8D220274-003X
Work Order: KLQ83
Matrix: SOLID

Date Collected: 04/02/08 0843
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.37		0.13		0.23	04/24/08	05/15/08
Americium 241	-0.0007	U	0.066		0.12	04/24/08	05/15/08
Cesium 137	0.007	U	0.034	0.200	0.060	04/24/08	05/15/08
Cobalt 60	-0.0006	U	0.038		0.072	04/24/08	05/15/08
Europium 152	0.043	U	0.091		0.16	04/24/08	05/15/08
Europium 154	-0.01	U	0.25		0.47	04/24/08	05/15/08
Potassium 40	12.5		1.5		0.3	04/24/08	05/15/08
Radium (226)	0.56	J	0.12	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.37		0.13		0.23	04/24/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1058

Radiochemistry

Lab Sample ID: F8D220274-004
Work Order: KLQ85
Matrix: SOLID

Date Collected: 04/02/08 0845
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115303		Yld %
Actinium 228	0.57		0.17		0.20	04/24/08	05/15/08
Americium 241	-0.040	U	0.093		0.16	04/24/08	05/15/08
Cesium 137	0.031	U	0.043	0.200	0.071	04/24/08	05/15/08
Cobalt 60	-0.004	U	0.053		0.099	04/24/08	05/15/08
Europium 152	0.033	U	0.094		0.16	04/24/08	05/15/08
Europium 154	0.02	U	0.30		0.57	04/24/08	05/15/08
Potassium 40	11.2		1.7		0.6	04/24/08	05/15/08
Radium (226)	0.65	J	0.13	1.00	0.06	04/24/08	05/15/08
Thorium 232	0.57		0.17		0.20	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8119125		Yld % 83
Uranium 233/234	0.32	J	0.12	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	0.041	J	0.047	1.00	0.037	04/28/08	05/13/08
Uranium 238	0.36	J	0.13	1.00	0.05	04/28/08	05/13/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8114125		Yld % 56
Strontium 90	-0.1	U	0.42	3.00	0.73	04/23/08	05/05/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8137518		Yld % 37
Thorium 228	0.50	J	0.24	1.00	0.19	05/16/08	05/18/08
Thorium 230	0.56	J	0.24	1.00	0.12	05/16/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1059

Radiochemistry

Lab Sample ID: F8D220274-005
Work Order: KLQ87
Matrix: SOLID

Date Collected: 04/02/08 0850
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.50		0.16		0.23	04/24/08	05/15/08
Americium 241	0.004	U	0.092		0.16	04/24/08	05/15/08
Cesium 137	0.022	U	0.040	0.200	0.067	04/24/08	05/15/08
Cobalt 60	0.00006	U	0.040		0.076	04/24/08	05/15/08
Europium 152	0.030	U	0.098		0.17	04/24/08	05/15/08
Europium 154	0.0	U	0.30		0.55	04/24/08	05/15/08
Potassium 40	11.6		1.5		0.3	04/24/08	05/15/08
Radium (226)	0.58	J	0.12	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.50		0.16		0.23	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 54
Thorium 228	0.54	J	0.20	1.00	0.07	04/28/08	05/14/08
Thorium 230	0.62	J	0.22	1.00	0.11	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 85
Uranium 233/234	0.44	J	0.15	1.00	0.07	04/28/08	05/13/08
Uranium 235/236	0.019	U	0.039	1.00	0.072	04/28/08	05/13/08
Uranium 238	0.46	J	0.14	1.00	0.03	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1060

Radiochemistry

Lab Sample ID: F8D220274-006
Work Order: KLQ89
Matrix: SOLID

Date Collected: 04/02/08 0853
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.57		0.16		0.21	04/24/08	05/15/08
Americium 241	0.0	U	0.12		0.20	04/24/08	05/15/08
Cesium 137	0.009	U	0.058	0.200	0.10	04/24/08	05/15/08
Cobalt 60	0.004	U	0.063		0.12	04/24/08	05/15/08
Europium 152	0.002	U	0.11		0.20	04/24/08	05/15/08
Europium 154	-0.08	U	0.35		0.64	04/24/08	05/15/08
Potassium 40	14.7		2.1		0.5	04/24/08	05/15/08
Radium (226)	0.62	J	0.16	1.00	0.14	04/24/08	05/15/08
Thorium 232	0.57		0.16		0.21	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 57
Thorium 228	0.62	J	0.21	1.00	0.12	04/28/08	05/14/08
Thorium 230	0.79	J	0.23	1.00	0.04	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 91
Uranium 233/234	0.52	J	0.15	1.00	0.06	04/28/08	05/13/08
Uranium 235/236	0.013	U	0.025	1.00	0.034	04/28/08	05/13/08
Uranium 238	0.33	J	0.12	1.00	0.04	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1061

Radiochemistry

Lab Sample ID: F8D220274-007
Work Order: KLQ9A
Matrix: SOLID

Date Collected: 04/02/08 0856
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115303**		**Yld %**
Actinium 228	0.38		0.23		0.33	04/24/08	05/15/08
Americium 241	0.0009	U	0.087		0.15	04/24/08	05/15/08
Cesium 137	0.002	U	0.052	0.200	0.10	04/24/08	05/15/08
Cobalt 60	0.0	U	0.012		0.044	04/24/08	05/15/08
Europium 152	-0.03	U	0.11		0.19	04/24/08	05/15/08
Europium 154	-0.10	U	0.39		0.70	04/24/08	05/15/08
Potassium 40	12.6		1.9		0.4	04/24/08	05/15/08
Radium (226)	0.70	J	0.18	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.38		0.23		0.33	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119125**		**Yld % 87**
Uranium 233/234	0.41	J	0.14	1.00	0.04	04/28/08	05/13/08
Uranium 235/236	0.0	U	0.011	1.00	0.035	04/28/08	05/13/08
Uranium 238	0.50	J	0.15	1.00	0.06	04/28/08	05/13/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8137518**		**Yld % 37**
Thorium 228	0.55	J	0.26	1.00	0.23	05/16/08	05/18/08
Thorium 230	0.48	J	0.22	1.00	0.07	05/16/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1062

Radiochemistry

Lab Sample ID: F8D220274-008
Work Order: KLQ9C
Matrix: SOLID

Date Collected: 04/02/08 0859
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.59		0.16		0.20	04/24/08	05/15/08
Americium 241	-0.17	U	0.30		0.50	04/24/08	05/15/08
Cesium 137	0.034	U	0.039	0.200	0.063	04/24/08	05/15/08
Cobalt 60	-0.005	U	0.034		0.063	04/24/08	05/15/08
Europium 152	-0.003	U	0.083		0.15	04/24/08	05/15/08
Europium 154	-0.02	U	0.24		0.45	04/24/08	05/15/08
Potassium 40	13.6		1.5		0.2	04/24/08	05/15/08
Radium (226)	0.51	J	0.11	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.59		0.16		0.20	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 70
Thorium 228	0.67	J	0.20	1.00	0.11	04/28/08	05/14/08
Thorium 230	0.70	J	0.20	1.00	0.08	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 93
Uranium 233/234	0.41	J	0.13	1.00	0.04	04/28/08	05/13/08
Uranium 235/236	0.048	J	0.048	1.00	0.033	04/28/08	05/13/08
Uranium 238	0.36	J	0.12	1.00	0.04	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1063

Radiochemistry

Lab Sample ID: F8D220274-009
Work Order: KLQ9F
Matrix: SOLID

Date Collected: 04/02/08 0903
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8115303	Yld %
Actinium 228	0.41		0.13		0.20	04/24/08	05/15/08
Americium 241	-0.033	U	0.099		0.17	04/24/08	05/15/08
Cesium 137	0.006	U	0.034	0.200	0.061	04/24/08	05/15/08
Cobalt 60	-0.005	U	0.037		0.071	04/24/08	05/15/08
Europium 152	-0.001	U	0.068		0.12	04/24/08	05/15/08
Europium 154	-0.03	U	0.30		0.54	04/24/08	05/15/08
Potassium 40	9.4		1.4		0.8	04/24/08	05/15/08
Radium (226)	0.54	J	0.12	1.00	0.08	04/24/08	05/15/08
Thorium 232	0.41		0.13		0.20	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8119127	Yld % 68
Thorium 228	0.71	J	0.21	1.00	0.12	04/28/08	05/14/08
Thorium 230	0.59	J	0.19	1.00	0.07	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8119125	Yld % 85
Uranium 233/234	0.41	J	0.14	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/28/08	05/13/08
Uranium 238	0.51	J	0.15	1.00	0.05	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1064

Radiochemistry

Lab Sample ID: F8D220274-010
Work Order: KLQ9H
Matrix: SOLID

Date Collected: 04/02/08 0906
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.53		0.17		0.25	04/24/08	05/15/08
Americium 241	0.020	U	0.098		0.17	04/24/08	05/15/08
Cesium 137	-0.0004	U	0.050	0.200	0.091	04/24/08	05/15/08
Cobalt 60	-0.008	U	0.049		0.093	04/24/08	05/15/08
Europium 152	-0.04	U	0.12		0.21	04/24/08	05/15/08
Europium 154	-0.16	U	0.40		0.71	04/24/08	05/15/08
Potassium 40	11.9		1.7		0.4	04/24/08	05/15/08
Radium (226)	0.55	J	0.14	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.53		0.17		0.25	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 62
Thorium 228	0.50	J	0.18	1.00	0.12	04/28/08	05/15/08
Thorium 230	0.41	J	0.16	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 88
Uranium 233/234	0.35	J	0.13	1.00	0.06	04/28/08	05/13/08
Uranium 235/236	0.023	U	0.037	1.00	0.055	04/28/08	05/13/08
Uranium 238	0.38	J	0.13	1.00	0.06	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1065

Radiochemistry

Lab Sample ID: F8D220274-011
Work Order: KLQ9K
Matrix: SOLID

Date Collected: 04/02/08 0915
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.36		0.15		0.26	04/23/08	05/14/08
Americium 241	-0.003	U	0.088		0.15	04/23/08	05/14/08
Cesium 137	0.021	U	0.044	0.200	0.077	04/23/08	05/14/08
Cobalt 60	-0.019	U	0.056		0.10	04/23/08	05/14/08
Europium 152	0.029	U	0.079		0.14	04/23/08	05/14/08
Europium 154	0.12	U	0.33		0.58	04/23/08	05/14/08
Potassium 40	10.5		1.6		0.5	04/23/08	05/14/08
Radium (226)	0.59	J	0.14	1.00	0.08	04/23/08	05/14/08
Thorium 232	0.36		0.15		0.26	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 83
Uranium 233/234	0.37	J	0.13	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	0.022	U	0.039	1.00	0.067	04/28/08	05/13/08
Uranium 238	0.40	J	0.14	1.00	0.05	04/28/08	05/13/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8137518		Yld % 28
Thorium 228	0.39	J	0.25	1.00	0.26	05/16/08	05/18/08
Thorium 230	0.39	J	0.23	1.00	0.09	05/16/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1066

Radiochemistry

Lab Sample ID: F8D220274-012
Work Order: KLQ9N
Matrix: SOLID

Date Collected: 04/02/08 0918
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.41		0.14		0.22	04/23/08	05/14/08
Americium 241	-0.002	U	0.086		0.15	04/23/08	05/14/08
Cesium 137	0.0	U	0.041	0.200	0.075	04/23/08	05/14/08
Cobalt 60	0.0	U	0.036		0.070	04/23/08	05/14/08
Europium 152	-0.05	U	0.12		0.20	04/23/08	05/14/08
Europium 154	-0.03	U	0.26		0.48	04/23/08	05/14/08
Potassium 40	12.0		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.47	J	0.13	1.00	0.15	04/23/08	05/14/08
Thorium 232	0.41		0.14		0.22	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119127**		**Yld % 81**
Thorium 228	0.60	J	0.18	1.00	0.08	04/28/08	05/14/08
Thorium 230	0.58	J	0.17	1.00	0.06	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119125**		**Yld % 80**
Uranium 233/234	0.34	J	0.13	1.00	0.06	04/28/08	05/13/08
Uranium 235/236	0.042	J	0.049	1.00	0.038	04/28/08	05/13/08
Uranium 238	0.37	J	0.13	1.00	0.05	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1067

Radiochemistry

Lab Sample ID: F8D220274-013
Work Order: KLQ9O
Matrix: SOLID

Date Collected: 04/02/08 0930
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.44		0.18		0.33	04/23/08	05/14/08
Americium 241	-0.005	U	0.064		0.12	04/23/08	05/14/08
Cesium 137	0.056	U	0.065	0.200	0.10	04/23/08	05/14/08
Cobalt 60	-0.011	U	0.066		0.12	04/23/08	05/14/08
Europium 152	-0.01	U	0.11		0.19	04/23/08	05/14/08
Europium 154	0.12	U	0.39		0.70	04/23/08	05/14/08
Potassium 40	8.2		1.5		0.5	04/23/08	05/14/08
Radium (226)	0.57	J	0.15	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.44		0.18		0.33	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 67
Thorium 228	0.34	J	0.15	1.00	0.10	04/28/08	05/14/08
Thorium 230	0.49	J	0.17	1.00	0.08	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 90
Uranium 233/234	0.32	J	0.12	1.00	0.07	04/28/08	05/13/08
Uranium 235/236	-0.0071	U	0.0082	1.00	0.068	04/28/08	05/13/08
Uranium 238	0.50	J	0.15	1.00	0.03	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1068

Radiochemistry

Lab Sample ID: F8D220274-014
Work Order: KLQ9T
Matrix: SOLID

Date Collected: 04/02/08 0933
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.44		0.11		0.16	04/23/08	05/14/08
Americium 241	0.16	U	0.25		0.42	04/23/08	05/14/08
Cesium 137	0.073	J	0.036	0.200	0.049	04/23/08	05/14/08
Cobalt 60	0.0	U	0.035		0.065	04/23/08	05/14/08
Europium 152	-0.0003	U	0.064		0.12	04/23/08	05/14/08
Europium 154	0.05	U	0.19		0.34	04/23/08	05/14/08
Potassium 40	10.4		1.2		0.2	04/23/08	05/14/08
Radium (226)	0.427	J	0.092	1.00	0.082	04/23/08	05/14/08
Thorium 232	0.44		0.11		0.16	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119127**		**Yld % 71**
Thorium 228	0.33	J	0.14	1.00	0.10	04/28/08	05/14/08
Thorium 230	0.46	J	0.16	1.00	0.05	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119125**		**Yld % 92**
Uranium 233/234	0.32	J	0.12	1.00	0.06	04/28/08	05/13/08
Uranium 235/236	0.038	J	0.043	1.00	0.034	04/28/08	05/13/08
Uranium 238	0.30	J	0.11	1.00	0.04	04/28/08	05/13/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 58**
Strontium 90	0.07	U	0.40	3.00	0.68	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1069

Radiochemistry

Lab Sample ID: F8D220274-015
Work Order: KLQ9V
Matrix: SOLID

Date Collected: 04/02/08 0940
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.38		0.14		0.22	04/24/08	05/15/08
Americium 241	0.017	U	0.074		0.13	04/24/08	05/15/08
Cesium 137	0.032	U	0.040	0.200	0.066	04/24/08	05/15/08
Cobalt 60	-0.008	U	0.051		0.092	04/24/08	05/15/08
Europium 152	-0.03	U	0.11		0.18	04/24/08	05/15/08
Europium 154	0.02	U	0.25		0.48	04/24/08	05/15/08
Potassium 40	9.3		1.3		0.3	04/24/08	05/15/08
Radium (226)	0.44	J	0.10	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.38		0.14		0.22	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 77
Thorium 228	0.35	J	0.14	1.00	0.09	04/28/08	05/14/08
Thorium 230	0.45	J	0.16	1.00	0.07	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 85
Uranium 233/234	0.39	J	0.13	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	0.0	U	0.011	1.00	0.036	04/28/08	05/13/08
Uranium 238	0.27	J	0.11	1.00	0.06	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1070

Radiochemistry

Lab Sample ID: F8D220274-016
Work Order: KLQ92
Matrix: SOLID

Date Collected: 04/02/08 0943
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.14	U	0.14		0.23	04/23/08	05/14/08
Americium 241	-0.037	U	0.084		0.14	04/23/08	05/14/08
Cesium 137	0.081	J	0.046	0.200	0.063	04/23/08	05/14/08
Cobalt 60	-0.009	U	0.044		0.081	04/23/08	05/14/08
Europium 152	-0.026	U	0.096		0.17	04/23/08	05/14/08
Europium 154	0.03	U	0.32		0.59	04/23/08	05/14/08
Potassium 40	9.9		1.5		0.6	04/23/08	05/14/08
Radium (226)	0.36	J	0.11	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.14	U	0.14		0.23	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 89
Uranium 233/234	0.42	J	0.14	1.00	0.04	04/28/08	05/13/08
Uranium 235/236	0.025	U	0.036	1.00	0.034	04/28/08	05/13/08
Uranium 238	0.31	J	0.12	1.00	0.04	04/28/08	05/13/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8137518		Yld % 68
Thorium 228	0.26	J	0.12	1.00	0.09	05/16/08	05/18/08
Thorium 230	0.63	J	0.19	1.00	0.04	05/16/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1071

Radiochemistry

Lab Sample ID: F8D220274-017
Work Order: KLQ96
Matrix: SOLID

Date Collected: 04/02/08 0945
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.63		0.20		0.25	04/23/08	05/14/08
Americium 241	0.004	U	0.096		0.17	04/23/08	05/14/08
Cesium 137	0.043	U	0.049	0.200	0.080	04/23/08	05/14/08
Cobalt 60	0.026	U	0.045		0.078	04/23/08	05/14/08
Europium 152	0.0	U	0.12		0.22	04/23/08	05/14/08
Europium 154	0.01	U	0.33		0.62	04/23/08	05/14/08
Potassium 40	10.1		1.6		0.4	04/23/08	05/14/08
Radium (226)	0.52	J	0.14	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.63		0.20		0.25	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119127**		**Yld % 47**
Thorium 228	0.49	J	0.20	1.00	0.12	04/28/08	05/14/08
Thorium 230	0.31	J	0.16	1.00	0.09	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119125**		**Yld % 87**
Uranium 233/234	0.45	J	0.14	1.00	0.04	04/28/08	05/13/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	04/28/08	05/13/08
Uranium 238	0.30	J	0.12	1.00	0.04	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1072

Radiochemistry

Lab Sample ID: F8D220274-018
Work Order: KLQ98
Matrix: SOLID

Date Collected: 04/02/08 0948
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.61		0.19		0.27	04/23/08	05/14/08
Americium 241	-0.036	U	0.092		0.16	04/23/08	05/14/08
Cesium 137	0.055	U	0.046	0.200	0.070	04/23/08	05/14/08
Cobalt 60	-0.009	U	0.043		0.080	04/23/08	05/14/08
Europium 152	-0.02	U	0.11		0.19	04/23/08	05/14/08
Europium 154	-0.04	U	0.30		0.56	04/23/08	05/14/08
Potassium 40	11.6		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.43	J	0.12	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.61		0.19		0.27	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 86
Thorium 228	0.42	J	0.14	1.00	0.08	04/28/08	05/14/08
Thorium 230	0.57	J	0.16	1.00	0.05	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 85
Uranium 233/234	0.44	J	0.15	1.00	0.07	04/28/08	05/13/08
Uranium 235/236	0.024	U	0.038	1.00	0.057	04/28/08	05/13/08
Uranium 238	0.36	J	0.13	1.00	0.06	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1073

Radiochemistry

Lab Sample ID: F8D220274-019
Work Order: KLRAA
Matrix: SOLID

Date Collected: 04/02/08 0956
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.51		0.16		0.24	04/24/08	05/15/08
Americium 241	0.042	U	0.084		0.14	04/24/08	05/15/08
Cesium 137	0.038	U	0.041	0.200	0.066	04/24/08	05/15/08
Cobalt 60	0.012	U	0.037		0.070	04/24/08	05/15/08
Europium 152	0.023	U	0.081		0.14	04/24/08	05/15/08
Europium 154	-0.01	U	0.36		0.66	04/24/08	05/15/08
Potassium 40	13.5		1.9		0.8	04/24/08	05/15/08
Radium (226)	0.50	J	0.15	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.51		0.16		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119127		Yld % 82
Thorium 228	0.56	J	0.17	1.00	0.09	04/28/08	05/14/08
Thorium 230	0.60	J	0.17	1.00	0.06	04/28/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119125		Yld % 86
Uranium 233/234	0.42	J	0.14	1.00	0.05	04/28/08	05/13/08
Uranium 235/236	-0.0049	U	0.0070	1.00	0.065	04/28/08	05/13/08
Uranium 238	0.42	J	0.14	1.00	0.05	04/28/08	05/13/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1074

Radiochemistry

Lab Sample ID: F8D220274-020
Work Order: KLRAE
Matrix: SOLID

Date Collected: 04/02/08 1000
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			**pCi/g**		**Batch # 8115303**		**Yld %**
Actinium 228	0.48		0.14		0.17	04/24/08	05/15/08
Americium 241	-0.015	U	0.083		0.14	04/24/08	05/15/08
Cesium 137	0.014	U	0.031	0.200	0.053	04/24/08	05/15/08
Cobalt 60	-0.011	U	0.037		0.067	04/24/08	05/15/08
Europium 152	-0.015	U	0.083		0.15	04/24/08	05/15/08
Europium 154	0.0	U	0.35		0.63	04/24/08	05/15/08
Potassium 40	9.6		1.2		0.2	04/24/08	05/15/08
Radium (226)	0.42	J	0.10	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.48		0.14		0.17	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8119127**		**Yld % 77**
Thorium 228	0.52	J	0.16	1.00	0.09	04/28/08	05/15/08
Thorium 230	0.70	J	0.19	1.00	0.03	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**		**Batch # 8119125**		**Yld % 87**
Uranium 233/234	0.51	J	0.15	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.039	J	0.045	1.00	0.035	04/28/08	05/14/08
Uranium 238	0.47	J	0.15	1.00	0.04	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1075

Radiochemistry

Lab Sample ID: F8D220274-021
Work Order: KLRAG
Matrix: SOLID

Date Collected: 04/02/08 1007
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.39		0.15		0.24	04/24/08	05/15/08
Americium 241	0.004	U	0.050		0.091	04/24/08	05/15/08
Cesium 137	0.013	U	0.044	0.200	0.080	04/24/08	05/15/08
Cobalt 60	0.0	U	0.087		0.16	04/24/08	05/15/08
Europium 152	0.057	U	0.094		0.16	04/24/08	05/15/08
Europium 154	-0.02	U	0.35		0.67	04/24/08	05/15/08
Potassium 40	10.5		1.8		0.7	04/24/08	05/15/08
Radium (226)	0.32	J	0.12	1.00	0.15	04/24/08	05/15/08
Thorium 232	0.39		0.15		0.24	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 83
Thorium 228	0.71	J	0.19	1.00	0.08	04/28/08	05/15/08
Thorium 230	0.64	J	0.18	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 76
Uranium 233/234	0.49	J	0.16	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.015	U	0.030	1.00	0.040	04/28/08	05/14/08
Uranium 238	0.44	J	0.15	1.00	0.06	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1075 DUP

Radiochemistry

Lab Sample ID: F8D220274-021X
Work Order: KLRAG
Matrix: SOLID

Date Collected: 04/02/08 1007
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119262**	**Yld % 94**
Thorium 228	0.54	J	0.16	1.00	0.07	04/28/08	05/15/08
Thorium 230	0.39	J	0.13	1.00	0.05	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119267**	**Yld % 86**
Uranium 233/234	0.38	J	0.13	1.00	0.04	04/28/08	05/14/08
Uranium 235/236	0.052	J	0.053	1.00	0.035	04/28/08	05/14/08
Uranium 238	0.39	J	0.13	1.00	0.04	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1076

Radiochemistry

Lab Sample ID: F8D220274-022
Work Order: KLRAP
Matrix: SOLID

Date Collected: 04/02/08 1010
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.29	U	0.20		0.30	04/23/08	05/14/08
Americium 241	-0.007	U	0.089		0.15	04/23/08	05/14/08
Cesium 137	-0.007	U	0.048	0.200	0.087	04/23/08	05/14/08
Cobalt 60	-0.006	U	0.055		0.10	04/23/08	05/14/08
Europium 152	0.001	U	0.092		0.17	04/23/08	05/14/08
Europium 154	-0.14	U	0.41		0.73	04/23/08	05/14/08
Potassium 40	**8.6**		1.5		0.6	04/23/08	05/14/08
Radium (226)	**0.62**	J	0.15	1.00	0.10	04/23/08	05/14/08
Thorium 232	0.29	U	0.20		0.30	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119262**		**Yld % 85**
Thorium 228	**0.43**	J	0.14	1.00	0.08	04/28/08	05/15/08
Thorium 230	**0.57**	J	0.16	1.00	0.05	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119267**		**Yld % 77**
Uranium 233/234	**0.41**	J	0.14	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.015	U	0.029	1.00	0.040	04/28/08	05/14/08
Uranium 238	**0.49**	J	0.16	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1077

Radiochemistry

Lab Sample ID: F8D220274-023
Work Order: KLRA3
Matrix: SOLID

Date Collected: 04/02/08 1025
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.46		0.20		0.23	04/24/08	05/15/08
Americium 241	-0.0007	U	0.090		0.16	04/24/08	05/15/08
Cesium 137	-0.01	U	0.12	0.20	0.09	04/24/08	05/15/08
Cobalt 60	0.008	U	0.062		0.12	04/24/08	05/15/08
Europium 152	-0.012	U	0.093		0.17	04/24/08	05/15/08
Europium 154	-0.008	U	0.32		0.60	04/24/08	05/15/08
Potassium 40	12.1		1.8		0.4	04/24/08	05/15/08
Radium (226)	0.42	J	0.13	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.46		0.20		0.23	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 93
Thorium 228	0.71	J	0.18	1.00	0.08	04/28/08	05/15/08
Thorium 230	0.61	J	0.17	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 91
Uranium 233/234	0.50	J	0.15	1.00	0.06	04/28/08	05/14/08
Uranium 235/236	0.010	U	0.026	1.00	0.054	04/28/08	05/14/08
Uranium 238	0.41	J	0.13	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1078

Radiochemistry

Lab Sample ID: F8D220274-024
Work Order: KLRA6
Matrix: SOLID

Date Collected: 04/02/08 1028
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.33		0.13		0.22	04/23/08	05/14/08
Americium 241	0.044	U	0.094		0.16	04/23/08	05/14/08
Cesium 137	0.014	U	0.035	0.200	0.062	04/23/08	05/14/08
Cobalt 60	0.013	U	0.028		0.051	04/23/08	05/14/08
Europium 152	-0.0004	U	0.083		0.15	04/23/08	05/14/08
Europium 154	-0.06	U	0.30		0.54	04/23/08	05/14/08
Potassium 40	9.8		1.4		0.8	04/23/08	05/14/08
Radium (226)	0.42	J	0.11	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.33		0.13		0.22	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119262**		**Yld % 79**
Thorium 228	0.47	J	0.16	1.00	0.11	04/28/08	05/15/08
Thorium 230	0.63	J	0.18	1.00	0.07	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119267**		**Yld % 85**
Uranium 233/234	0.45	J	0.14	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.035	U	0.047	1.00	0.065	04/28/08	05/14/08
Uranium 238	0.37	J	0.13	1.00	0.05	04/28/08	05/14/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 53**
Strontium 90	-0.23	U	0.42	3.00	0.76	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-1079

Radiochemistry

Lab Sample ID: F8D220274-025
Work Order: KLRCE
Matrix: SOLID

Date Collected: 04/02/08 1059
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.47		0.16		0.28	04/23/08	05/14/08
Americium 241	-0.00005	U	0.092		0.16	04/23/08	05/14/08
Cesium 137	0.005	U	0.046	0.200	0.085	04/23/08	05/14/08
Cobalt 60	0.0	U	0.060		0.11	04/23/08	05/14/08
Europium 152	-0.02	U	0.10		0.19	04/23/08	05/14/08
Europium 154	0.003	U	0.33		0.63	04/23/08	05/14/08
Potassium 40	10.6		1.7		0.7	04/23/08	05/14/08
Radium (226)	0.64	J	0.16	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.47		0.16		0.28	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 92
Thorium 228	0.44	J	0.14	1.00	0.06	04/28/08	05/15/08
Thorium 230	0.47	J	0.14	1.00	0.05	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 80
Uranium 233/234	0.33	J	0.13	1.00	0.08	04/28/08	05/14/08
Uranium 235/236	0.011	U	0.029	1.00	0.060	04/28/08	05/14/08
Uranium 238	0.32	J	0.12	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1080

Radiochemistry

Lab Sample ID: F8D220274-026
Work Order: KLRCG
Matrix: SOLID

Date Collected: 04/02/08 1102
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.48		0.13		0.13	04/23/08	05/14/08
Americium 241	-0.03	U	0.30		0.52	04/23/08	05/14/08
Cesium 137	-0.0002	U	0.031	0.200	0.057	04/23/08	05/14/08
Cobalt 60	-0.001	U	0.027		0.051	04/23/08	05/14/08
Europium 152	0.018	U	0.070		0.12	04/23/08	05/14/08
Europium 154	0.0007	U	0.18		0.35	04/23/08	05/14/08
Potassium 40	10.1		1.2		0.4	04/23/08	05/14/08
Radium (226)	0.57	J	0.10	1.00	0.08	04/23/08	05/14/08
Thorium 232	0.48		0.13		0.13	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119262**		**Yld % 77**
Thorium 228	0.61	J	0.18	1.00	0.09	04/28/08	05/15/08
Thorium 230	0.55	J	0.17	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119267**		**Yld % 73**
Uranium 233/234	0.47	J	0.15	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.056	U	0.059	1.00	0.062	04/28/08	05/14/08
Uranium 238	0.35	J	0.13	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1081

Radiochemistry

Lab Sample ID: F8D220274-027
Work Order: KLRCH
Matrix: WATER

Date Collected: 04/02/08 1110
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/L**	**Batch # 8114124**		**Yld % 72**
Strontium 90	-0.11	U	0.70	3.00	1.2	04/23/08	05/01/08
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8115554**		**Yld %**
Actinium 228	-2	U	32		60	04/24/08	04/26/08
Americium 241	4.4	U	9.8		17	04/24/08	04/26/08
Cesium 137	-1.5	U	7.9	20.0	15	04/24/08	04/26/08
Cobalt 60	0.0	U	18		33	04/24/08	04/26/08
Europium 152	0.02	U	20		37	04/24/08	04/26/08
Europium 154	0.0	U	93		170	04/24/08	04/26/08
Potassium 40	50	U	110		200	04/24/08	04/26/08
Thorium 232	-2	U	32		60	04/24/08	04/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8115380**		**Yld % 87**
Uranium 233/234	0.034	U	0.061	1.00	0.10	05/02/08	05/05/08
Uranium 235/236	0.0	U	0.023	1.00	0.071	05/02/08	05/05/08
Uranium 238	0.017	U	0.043	1.00	0.090	05/02/08	05/05/08
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8114195**		**Yld % 104**
Radium (226)	0.24	U	0.22	1.00	0.32	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8128447**		**Yld % 84**
Thorium 228	0.013	U	0.036	1.00	0.080	05/07/08	05/10/08
Thorium 230	**0.12**	**J**	**0.10**	1.00	**0.11**	**05/07/08**	**05/10/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1082

Radiochemistry

Lab Sample ID: F8D220274-028
Work Order: KLRCK
Matrix: SOLID

Date Collected: 04/02/08 1305
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.24	U	0.17		0.25	04/23/08	05/14/08
Americium 241	-0.017	U	0.075		0.13	04/23/08	05/14/08
Cesium 137	0.017	U	0.040	0.200	0.070	04/23/08	05/14/08
Cobalt 60	0.0	U	0.010		0.037	04/23/08	05/14/08
Europium 152	-0.014	U	0.091		0.16	04/23/08	05/14/08
Europium 154	0.04	U	0.34		0.63	04/23/08	05/14/08
Potassium 40	7.9		1.5		1.1	04/23/08	05/14/08
Radium (226)	0.29	J	0.11	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.24	U	0.17		0.25	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 91
Thorium 228	0.46	J	0.14	1.00	0.08	04/28/08	05/15/08
Thorium 230	0.45	J	0.14	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 82
Uranium 233/234	0.37	J	0.13	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.028	U	0.039	1.00	0.038	04/28/08	05/14/08
Uranium 238	0.48	J	0.15	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1083

Radiochemistry

Lab Sample ID: F8D220274-029
Work Order: KLRCN
Matrix: SOLID

Date Collected: 04/02/08 1308
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.24		0.11		0.15	04/24/08	05/15/08
Americium 241	0.09	U	0.25		0.42	04/24/08	05/15/08
Cesium 137	-0.006	U	0.023	0.200	0.042	04/24/08	05/15/08
Cobalt 60	0.0	U	0.028		0.054	04/24/08	05/15/08
Europium 152	0.042	U	0.068		0.11	04/24/08	05/15/08
Europium 154	0.02	U	0.11		0.21	04/24/08	05/15/08
Potassium 40	9.2		1.1		0.2	04/24/08	05/15/08
Radium (226)	0.265	J	0.076	1.00	0.083	04/24/08	05/15/08
Thorium 232	0.24		0.11		0.15	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 74
Thorium 228	0.30	J	0.13	1.00	0.11	04/28/08	05/15/08
Thorium 230	0.42	J	0.15	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 80
Uranium 233/234	0.38	J	0.14	1.00	0.07	04/28/08	05/14/08
Uranium 235/236	0.026	U	0.041	1.00	0.061	04/28/08	05/14/08
Uranium 238	0.41	J	0.14	1.00	0.06	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1084

Radiochemistry

Lab Sample ID: F8D220274-030
Work Order: KLRCP
Matrix: SOLID

Date Collected: 04/02/08 1313
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.157	U	0.079		0.43	04/23/08	05/14/08
Americium 241	0.024	U	0.082		0.14	04/23/08	05/14/08
Cesium 137	0.003	U	0.030	0.200	0.057	04/23/08	05/14/08
Cobalt 60	-0.002	U	0.044		0.083	04/23/08	05/14/08
Europium 152	0.059	U	0.084		0.14	04/23/08	05/14/08
Europium 154	-0.01	U	0.34		0.62	04/23/08	05/14/08
Potassium 40	9.7		1.4		0.6	04/23/08	05/14/08
Radium (226)	0.43	J	0.12	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.157	U	0.079		0.43	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 80
Thorium 228	0.55	J	0.17	1.00	0.09	04/28/08	05/15/08
Thorium 230	0.48	J	0.15	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 84
Uranium 233/234	0.33	J	0.12	1.00	0.05	04/28/08	05/14/08
Uranium 235/236	0.035	U	0.047	1.00	0.066	04/28/08	05/14/08
Uranium 238	0.29	J	0.11	1.00	0.05	04/28/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Tetra Tech EC, Inc.

Client Sample ID: 15-1085

Radiochemistry

Lab Sample ID: F8D220274-031
Work Order: KLRCT
Matrix: SOLID

Date Collected: 04/02/08 1316
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.34		0.20		0.27	04/23/08	05/14/08
Americium 241	0.021	U	0.076		0.13	04/23/08	05/14/08
Cesium 137	0.006	U	0.042	0.200	0.076	04/23/08	05/14/08
Cobalt 60	0.0	U	0.011		0.041	04/23/08	05/14/08
Europium 152	0.00005	U	0.082		0.15	04/23/08	05/14/08
Europium 154	-0.003	U	0.28		0.54	04/23/08	05/14/08
Potassium 40	8.8		1.5		0.6	04/23/08	05/14/08
Radium (226)	0.67	J	0.14	1.00	0.07	04/23/08	05/14/08
Thorium 232	0.34		0.20		0.27	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 90
Thorium 228	0.72	J	0.18	1.00	0.08	04/28/08	05/15/08
Thorium 230	0.68	J	0.18	1.00	0.06	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 87
Uranium 233/234	0.40	J	0.14	1.00	0.07	04/28/08	05/15/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/28/08	05/15/08
Uranium 238	0.25	J	0.11	1.00	0.05	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1086

Radiochemistry

Lab Sample ID: F8D220274-032
Work Order: KLRCW
Matrix: SOLID

Date Collected: 04/02/08 1330
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.21	U	0.19		0.29	04/24/08	05/15/08
Americium 241	-0.005	U	0.060		0.11	04/24/08	05/15/08
Cesium 137	0.0	U	0.046	0.200	0.085	04/24/08	05/15/08
Cobalt 60	-0.007	U	0.042		0.081	04/24/08	05/15/08
Europium 152	-0.0003	U	0.089		0.16	04/24/08	05/15/08
Europium 154	0.0	U	0.060		0.22	04/24/08	05/15/08
Potassium 40	**10.5**		**1.6**		**0.6**	**04/24/08**	**05/15/08**
Radium (226)	**0.46**	**J**	**0.13**	**1.00**	**0.09**	**04/24/08**	**05/15/08**
Thorium 232	0.21	U	0.19		0.29	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 88
Thorium 228	**0.47**	**J**	**0.15**	**1.00**	**0.1**	**04/28/08**	**05/15/08**
Thorium 230	**0.49**	**J**	**0.15**	**1.00**	**0.05**	**04/28/08**	**05/15/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 89
Uranium 233/234	**0.45**	**J**	**0.14**	**1.00**	**0.04**	**04/28/08**	**05/15/08**
Uranium 235/236	0.025	U	0.036	1.00	0.034	04/28/08	05/15/08
Uranium 238	**0.47**	**J**	**0.14**	**1.00**	**0.04**	**04/28/08**	**05/15/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1087

Radiochemistry

Lab Sample ID: F8D220274-033
Work Order: KLRC0
Matrix: SOLID

Date Collected: 04/02/08 1333
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.27		0.13		0.22	04/23/08	05/14/08
Americium 241	0.045	U	0.087		0.15	04/23/08	05/14/08
Cesium 137	0.012	U	0.037	0.200	0.066	04/23/08	05/14/08
Cobalt 60	0.0	U	0.045		0.086	04/23/08	05/14/08
Europium 152	-0.020	U	0.091		0.16	04/23/08	05/14/08
Europium 154	-0.10	U	0.32		0.56	04/23/08	05/14/08
Potassium 40	8.1		1.3		0.8	04/23/08	05/14/08
Radium (226)	0.42	J	0.12	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.27		0.13		0.22	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 87
Uranium 233/234	0.42	J	0.14	1.00	0.05	04/28/08	05/15/08
Uranium 235/236	0.026	U	0.037	1.00	0.035	04/28/08	05/15/08
Uranium 238	0.25	J	0.10	1.00	0.04	04/28/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8140144		Yld % 49
Thorium 228	0.40	J	0.19	1.00	0.14	05/19/08	05/21/08
Thorium 230	0.30	J	0.16	1.00	0.11	05/19/08	05/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1087 DUP

Radiochemistry

Lab Sample ID: F8D220274-033X
Work Order: KLRC0
Matrix: SOLID

Date Collected: 04/02/08 1333
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8140144	Yld % 83
Thorium 228	0.34	J	0.13	1.00	0.08	05/19/08	05/21/08
Thorium 230	0.47	J	0.15	1.00	0.06	05/19/08	05/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1088

Radiochemistry

Lab Sample ID: F8D220274-034
Work Order: KLRC2
Matrix: SOLID

Date Collected: 04/02/08 1343
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114536**		**Yld %**
Actinium 228	0.0	U	0.35		0.64	04/23/08	05/14/08
Americium 241	0.09	U	0.18		0.30	04/23/08	05/14/08
Cesium 137	-0.012	U	0.087	0.200	0.15	04/23/08	05/14/08
Cobalt 60	0.0	U	0.13		0.24	04/23/08	05/14/08
Europium 152	-0.07	U	0.22		0.37	04/23/08	05/14/08
Europium 154	-0.10	U	0.60		1.1	04/23/08	05/14/08
Potassium 40	**9.5**		**1.8**		**0.6**	**04/23/08**	**05/14/08**
Radium (226)	**4.81**		**0.52**	**1.00**	**0.19**	**04/23/08**	**05/14/08**
Thorium 232	0.0	U	0.35		0.64	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119262**		**Yld % 80**
Thorium 228	**0.49**	**J**	**0.16**	**1.00**	**0.08**	**04/28/08**	**05/15/08**
Thorium 230	**0.55**	**J**	**0.16**	**1.00**	**0.03**	**04/28/08**	**05/15/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119267**		**Yld % 86**
Uranium 233/234	**0.33**	**J**	**0.12**	**1.00**	**0.07**	**04/28/08**	**05/15/08**
Uranium 235/236	0.032	U	0.046	1.00	0.071	04/28/08	05/15/08
Uranium 238	**0.27**	**J**	**0.11**	**1.00**	**0.03**	**04/28/08**	**05/15/08**
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 63**
Strontium 90	0.02	U	0.37	3.00	0.63	04/23/08	05/05/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1089

Radiochemistry

Lab Sample ID: F8D220274-035
Work Order: KLRC4
Matrix: SOLID

Date Collected: 04/02/08 1346
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.31	U	0.22		0.33	04/24/08	05/15/08
Americium 241	0.009	U	0.10		0.18	04/24/08	05/15/08
Cesium 137	-0.019	U	0.060	0.200	0.11	04/24/08	05/15/08
Cobalt 60	0.0	U	0.084		0.15	04/24/08	05/15/08
Europium 152	-0.01	U	0.12		0.22	04/24/08	05/15/08
Europium 154	0.002	U	0.47		0.87	04/24/08	05/15/08
Potassium 40	9.0		1.5		0.4	04/24/08	05/15/08
Radium (226)	2.54		0.31	1.00	0.13	04/24/08	05/15/08
Thorium 232	0.31	U	0.22		0.33	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 84
Thorium 228	0.57	J	0.17	1.00	0.09	04/28/08	05/15/08
Thorium 230	0.61	J	0.17	1.00	0.05	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 84
Uranium 233/234	0.30	J	0.12	1.00	0.07	04/28/08	05/15/08
Uranium 235/236	0.014	U	0.028	1.00	0.037	04/28/08	05/15/08
Uranium 238	0.25	J	0.11	1.00	0.05	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1090

Radiochemistry

Lab Sample ID: F8D220274-036
Work Order: KLRC9
Matrix: SOLID

Date Collected: 04/02/08 1350
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.18		0.12		0.18	04/23/08	05/14/08
Americium 241	0.007	U	0.27		0.47	04/23/08	05/14/08
Cesium 137	0.028	U	0.034	0.200	0.055	04/23/08	05/14/08
Cobalt 60	-0.012	U	0.035		0.062	04/23/08	05/14/08
Europium 152	-0.026	U	0.082		0.14	04/23/08	05/14/08
Europium 154	0.03	U	0.21		0.39	04/23/08	05/14/08
Potassium 40	7.9		1.1		0.2	04/23/08	05/14/08
Radium (226)	0.60	J	0.12	1.00	0.09	04/23/08	05/14/08
Thorium 232	0.18		0.12		0.18	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 82
Thorium 228	0.33	J	0.12	1.00	0.05	04/28/08	05/15/08
Thorium 230	0.37	J	0.13	1.00	0.07	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 75
Uranium 233/234	0.31	J	0.13	1.00	0.05	04/28/08	05/15/08
Uranium 235/236	0.045	J	0.052	1.00	0.040	04/28/08	05/15/08
Uranium 238	0.39	J	0.14	1.00	0.06	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1091

Radiochemistry

Lab Sample ID: F8D220274-037
Work Order: KLRDC
Matrix: SOLID

Date Collected: 04/02/08 1353
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.23	U	0.17		0.26	04/23/08	05/14/08
Americium 241	0.036	U	0.080		0.14	04/23/08	05/14/08
Cesium 137	-0.0004	U	0.044	0.200	0.081	04/23/08	05/14/08
Cobalt 60	-0.008	U	0.048		0.091	04/23/08	05/14/08
Europium 152	0.0152	U	0.0995		0.18	04/23/08	05/14/08
Europium 154	0.0006	U	0.37		0.68	04/23/08	05/14/08
Potassium 40	7.3		1.4		1.0	04/23/08	05/14/08
Radium (226)	0.69	J	0.15	1.00	0.09	04/23/08	05/14/08
Thorium 232	0.23	U	0.17		0.26	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 84
Thorium 228	0.43	J	0.15	1.00	0.08	04/28/08	05/16/08
Thorium 230	0.61	J	0.17	1.00	0.03	04/28/08	05/16/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 85
Uranium 233/234	0.47	J	0.15	1.00	0.05	04/28/08	05/15/08
Uranium 235/236	0.053	J	0.053	1.00	0.036	04/28/08	05/15/08
Uranium 238	0.50	J	0.15	1.00	0.05	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1092

Radiochemistry

Lab Sample ID: F8D220274-038
Work Order: KLRDD
Matrix: SOLID

Date Collected: 04/02/08 1355
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115303**		**Yld %**
Actinium 228	0.27	U	0.15		0.28	04/24/08	05/15/08
Americium 241	0.07	U	0.10		0.17	04/24/08	05/15/08
Cesium 137	0.023	U	0.051	0.200	0.088	04/24/08	05/15/08
Cobalt 60	0.033	U	0.046		0.075	04/24/08	05/15/08
Europium 152	0.003	U	0.11		0.20	04/24/08	05/15/08
Europium 154	0.03	U	0.33		0.61	04/24/08	05/15/08
Potassium 40	9.0		1.5		0.8	04/24/08	05/15/08
Radium (226)	1.14		0.19	1.00	0.15	04/24/08	05/15/08
Thorium 232	0.27	U	0.15		0.28	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119262**		**Yld % 87**
Thorium 228	0.36	J	0.13	1.00	0.08	04/28/08	05/15/08
Thorium 230	0.42	J	0.14	1.00	0.03	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119267**		**Yld % 80**
Uranium 233/234	0.25	J	0.11	1.00	0.05	04/28/08	05/15/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/28/08	05/15/08
Uranium 238	0.28	J	0.12	1.00	0.05	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1093

Radiochemistry

Lab Sample ID: F8D220274-039
Work Order: KLRDE
Matrix: SOLID

Date Collected: 04/02/08 1358
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114536		Yld %
Actinium 228	0.20	U	0.17		0.25	04/23/08	05/14/08
Americium 241	-0.041	U	0.096		0.16	04/23/08	05/14/08
Cesium 137	0.049	J	0.036	0.200	0.049	04/23/08	05/14/08
Cobalt 60	-0.005	U	0.061		0.11	04/23/08	05/14/08
Europium 152	0.012	U	0.088		0.16	04/23/08	05/14/08
Europium 154	0.08	U	0.29		0.53	04/23/08	05/14/08
Potassium 40	9.2		1.5		0.4	04/23/08	05/14/08
Radium (226)	0.48	J	0.14	1.00	0.17	04/23/08	05/14/08
Thorium 232	0.20	U	0.17		0.25	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 87
Thorium 228	0.45	J	0.14	1.00	0.07	04/28/08	05/15/08
Thorium 230	0.30	J	0.11	1.00	0.03	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 84
Uranium 233/234	0.35	J	0.13	1.00	0.07	04/28/08	05/15/08
Uranium 235/236	0.025	U	0.039	1.00	0.058	04/28/08	05/15/08
Uranium 238	0.33	J	0.12	1.00	0.06	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1094

Radiochemistry

Lab Sample ID: F8D220274-040
Work Order: KLRDF
Matrix: SOLID

Date Collected: 04/02/08 1402
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.0	U	0.24		0.44	04/24/08	05/15/08
Americium 241	0.08	U	0.12		0.19	04/24/08	05/15/08
Cesium 137	0.036	U	0.051	0.200	0.084	04/24/08	05/15/08
Cobalt 60	0.023	U	0.054		0.097	04/24/08	05/15/08
Europium 152	0.0	U	0.17		0.30	04/24/08	05/15/08
Europium 154	0.15	U	0.39		0.69	04/24/08	05/15/08
Potassium 40	8.4		1.6		0.5	04/24/08	05/15/08
Radium (226)	1.35		0.24	1.00	0.16	04/24/08	05/15/08
Thorium 232	0.0	U	0.24		0.44	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119262		Yld % 52
Thorium 228	0.46	J	0.19	1.00	0.14	04/28/08	05/15/08
Thorium 230	0.33	J	0.15	1.00	0.07	04/28/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119267		Yld % 41
Uranium 233/234	0.38	J	0.19	1.00	0.12	04/28/08	05/15/08
Uranium 235/236	0.030	U	0.059	1.00	0.080	04/28/08	05/15/08
Uranium 238	0.28	J	0.17	1.00	0.13	04/28/08	05/15/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1095

Radiochemistry

Lab Sample ID: F8D220274-041
Work Order: KLRDH
Matrix: SOLID

Date Collected: 04/02/08 1405
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.36		0.22		0.31	04/23/08	05/14/08
Americium 241	-0.03	U	0.12		0.20	04/23/08	05/14/08
Cesium 137	0.035	U	0.050	0.200	0.083	04/23/08	05/14/08
Cobalt 60	-0.016	U	0.052		0.094	04/23/08	05/14/08
Europium 152	-0.0005	U	0.11		0.20	04/23/08	05/14/08
Europium 154	-0.002	U	0.27		0.52	04/23/08	05/14/08
Potassium 40	8.9		1.4		0.5	04/23/08	05/14/08
Radium (226)	0.92	J	0.17	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.36		0.22		0.31	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119474		Yld % 83
Thorium 228	0.32	J	0.13	1.00	0.09	04/28/08	05/11/08
Thorium 230	0.33	J	0.12	1.00	0.05	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119473		Yld % 85
Uranium 233/234	0.29	J	0.11	1.00	0.05	04/28/08	05/12/08
Uranium 235/236	0.013	U	0.027	1.00	0.036	04/28/08	05/12/08
Uranium 238	0.30	J	0.12	1.00	0.05	04/28/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1095 DUP

Radiochemistry

Lab Sample ID: F8D220274-041X
Work Order: KLRDH
Matrix: SOLID

Date Collected: 04/02/08 1405
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.45		0.14		0.16	04/23/08	05/14/08
Americium 241	0.03	U	0.35		0.60	04/23/08	05/14/08
Cesium 137	0.020	U	0.036	0.200	0.062	04/23/08	05/14/08
Cobalt 60	0.0	U	0.039		0.075	04/23/08	05/14/08
Europium 152	-0.020	U	0.095		0.17	04/23/08	05/14/08
Europium 154	0.17	U	0.26		0.44	04/23/08	05/14/08
Potassium 40	11.4		1.5		0.3	04/23/08	05/14/08
Radium (226)	1.02		0.16	1.00	0.05	04/23/08	05/14/08
Thorium 232	0.45		0.14		0.16	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119474		Yld % 89
Thorium 228	0.66	J	0.18	1.00	0.08	04/28/08	05/12/08
Thorium 230	0.91	J	0.21	1.00	0.05	04/28/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119473		Yld % 92
Uranium 233/234	0.78	J	0.19	1.00	0.07	04/28/08	05/12/08
Uranium 235/236	0.018	U	0.036	1.00	0.067	04/28/08	05/12/08
Uranium 238	0.63	J	0.17	1.00	0.03	04/28/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1096

Radiochemistry

Lab Sample ID: F8D220274-042
Work Order: KLRDK
Matrix: SOLID

Date Collected: 04/02/08 1407
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8114539**	**Yld %**
Actinium 228	0.21	U	0.24		0.39	04/23/08	05/14/08
Americium 241	0.14	U	0.17		0.28	04/23/08	05/14/08
Cesium 137	0.008	U	0.075	0.200	0.13	04/23/08	05/14/08
Cobalt 60	-0.0008	U	0.053		0.10	04/23/08	05/14/08
Europium 152	-0.0003	U	0.20		0.34	04/23/08	05/14/08
Europium 154	-0.26	U	0.65		1.1	04/23/08	05/14/08
Potassium 40	6.8		1.6		1.4	04/23/08	05/14/08
Radium (226)	7.06		0.63	1.00	0.18	04/23/08	05/14/08
Thorium 232	0.21	U	0.24		0.39	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119474**	**Yld % 86**
Thorium 228	0.30	J	0.12	1.00	0.08	04/28/08	05/11/08
Thorium 230	0.47	J	0.15	1.00	0.03	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119473**	**Yld % 92**
Uranium 233/234	0.28	J	0.11	1.00	0.06	04/28/08	05/12/08
Uranium 235/236	0.025	U	0.035	1.00	0.034	04/28/08	05/12/08
Uranium 238	0.32	J	0.12	1.00	0.04	04/28/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1097

Radiochemistry

Lab Sample ID: F8D220274-043
Work Order: KLRDM
Matrix: SOLID

Date Collected: 04/02/08 1410
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.39	U	0.29		0.45	04/23/08	05/14/08
Americium 241	0.11	U	0.23		0.38	04/23/08	05/14/08
Cesium 137	0.0002	U	0.069	0.200	0.12	04/23/08	05/14/08
Cobalt 60	0.0	U	0.087		0.15	04/23/08	05/14/08
Europium 152	-0.004	U	0.27		0.46	04/23/08	05/14/08
Europium 154	-0.10	U	0.54		0.95	04/23/08	05/14/08
Potassium 40	**9.8**		1.6		0.9	04/23/08	05/14/08
Radium (226)	**12.9**		0.94	1.00	0.24	04/23/08	05/14/08
Thorium 232	0.39	U	0.29		0.45	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119474		Yld % 83
Thorium 228	0.31	J	0.12	1.00	0.09	04/28/08	05/12/08
Thorium 230	0.38	J	0.13	1.00	0.03	04/28/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119473		Yld % 92
Uranium 233/234	0.30	J	0.11	1.00	0.04	04/28/08	05/12/08
Uranium 235/236	0.012	U	0.025	1.00	0.033	04/28/08	05/12/08
Uranium 238	0.211	J	0.094	1.00	0.053	04/28/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1098

Radiochemistry

Lab Sample ID: F8D220274-044
Work Order: KLRDN
Matrix: SOLID

Date Collected: 04/02/08 1415
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8114539**	**Yld %**
Actinium 228	0.121	U	0.072		0.34	04/23/08	05/14/08
Americium 241	0.018	U	0.099		0.17	04/23/08	05/14/08
Cesium 137	**0.097**	**J**	0.062	0.200	0.086	04/23/08	05/14/08
Cobalt 60	0.0	U	0.075		0.14	04/23/08	05/14/08
Europium 152	0.011	U	0.098		0.18	04/23/08	05/14/08
Europium 154	0.0	U	0.46		0.87	04/23/08	05/14/08
Potassium 40	**10.4**		1.8		0.5	04/23/08	05/14/08
Radium (226)	**0.88**	**J**	0.20	1.00	0.16	04/23/08	05/14/08
Thorium 232	0.121	U	0.072		0.34	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119474**	**Yld % 92**
Thorium 228	**0.41**	**J**	0.14	1.00	0.08	04/28/08	05/11/08
Thorium 230	**0.43**	**J**	0.14	1.00	0.06	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8119473**	**Yld % 86**
Uranium 233/234	**0.40**	**J**	0.13	1.00	0.05	04/28/08	05/12/08
Uranium 235/236	0.0	U	0.011	1.00	0.036	04/28/08	05/12/08
Uranium 238	**0.27**	**J**	0.11	1.00	0.05	04/28/08	05/12/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 8114125**	**Yld % 50**
Strontium 90	0.26	U	0.45	3.00	0.75	04/23/08	05/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1099

Radiochemistry

Lab Sample ID: F8D220274-045
Work Order: KLRDQ
Matrix: SOLID

Date Collected: 04/02/08 1418
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114539**		**Yld %**
Actinium 228	0.22		0.15		0.20	04/23/08	05/14/08
Americium 241	0.047	U	0.064		0.11	04/23/08	05/14/08
Cesium 137	-0.02	U	0.47	0.20	0.09	04/23/08	05/14/08
Cobalt 60	0.0	U	0.092		0.17	04/23/08	05/14/08
Europium 152	-0.002	U	0.068		0.13	04/23/08	05/14/08
Europium 154	-0.09	U	0.43		0.77	04/23/08	05/14/08
Potassium 40	3.9		1.1		0.9	04/23/08	05/14/08
Radium (226)	0.41	J	0.13	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.22		0.15		0.20	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119474**		**Yld % 80**
Thorium 228	0.33	J	0.13	1.00	0.11	04/28/08	05/11/08
Thorium 230	0.37	J	0.13	1.00	0.06	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119473**		**Yld % 81**
Uranium 233/234	0.167	J	0.089	1.00	0.048	04/28/08	05/12/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/28/08	05/12/08
Uranium 238	0.167	J	0.089	1.00	0.048	04/28/08	05/12/08

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1100

Radiochemistry

Lab Sample ID: F8D220274-046
Work Order: KLRDR
Matrix: SOLID

Date Collected: 04/02/08 1421
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114539**		**Yld %**
Actinium 228	0.24		0.16		0.24	04/23/08	05/14/08
Americium 241	0.05	U	0.42		0.72	04/23/08	05/14/08
Cesium 137	0.025	U	0.024	0.200	0.037	04/23/08	05/14/08
Cobalt 60	0.020	U	0.039		0.066	04/23/08	05/14/08
Europium 152	0.198	U	0.0997		0.21	04/23/08	05/14/08
Europium 154	-0.002	U	0.29		0.53	04/23/08	05/14/08
Potassium 40	11.6		1.3		0.2	04/23/08	05/14/08
Radium (226)	4.05		0.36	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.24		0.16		0.24	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119474**		**Yld % 86**
Thorium 228	0.38	J	0.13	1.00	0.08	04/28/08	05/12/08
Thorium 230	0.25	J	0.10	1.00	0.03	04/28/08	05/12/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8135153**		**Yld % 91**
Uranium 233/234	0.207	J	0.094	1.00	0.049	05/14/08	05/16/08
Uranium 235/236	0.0	U	0.011	1.00	0.034	05/14/08	05/16/08
Uranium 238	0.188	J	0.089	1.00	0.043	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1100 DUP

Radiochemistry

Lab Sample ID: F8D220274-046X
Work Order: KLRDR
Matrix: SOLID

Date Collected: 04/02/08 1421
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8135153		Yld % 85
Uranium 233/234	0.34	J	0.13	1.00	0.07	05/14/08	05/16/08
Uranium 235/236	0.072	J	0.066	1.00	0.072	05/14/08	05/16/08
Uranium 238	0.34	J	0.12	1.00	0.03	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Yld results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1101

Radiochemistry

Lab Sample ID: F8D220274-047
Work Order: KLRDV
Matrix: SOLID

Date Collected: 04/02/08 1424
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115303		Yld %
Actinium 228	0.26	U	0.26		0.41	04/24/08	05/15/08
Americium 241	-0.09	U	0.21		0.34	04/24/08	05/15/08
Cesium 137	-0.057	U	0.093	0.200	0.15	04/24/08	05/15/08
Cobalt 60	0.022	U	0.067		0.12	04/24/08	05/15/08
Europium 152	0.0	U	0.20		0.35	04/24/08	05/15/08
Europium 154	-0.08	U	0.51		0.89	04/24/08	05/15/08
Potassium 40	**9.3**		1.5		0.6	04/24/08	05/15/08
Radium (226)	**8.52**		0.67	1.00	0.21	04/24/08	05/15/08
Thorium 232	0.26	U	0.26		0.41	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119474		Yld % 87
Thorium 228	0.44	J	0.14	1.00	0.09	04/28/08	05/11/08
Thorium 230	0.61	J	0.17	1.00	0.06	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119473		Yld % 86
Uranium 233/234	0.28	J	0.11	1.00	0.04	04/28/08	05/12/08
Uranium 235/236	-0.0049	U	0.0070	1.00	0.064	04/28/08	05/12/08
Uranium 238	0.28	J	0.11	1.00	0.04	04/28/08	05/12/08

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1102

Radiochemistry

Lab Sample ID: F8D220274-048
Work Order: KLRDW
Matrix: SOLID

Date Collected: 04/02/08 1425
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115303**		**Yld %**
Actinium 228	0.32		0.21		0.29	04/24/08	05/15/08
Americium 241	0.029	U	0.098		0.17	04/24/08	05/15/08
Cesium 137	-0.006	U	0.051	0.200	0.095	04/24/08	05/15/08
Cobalt 60	-0.010	U	0.069		0.13	04/24/08	05/15/08
Europium 152	0.0	U	0.14		0.26	04/24/08	05/15/08
Europium 154	0.0	U	0.48		0.91	04/24/08	05/15/08
Potassium 40	8.6		1.7		0.9	04/24/08	05/15/08
Radium (226)	1.23		0.22	1.00	0.11	04/24/08	05/15/08
Thorium 232	0.32		0.21		0.29	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119474**		**Yld % 89**
Thorium 228	0.46	J	0.15	1.00	0.1	04/28/08	05/11/08
Thorium 230	0.49	J	0.15	1.00	0.05	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8119473**		**Yld % 88**
Uranium 233/234	0.43	J	0.14	1.00	0.05	04/28/08	05/12/08
Uranium 235/236	0.013	U	0.026	1.00	0.035	04/28/08	05/12/08
Uranium 238	0.26	J	0.11	1.00	0.04	04/28/08	05/12/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1103

Radiochemistry

Lab Sample ID: F8D220274-049
Work Order: KLRDX
Matrix: SOLID

Date Collected: 04/02/08 1428
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.20	U	0.12		0.31	04/23/08	05/14/08
Americium 241	0.034	U	0.090		0.15	04/23/08	05/14/08
Cesium 137	0.004	U	0.049	0.200	0.089	04/23/08	05/14/08
Cobalt 60	-0.003	U	0.064		0.12	04/23/08	05/14/08
Europium 152	-0.001	U	0.10		0.19	04/23/08	05/14/08
Europium 154	0.002	U	0.32		0.62	04/23/08	05/14/08
Potassium 40	9.0		1.6		1.1	04/23/08	05/14/08
Radium (226)	1.30		0.21	1.00	0.10	04/23/08	05/14/08
Thorium 232	0.20	U	0.12		0.31	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119474		Yld % 88
Thorium 228	0.30	J	0.12	1.00	0.08	04/28/08	05/11/08
Thorium 230	0.38	J	0.13	1.00	0.03	04/28/08	05/11/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8119473		Yld % 96
Uranium 233/234	0.27	J	0.11	1.00	0.06	04/28/08	05/12/08
Uranium 235/236	0.017	U	0.034	1.00	0.064	04/28/08	05/12/08
Uranium 238	0.208	J	0.090	1.00	0.026	04/28/08	05/12/08

NOTE(S)

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U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

June 13, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 2nd, 2008.

LDC project# 18874:

SDG #	Fraction
F8D220236, F8D220249 F8D220260, F8D220274 F8D220281	Gamma Spec (DOE GA-01-R Mod) Radium-226 (Method 903.0) Isotopic Thorium (DOE A-01-R Mod) Isotopic Uranium (DOE A-01-R Mod) Strontium-90 (DOE SR-03-RC Mod)

The following deliverables are submitted under this report:

Attachment I	Sample ID Cross Reference and Data Review Level
Attachment II	Overall Data Qualification Summary
Attachment III	Tetra Tech EC Database Qualification Summary
Attachment IV	Field Blank Summary
Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1055	F8D220274001	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1055	F8D220274001	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1055	F8D220274001	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1055DUP	F8D220274001DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1055DUP	F8D220274001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1056	F8D220274002	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1056	F8D220274002	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1056	F8D220274002	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1056DUP	F8D220274002DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1057	F8D220274003	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1057	F8D220274003	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1057	F8D220274003	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1057DUP	F8D220274003DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1058	F8D220274004	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1058	F8D220274004	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1058	F8D220274004	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1058	F8D220274004	N	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1058DUP	F8D220274004DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1059	F8D220274005	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1059	F8D220274005	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1059	F8D220274005	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1060	F8D220274006	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1060	F8D220274006	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1060	F8D220274006	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1061	F8D220274007	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1061	F8D220274007	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1061	F8D220274007	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1062	F8D220274008	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1062	F8D220274008	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1062	F8D220274008	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1063	F8D220274009	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1063	F8D220274009	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1063	F8D220274009	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1064	F8D220274010	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1064	F8D220274010	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1064	F8D220274010	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1065	F8D220274011	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1065	F8D220274011	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1065	F8D220274011	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1066	F8D220274012	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1066	F8D220274012	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1066	F8D220274012	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1067	F8D220274013	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1067	F8D220274013	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1067	F8D220274013	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1068	F8D220274014	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1068	F8D220274014	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1068	F8D220274014	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1068	F8D220274014	N	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1069	F8D220274015	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1069	F8D220274015	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1069	F8D220274015	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1070	F8D220274016	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1070	F8D220274016	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1070	F8D220274016	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1071	F8D220274017	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1071	F8D220274017	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1071	F8D220274017	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1072	F8D220274018	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1072	F8D220274018	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1072	F8D220274018	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1073	F8D220274019	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1073	F8D220274019	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1073	F8D220274019	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1074	F8D220274020	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1074	F8D220274020	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1074	F8D220274020	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1075	F8D220274021	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1075	F8D220274021	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1075	F8D220274021	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1075DUP	F8D220274021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1075DUP	F8D220274021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1076	F8D220274022	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1076	F8D220274022	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1076	F8D220274022	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1077	F8D220274023	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1077	F8D220274023	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1077	F8D220274023	N	Gen Prep	DOE GA-01-R MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1078	F8D220274024	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1078	F8D220274024	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1078	F8D220274024	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1078	F8D220274024	N	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1079	F8D220274025	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1079	F8D220274025	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1079	F8D220274025	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1080	F8D220274026	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1080	F8D220274026	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1080	F8D220274026	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1081	F8D220274027	EB	Gen Prep	903.0 MOD	3
02-Apr-2008	15-1081	F8D220274027	EB	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1081	F8D220274027	EB	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1081	F8D220274027	EB	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1081	F8D220274027	EB	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1082	F8D220274028	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1082	F8D220274028	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1082	F8D220274028	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1083	F8D220274029	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1083	F8D220274029	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1083	F8D220274029	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1084	F8D220274030	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1084	F8D220274030	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1084	F8D220274030	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1085	F8D220274031	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1085	F8D220274031	N	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1085	F8D220274031	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1086	F8D220274032	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1086	F8D220274032	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1086	F8D220274032	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1087	F8D220274033	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1087	F8D220274033	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1087	F8D220274033	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1087DUP	F8D220274033DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1088	F8D220274034	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1088	F8D220274034	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1088	F8D220274034	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1088	F8D220274034	N	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1089	F8D220274035	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1089	F8D220274035	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1089	F8D220274035	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1090	F8D220274036	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1090	F8D220274036	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1090	F8D220274036	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1091	F8D220274037	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1091	F8D220274037	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1091	F8D220274037	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1092	F8D220274038	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1092	F8D220274038	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1092	F8D220274038	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1093	F8D220274039	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1093	F8D220274039	N	Gen Prep	DOE A-01-R U MOD	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1093	F8D220274039	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1094	F8D220274040	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1094	F8D220274040	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1094	F8D220274040	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1095	F8D220274041	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1095	F8D220274041	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1095	F8D220274041	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1095DUP	F8D220274041DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1095DUP	F8D220274041DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1095DUP	F8D220274041DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1096	F8D220274042	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1096	F8D220274042	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1096	F8D220274042	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1097	F8D220274043	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1097	F8D220274043	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1097	F8D220274043	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1098	F8D220274044	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1098	F8D220274044	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1098	F8D220274044	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1098	F8D220274044	N	Gen Prep	)OE SR-03-RC MOI	3
02-Apr-2008	15-1099	F8D220274045	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1099	F8D220274045	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1099	F8D220274045	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1100	F8D220274046	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1100	F8D220274046	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1100	F8D220274046	N	Gen Prep	DOE GA-01-R MOD	3

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2008	15-1100DUP	F8D220274046DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1101	F8D220274047	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1101	F8D220274047	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1101	F8D220274047	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1102	F8D220274048	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1102	F8D220274048	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1102	F8D220274048	N	Gen Prep	DOE GA-01-R MOD	3
02-Apr-2008	15-1103	F8D220274049	N	Gen Prep	)OE A-01-R TH MOI	3
02-Apr-2008	15-1103	F8D220274049	N	Gen Prep	DOE A-01-R U MOD	3
02-Apr-2008	15-1103	F8D220274049	N	Gen Prep	DOE GA-01-R MOD	3

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220274										
DOE A-01-R TH MOD	15-1055	SO	N							
				THORIUM-228	1.00	0.73J	0.42	J	pCi/g	
				THORIUM-230	1.00	0.36J	0.29	J	pCi/g	
DOE A-01-R TH MOD	15-1065	SO	N							
				THORIUM-228	1.00	0.39J	0.25	J	pCi/g	
				THORIUM-230	1.00	0.39J	0.23	J	pCi/g	
DOE A-01-R TH MOD	15-1076	SO	N							
				THORIUM-228	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1078	SO	N							
				THORIUM-228	1.00	0.47J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-1079	SO	N							
				THORIUM-228	1.00	0.44J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1081	AQ	EB							
				THORIUM-230	1.00	0.12J	0.10	U	pCi/L	
DOE A-01-R TH MOD	15-1082	SO	N							
				THORIUM-228	1.00	0.46J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1083	SO	N							
				THORIUM-228	1.00	0.30J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1086	SO	N							
				THORIUM-228	1.00	0.47J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-1088	SO	N							
				THORIUM-228	1.00	0.49J	0.16	U	pCi/g	
DOE A-01-R TH MOD	15-1090	SO	N							
				THORIUM-228	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-1091	SO	N							
				THORIUM-228	1.00	0.43J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-1092	SO	N							
				THORIUM-228	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1093	SO	N							
				THORIUM-228	1.00	0.45J	0.14	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220274										
DOE A-01-R TH MOD	15-1094	SO	N							
				THORIUM-228	1.00	0.46J	0.19	U	pCi/g	
DOE A-01-R TH MOD	15-1095	SO	N							
				THORIUM-230	1.00	0.33J	0.12	U	pCi/g	
DOE A-01-R TH MOD	15-1096	SO	N							
				THORIUM-228	1.00	0.30J	0.12	U	pCi/g	
				THORIUM-230	1.00	0.47J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-1097	SO	N							
				THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1098	SO	N							
				THORIUM-230	1.00	0.43J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1099	SO	N							
				THORIUM-230	1.00	0.37J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1100	SO	N							
				THORIUM-230	1.00	0.25J	0.10	U	pCi/g	
DOE A-01-R TH MOD	15-1101	SO	N							
				THORIUM-230	1.00	0.61J	0.17	U	pCi/g	
DOE A-01-R TH MOD	15-1102	SO	N							
				THORIUM-230	1.00	0.49J	0.15	U	pCi/g	
DOE A-01-R TH MOD	15-1103	SO	N							
				THORIUM-228	1.00	0.30J	0.12	U	pCi/g	
				THORIUM-230	1.00	0.38J	0.13	U	pCi/g	
DOE A-01-R U MOD	15-1095	SO	N							
				URANIUM-233/234	1.00	0.29J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.30J	0.12	U	pCi/g	
DOE A-01-R U MOD	15-1096	SO	N							
				URANIUM-233/234	1.00	0.28J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.32J	0.12	U	pCi/g	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220274										
DOE A-01-R U MOD	15-1097	SO	N							
				URANIUM-233/234	1.00	0.30J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.211J	0.094	U	pCi/g	
DOE A-01-R U MOD	15-1098	SO	N							
				URANIUM-238	1.00	0.27J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-1099	SO	N							
				URANIUM-233/234	1.00	0.167J	0.089	U	pCi/g	
				URANIUM-238	1.00	0.167J	0.089	U	pCi/g	
DOE A-01-R U MOD	15-1101	SO	N							
				URANIUM-233/234	1.00	0.28J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.28J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-1102	SO	N							
				URANIUM-238	1.00	0.26J	0.11	U	pCi/g	
DOE A-01-R U MOD	15-1103	SO	N							
				URANIUM-233/234	1.00	0.27J	0.11	U	pCi/g	
				URANIUM-238	1.00	0.208J	0.090	U	pCi/g	

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Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8D220274

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220274	15-1055	DOE A-01-R TH MOD	14274829	J		THORIUM-228	Surrogate recovery
F8D220274	15-1055	DOE A-01-R TH MOD	14269637	J		THORIUM-230	Surrogate recovery
F8D220274	15-1065	DOE A-01-R TH MOD	14274829	J		THORIUM-228	Surrogate recovery
F8D220274	15-1065	DOE A-01-R TH MOD	14269637	J		THORIUM-230	Surrogate recovery
F8D220274	15-1076	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1078	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1079	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1081	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1082	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1083	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1086	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1088	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1090	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1091	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1092	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1093	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1094	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1095	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1095	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1095	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1096	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1096	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1096	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1096	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1097	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1097	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1097	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1098	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1098	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1099	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1099	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1099	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank

Reason for Qualified Results

SDG Nos. : F8D220274

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220274	15-1100	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1101	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1101	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1101	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1102	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1102	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220274	15-1103	DOE A-01-R TH MOD	14274829	U		THORIUM-228	Present in method blank
F8D220274	15-1103	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220274	15-1103	DOE A-01-R U MOD	-163	U		URANIUM-233/234	Present in method blank
F8D220274	15-1103	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

SDG	Method	QC Type	Client Sample ID	Sample Matrix	Sample Date	Analyte Name	Client Analyte ID	Lab Result	Units	Lab Qualifier	Reporting Lin
F8D220274	DOE A-01-R TH MOD	EB	15-1081	AQ	04/02/2008 0:00	THORIUM-230	14269-63-7	0.12	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8D220274

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8D280000125MB

Lab ID: TestAme
Analysis Date : 05/13/2008
Preparation Date :
Preparation Batch : 8119125

	Result	Reporting Limit	Units	Lab Qual	Comments
URANIUM-233/234					
Method Blank Result:	0.028	1.00	pCi/g	J	

URANIUM-233/234 contamination found in the method blank did not qualify any samples.

	Result	Reporting Limit	Units	Lab Qual	Comments
URANIUM-238					
Method Blank Result:	0.028	1.00	pCi/g	J	

URANIUM-238 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/15/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D280000262MB
Preparation Batch : 8119262

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.103	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1076	F8D220274022	1	0.43	J	pCi/g
15-1078	F8D220274024	1	0.47	J	pCi/g
15-1079	F8D220274025	1	0.44	J	pCi/g
15-1082	F8D220274028	1	0.46	J	pCi/g
15-1083	F8D220274029	1	0.30	J	pCi/g
15-1086	F8D220274032	1	0.47	J	pCi/g
15-1088	F8D220274034	1	0.49	J	pCi/g
15-1090	F8D220274036	1	0.33	J	pCi/g
15-1091	F8D220274037	1	0.43	J	pCi/g
15-1092	F8D220274038	1	0.36	J	pCi/g
15-1093	F8D220274039	1	0.45	J	pCi/g
15-1094	F8D220274040	1	0.46	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Lab ID: TestAme
Analysis Method : DOE A-01-R U MOD
Analysis Date : 05/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D280000473MB
Preparation Batch : 8119473

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.060	1.00	pCi/g	J	

URANIUM-233/234 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1095	F8D220274041	1	0.29	J	pCi/g
15-1096	F8D220274042	1	0.28	J	pCi/g
15-1097	F8D220274043	1	0.30	J	pCi/g
15-1099	F8D220274045	1	0.167	J	pCi/g
15-1101	F8D220274047	1	0.28	J	pCi/g
15-1103	F8D220274049	1	0.27	J	pCi/g

URANIUM-235/236	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.039	1.00	pCi/g	J	

URANIUM-235/236 contamination found in the method blank did not qualify any samples.

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.114	1.00	pCi/g	J	

URANIUM-238 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1095	F8D220274041	1	0.30	J	pCi/g
15-1096	F8D220274042	1	0.32	J	pCi/g
15-1097	F8D220274043	1	0.211	J	pCi/g
15-1098	F8D220274044	1	0.27	J	pCi/g
15-1099	F8D220274045	1	0.167	J	pCi/g
15-1101	F8D220274047	1	0.28	J	pCi/g
15-1102	F8D220274048	1	0.26	J	pCi/g
15-1103	F8D220274049	1	0.208	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8D280000474MB
Preparation Batch : 8119474

THORIUM-228	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.061	1.00	pCi/g	J	

THORIUM-228 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1096	F8D220274042	1	0.30	J	pCi/g
15-1103	F8D220274049	1	0.30	J	pCi/g

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.134	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1095	F8D220274041	1	0.33	J	pCi/g
15-1096	F8D220274042	1	0.47	J	pCi/g
15-1097	F8D220274043	1	0.38	J	pCi/g
15-1098	F8D220274044	1	0.43	J	pCi/g
15-1099	F8D220274045	1	0.37	J	pCi/g
15-1100	F8D220274046	1	0.25	J	pCi/g
15-1101	F8D220274047	1	0.61	J	pCi/g
15-1102	F8D220274048	1	0.49	J	pCi/g
15-1103	F8D220274049	1	0.38	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/12/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8E070000447MB
Preparation Batch : 8128447

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.22	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1081	F8D220274027	1	0.12	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8E140000153MB

Lab ID: TestAme
Analysis Date : 05/16/2008
Preparation Date :
Preparation Batch : 8135153

URANIUM-233/234	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.035	1.00	pCi/g	J	

URANIUM-233/234 contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : F8D220274
Lab ID: TestAme
Analysis Method : DOE A-01-R TH MOD
Analysis Date : 05/18/2008
Preparation Type : Gen Prep
Preparation Date :
Method Blank Lab Sample ID : F8E160000518MB
Preparation Batch : 8137518

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.065	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18874D29 **VALIDATION COMPLETENESS WORKSHEET** Date: 6-10-08

SDG #: F8D220274 MLY ADR Page: 1 of 1

Laboratory: Test America Reviewer: MG

Radium 226 (EPA 903.0 Mod) 2nd Reviewer: [illegible]

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-2-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	Client specified, insufficient sample
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	15-1081	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 18874D35
SDG #: F8D220274
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

9mA

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-2-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	outliers are both N.D.
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (SDG: F8D220260, F8D220236)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	ND	ER = 27

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-1055	S	11	15-1065	S	21	15-1075	S	31	15-1085	S
2	15-1056		12	15-1066		22	15-1076		32	15-1086	
3	15-1057		13	15-1067		23	15-1077		33	15-1087	
4	15-1058		14	15-1068		24	15-1078		34	15-1088	
5	15-1059		15	15-1069		25	15-1079		35	15-1089	
6	15-1060		16	15-1070		26	15-1080		36	15-1090	
7	15-1061		17	15-1071		27	15-1081	W	37	15-1091	
8	15-1062		18	15-1072		28	15-1082	S	38	15-1092	
9	15-1063		19	15-1073		29	15-1083		39	15-1093	
10	15-1064		20	15-1074		30	15-1084		40	15-1094	

Notes:

LDC #: 18874D35
SDG #: F8D220274
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 2 of 2
Reviewer: MG
2nd Reviewer: ✓

9M4

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates		
IX	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

41 3	15-1095 S	51 4	15-1057DUP S	61		71	
42 3	15-1096	52 3	15-1095DUP ↓	62		72	
43 3	15-1097	53 1	PBS1	63		73	
44 3	15-1098	54 2	PBS2	64		74	
45 3	15-1099	55 3	PBS3	65		75	
46 3	15-1100	56 4	PBS4	66		76	
47 4	15-1101	57 5	PBW	67		77	
48 4	15-1102	58		68		78	
49 3	15-1103	59		69		79	
50 2	15-1056DUP ↓	60		70		80	

Notes: _____

LDC #: 18874D59
SDG #: F8D220274
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer: ✓

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-2-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A ~~N~~	DUP outliers OK by difference or both N.D.
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A ~~N~~	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 27

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-1055 S	11 1	15-1065 S	21 3	15-1075 S	31 3	15-1085 S
2 1	15-1056	12 1	15-1066	22 3	15-1076	32 3	15-1086
3 1	15-1057	13 1	15-1067	23 3	15-1077	33 3	15-1087
4 1	15-1058	14 1	15-1068	24 3	15-1078	34 3	15-1088
5 1	15-1059	15 1	15-1069	25 3	15-1079	35 3	15-1089
6 1	15-1060	16 1	15-1070	26 3	15-1080	36 3	15-1090
7 1	15-1061	17 1	15-1071	27 5	15-1081 W	37 3	15-1091
8 1	15-1062	18 1	15-1072	28 3	15-1082 S	38 3	15-1092
9 1	15-1063	19 1	15-1073	29 3	15-1083	39 3	15-1093
10 1	15-1064	20 1	15-1074	30 3	15-1084	40 3	15-1094

Notes: _____

LDC #: 18874D59
SDG #: F8D220274
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 2	15-1095 S	51 3	15-1075DUP S	61		71	
42 2	15-1096	52 2	15-1095DUP	62		72	
43 2	15-1097	53 4	15-1100DUP	63		73	
44 2	15-1098	54 1	PBS1	64		74	
45 2	15-1099	55 2	PBS2	65		75	
46 4	15-1100	56 3	PBS3	66		76	
47 2	15-1101	57 4	PBS4	67		77	
48 2	15-1102	58 5	PBW	68		78	
49 2	15-1103	59		69		79	
50 1	15-1055DUP	60		70		80	

Notes: _____

LDC #: 18874D61
SDG #: F8D220274
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Strontium-90 (DOE SR-02-RC MOD) 3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-2-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	~~A~~ N	DUP (SDG: F8D220236) both N.D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	~~A~~ N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1 1	15-1058 S	11		21		31		
2 1	15-1068	12		22		32		
3 1	15-1078	13		23		33		
4 2	15-1081 W	14		24		34		
5 1	15-1088 S	15		25		35		
6 1	15-1098	16		26		36		
7 1	PBS	17		27		37		
8 2	PBW	18		28		38		
9		19		29		39		
10		20		30		40		

Notes:

LDC #: 18874D73
SDG #: F8D220274
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 1 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-2-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP ok by difference
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	SW	#1 J 11 (All Th) J/NS/A
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	SW	ER = 27

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1	15-1055	S	11	4	15-1065	S	21	3	15-1075	S
2	1	15-1056		12	1	15-1066		22	3	15-1076	
3	1	15-1057		13	1	15-1067		23	3	15-1077	
4	4	15-1058		14	1	15-1068		24	3	15-1078	
5	1	15-1059		15	1	15-1069		25	3	15-1079	
6	1	15-1060		16	4	15-1070		26	3	15-1080	
7	4	15-1061		17	1	15-1071		27	6	15-1081	W
8	1	15-1062		18	1	15-1072		28	3	15-1082	S
9	1	15-1063		19	1	15-1073		29	3	15-1083	
10	1	15-1064		20	1	15-1074		30	3	15-1084	

31	3	15-1085	S								
32	3	15-1086									
33	5	15-1087									
34	3	15-1088									
35	3	15-1089									
36	3	15-1090									
37	3	15-1091									
38	3	15-1092									
39	3	15-1093									
40	3	15-1094									

Notes:

LDC #: 18874D73
SDG #: F8D220274
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-08
Page: 2 of 2
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates		
X	Field blanks		

See page 2 of 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

41 2	15-1095 S	51 4	15-1058DUP S	61		71	
42 2	15-1096	52 3	15-1075DUP	62		72	
43 2	15-1097	53 5	15-1087DUP	63		73	
44 2	15-1098	54 2	15-1095DUP	64		74	
45 2	15-1099	55 1	PBS1	65		75	
46 2	15-1100	56 2	PBS2	66		76	
47 2	15-1101	57 3	PBS3	67		77	
48 2	15-1102	58 4	PBS4	68		78	
49 2	15-1103	59 5	PBS5	69		79	
50 1	15-1055DUP	60 6	PBW	70		80	

Notes:

LDC #: 18[redacted]D75
SDG #: Sm Cm

VALIDATION FINDINGS WORKSHEET
Sample Chemical Recovery

Reviewer: A1
2nd Reviewer:

METHOD: Radiochemistry (Method: Sm Cm)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a tracer added to each sample?

Y (N) N/A Were tracer recoveries within the control limits?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	ID	Matrix	Analyte	%R (limits)	Associated Samples	Qualifications
		1	So	Th-229	18 (30-110)	1	J | UJ | A (Qual all Th)
		11	So	Th-229	28 (30-110)	11	↓ ↓

Comments:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25668

ENTERED

PROJECT NAME	PURCHASE ORDER NO	LABORATORY NAME
IR sites 1, 2 & 32	106.629552	TEST AMERICA
PROJECT LOCATION	**PROJECT NO**	
Alameda CA	3210.028D	
SAMPLER NAME	**AIRBILL NUMBER**	**LABORATORY ID (FOR LABORATORY)**
Y. Richards	7918 8802 6986	F8D220281 39
PROJECT CONTACT	**PROJECT CONTACT PHONE NUMBER**	
S. Sudoko	949-756-7545	

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED: EPA 901.1m Gamma; Isotopic Thorium; Isotopic Uranium; Ambrose SE-01/SE-02

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1m Gamma	Isotopic Thorium	Isotopic Uranium	Ambrose SE-01/SE-02					COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1104	4.3.08	9:32	1	X		S	21 DY	X	X	X							B.32IR-141a	2'	2.5'	N
15-1105	4.3.08	9:35	1	X		S	21 DY	X	X	X							B.32IR-141b	2.5'	3'	N
15-1106	4.3.08	9:45	2	X		W	21 DY	X	X	X	X*					*Added 4-22-08 S2	Equipment Rinsate	N/A	N/A	N
15-1107	4.3.08	9:47	1	X		S	21 DY	X	X	X							32IR-142	2'	2.5'	N
15-1108	4.3.08	9:50	2	X		S	21 DY	X	X	X	X						B.32IR-143a	2'	2.5'	N
15-1109	4.3.08	9:53	1	X		S	21 DY	X	X	X							B.32IR-143b	2.5'	3'	N
15-1110	4.3.08	9:58	1	X		S	21 DY	X	X	X							B.32IR-144a	2'	2.5'	N
15-1111	4.3.08	10:01	1	X		S	21 DY	X	X	X							B.32IR-144b	2.5'	3'	N
15-1112	4.3.08	10:06	1	X		S	21 DY	X	X	X							32IR-149	2'	2.5'	N
15-1113	4.3.08	10:15	1	X		S	21 DY	X	X	X							B.32IR.150Aa	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	4/21/08	
COMPANY: TtEC / Fedex	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH

COMPOSITE DESCRIPTION

SAMPLING COMMENT: IR = Installation Restoration

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25664

ENTERED

PROJECT NAME: IR sites 1, 2 & 32
PURCHASE ORDER NO.: 106.629557
PROJECT LOCATION: Alameda CA
PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards
AIRBILL NUMBER: 7915 8802 6986
PROJECT CONTACT: S. Sudoko
PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: Test America
LABORATORY ID (FOR LABORATORY): F8D 220281

Project Information Section
Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1M Gamma	Isotopic Thorium	Isotopic Uranium	4/2-DCE 32-01/32-03						COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1114	4.3.08	10:17	1	X		S	21 DY	X	X	X								B.32IR-150Ab	2.5'	3'	N
15-1115	4.3.08	10:20	1	X		S	21 DY	X	X	X								B.32IR-150.Ba	2'	2.5'	N
15-1116	4.3.08	10:23	1	X		S	21 DY	X	X	X								B.32IR-150.Bb	2.5'	3'	N
15-1117	4.3.08	10:27	1	X		S	21 DY	X	X	X								B.32IR-151a	2'	2.5'	N
15-1118	4.3.08	10:30	2	X		S	21 DY	X	X	X	X							B.32IR-151b	2.5'	3'	N
15-1119	4.3.08	10:40	1	X		S	21 DY	X	X	X								B.32IR-157a	3'	3.5'	N
15-1120	4.3.08	10:43	1	X		S	21 DY	X	X	X								B.32IR-157b	3.5'	4'	N
15-1121	4.3.08	10:50	1	X		S	21 DY	X	X	X								B.32IR-158a	2'	2.5'	N
15-1122	4.3.08	10:53	1	X		S	21 DY	X	X	X								B.32IR-158b	2.5'	3'	N
15-1123	4.3.08	10:55	1	X		S	21 DY	X	X	X								B.32IR-159a	2'	2.5'	N

RELINQUISHED BY (Signature): V Richards — DATE: 4/21/08 — RECEIVED BY (Signature):
COMPANY: TtEC / Fedex — TIME: — COMPANY:
RELINQUISHED BY (Signature): — DATE: — RECEIVED BY (Signature):
COMPANY: — TIME: — COMPANY:
RELINQUISHED BY (Signature): — DATE: — RECEIVED BY (Signature):
COMPANY: — TIME: — COMPANY:

LABORATORY INSTRUCTIONS/COMMENTS: 21 Day Ingrowth

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ______ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25665

ENGINEERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.6295S2
PROJECT LOCATION: ALAMEDA CA	PROJECT NO.: 3210.028D
SAMPLER NAME: V Richards	AIRBILL NUMBER: 7920 4375 9340
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

ANALYSES REQUIRED: EPA 901.1m GAMMA; ISOTOPIC THORIUM; ISOTOPIC URANIUM; 90/Sr DOE Sr-01/Sr-02

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): F8D220281

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1124	4.3.08	10:58	1	X		S	21 DY		B-32IR-159b	2.5'	3'	N
15-1125	4.3.08	12:51	1	X		S	21 DY		B-32IR-172a	2'	2.5'	N
15-1126	4.3.08	12:53	1	X		S	21 DY		B-32IR-172b	2.5'	3'	N
15-1127	4.3.08	13:00	1	X		S	21 DY		B-32IR-32Xa	2'	2.5'	N
15-1128	4.3.08	13:03	2	X		S	21 DY		B-32IR-32X b	2.5'	3'	N
15-1129	4.3.08	13:11	1	X		S	21 DY		B-32IR-G5a	2'	2.5'	N
15-1130	4.3.08	13:13	1	X		S	21 DY		B-32IR-G5b	2.5'	3'	N
15-1131	4.3.08	13:20	1	X		S	21 DY		B-32IR-G6a	2'	2.5'	N
15-1132	4.3.08	13:23	1	X		S	21 DY		B-32IR-G6b	2.5'	3'	N
15-1133	4.3.08	13:27	1	X		S	21 DY		B-32IR-G7a	2'	2.5'	N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY Inorganics
COMPANY TTEC/Tetra	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	COMPOSITE DESCRIPTION
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
COMPANY	TIME	COMPANY	TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = Installation Restoration

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 25667

ENTERED

PROJECT NAME: IR sites 1, 2 & 32	PURCHASE ORDER NO.: 106.629552
PROJECT LOCATION: ALAMEDA, CA	PROJECT NO.: 3210.025D
SAMPLER NAME: V. Richards	AIRBILL NUMBER: 7920 4325 3940
PROJECT CONTACT: S. Sudoko	PROJECT CONTACT PHONE NUMBER: 949-756-7545

LABORATORY NAME: TEST AMERICA

LABORATORY ID (FOR LABORATORY): F8D220289

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 901.1 GAMMA	ISOTOPIC THORIUM	ISOTOPIC URANIUM	90Sr DOE-SR-01 /SR-01	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
15-1134	4.3.08	13:30	1	X		S	21 DY	X	X	X			B-32IR-G7b	2.5'	3'	N
15-1135	4.3.08	13:35	1	X		S	21 DY	X	X	X			B32IR-G8a	2'	2.5'	N
15-1136	4.3.08	13:38	1	X		S	21 DY	X	X	X			B-32IR-G8b	2.5'	3'	N
15-1137	4.3.08	13:40	1	X		S	21 DY	X	X	X			B-32IR-G9a	2'	2.5'	N
15-1138	4.3.08	13:43	2	X		S	21 DY	X	X	X	X		B-32IR-G9b	2.5'	3'	N
15-1139	4.3.08	13:47	1	X		S	21 DY	X	X	X			B-32IR-G10a	2'	2.5'	N
15-1140	4.3.08	13:50	1	X		S	21 DY	X	X	X			B-32IR-G10b	2.5'	3'	N
15-1141	4.3.08	13:55	1	X		S	21 DY	X	X	X			B-32IR-G11a	2'	2.5'	N
15-1142	4.3.08	13:58	1	X		S	21 DY	X	X	X			B-32IR-G11b	2.5'	3'	N
																N

RELINQUISHED BY (Signature)	DATE 4/21/08	RECEIVED BY (Signature)	
COMPANY TtEC/Fedex	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS: 21 DAY INGROWTH

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT: IR = INSTALLATION RESTORATION

Tetra Tech EC, Inc.

Client Sample ID: 15-1124

Radiochemistry

Lab Sample ID: F8D220281-001
Work Order: KLREE
Matrix: SOLID

Date Collected: 04/03/08 1058
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8115304**		**Yld %**
Actinium 228	0.07	U	0.16		0.27	04/24/08	05/15/08
Americium 241	0.26	U	0.54		0.91	04/24/08	05/15/08
Cesium 137	-0.026	U	0.057	0.200	0.096	04/24/08	05/15/08
Cobalt 60	-0.014	U	0.050		0.088	04/24/08	05/15/08
Europium 152	**0.59**		**0.18**		**0.29**	**04/24/08**	**05/15/08**
Europium 154	-0.03	U	0.40		0.71	04/24/08	05/15/08
Potassium 40	**7.5**		**1.4**		**1.5**	**04/24/08**	**05/15/08**
Radium (226)	**9.77**		**0.71**	1.00	0.17	04/24/08	05/15/08
Thorium 232	0.07	U	0.16		0.27	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115459**		**Yld % 95**
Thorium 228	**0.82**	**J**	**0.19**	1.00	0.07	04/24/08	05/01/08
Thorium 230	**0.41**	**J**	**0.13**	1.00	0.05	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 79**
Uranium 233/234	**0.56**	**J**	**0.17**	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	0.012	U	0.029	1.00	0.061	04/25/08	04/30/08
Uranium 238	**0.46**	**J**	**0.15**	1.00	0.06	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1124 DUP

Radiochemistry

Lab Sample ID: F8D220281-001X
Work Order: KLREE
Matrix: SOLID

Date Collected: 04/03/08 1058
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115304		Yld %
Actinium 228	0.35		0.23		0.34	04/24/08	05/15/08
Americium 241	0.03	U	0.19		0.31	04/24/08	05/15/08
Cesium 137	0.039	U	0.049	0.200	0.080	04/24/08	05/15/08
Cobalt 60	0.0	U	0.13		0.23	04/24/08	05/15/08
Europium 152	0.58		0.19		0.35	04/24/08	05/15/08
Europium 154	0.01	U	0.52		0.92	04/24/08	05/15/08
Potassium 40	10.7		1.5		0.5	04/24/08	05/15/08
Radium (226)	9.85		0.75	1.00	0.20	04/24/08	05/15/08
Thorium 232	0.35		0.23		0.34	04/24/08	05/15/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 85
Uranium 233/234	0.34	J	0.13	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.022	U	0.039	1.00	0.066	04/25/08	04/30/08
Uranium 238	0.26	J	0.11	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1125

Radiochemistry

Lab Sample ID: F8D220281-002
Work Order: KLREG
Matrix: SOLID

Date Collected: 04/03/08 1251
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.37		0.15		0.28	04/23/08	05/14/08
Americium 241	-0.016	U	0.097		0.17	04/23/08	05/14/08
Cesium 137	0.020	U	0.038	0.200	0.065	04/23/08	05/14/08
Cobalt 60	0.0	U	0.043		0.082	04/23/08	05/14/08
Europium 152	-0.03	U	0.12		0.20	04/23/08	05/14/08
Europium 154	-0.12	U	0.32		0.57	04/23/08	05/14/08
Potassium 40	10.8		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.56	J	0.13	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.37		0.15		0.28	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 82
Thorium 228	0.44	J	0.15	1.00	0.09	04/24/08	05/01/08
Thorium 230	0.61	J	0.17	1.00	0.05	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 91
Uranium 233/234	0.32	J	0.12	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.027	U	0.038	1.00	0.036	04/25/08	04/30/08
Uranium 238	0.33	J	0.12	1.00	0.06	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1126

Radiochemistry

Lab Sample ID: F8D220281-003
Work Order: KLREH
Matrix: SOLID

Date Collected: 04/03/08 1253
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.36		0.19		0.24	04/23/08	05/14/08
Americium 241	0.048	U	0.067		0.11	04/23/08	05/14/08
Cesium 137	0.002	U	0.041	0.200	0.076	04/23/08	05/14/08
Cobalt 60	0.027	U	0.030		0.043	04/23/08	05/14/08
Europium 152	0.00006	U	0.078		0.14	04/23/08	05/14/08
Europium 154	-0.009	U	0.31		0.59	04/23/08	05/14/08
Potassium 40	8.0		1.4		0.6	04/23/08	05/14/08
Radium (226)	0.53	J	0.16	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.36		0.19		0.24	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 85
Thorium 228	0.41	J	0.14	1.00	0.08	04/24/08	05/01/08
Thorium 230	0.44	J	0.15	1.00	0.07	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 88
Uranium 233/234	0.35	J	0.12	1.00	0.04	04/25/08	04/30/08
Uranium 235/236	0.010	U	0.026	1.00	0.055	04/25/08	04/30/08
Uranium 238	0.39	J	0.13	1.00	0.04	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1127

Radiochemistry

Lab Sample ID: F8D220281-004
Work Order: KLREJ
Matrix: SOLID

Date Collected: 04/03/08 1300
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.22	U	0.15		0.22	04/23/08	05/14/08
Americium 241	-0.0008	U	0.082		0.14	04/23/08	05/14/08
Cesium 137	-0.001	U	0.037	0.200	0.068	04/23/08	05/14/08
Cobalt 60	-0.008	U	0.045		0.082	04/23/08	05/14/08
Europium 152	-0.023	U	0.097		0.17	04/23/08	05/14/08
Europium 154	0.0	U	0.20		0.39	04/23/08	05/14/08
Potassium 40	9.1		1.4		0.5	04/23/08	05/14/08
Radium (226)	0.95	J	0.16	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.22	U	0.15		0.22	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 82
Thorium 228	0.39	J	0.14	1.00	0.09	04/24/08	05/03/08
Thorium 230	0.44	J	0.14	1.00	0.03	04/24/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 80
Uranium 233/234	0.29	J	0.12	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	-0.0078	U	0.0091	1.00	0.075	04/25/08	04/30/08
Uranium 238	0.28	J	0.12	1.00	0.09	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1128

Radiochemistry

Lab Sample ID: F8D220281-005
Work Order: KLREK
Matrix: SOLID

Date Collected: 04/03/08 1303
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.29		0.20		0.26	04/23/08	05/14/08
Americium 241	-0.02	U	0.11		0.19	04/23/08	05/14/08
Cesium 137	-0.01	U	0.039	0.200	0.074	04/23/08	05/14/08
Cobalt 60	0.0	U	0.075		0.14	04/23/08	05/14/08
Europium 152	-0.004	U	0.11		0.20	04/23/08	05/14/08
Europium 154	-0.06	U	0.38		0.71	04/23/08	05/14/08
Potassium 40	10.1		1.8		0.6	04/23/08	05/14/08
Radium (226)	0.91	J	0.21	1.00	0.16	04/23/08	05/14/08
Thorium 232	0.29		0.20		0.26	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 80
Thorium 228	0.36	J	0.14	1.00	0.10	04/24/08	05/01/08
Thorium 230	0.57	J	0.18	1.00	0.05	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 86
Uranium 233/234	0.22	J	0.10	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/25/08	04/30/08
Uranium 238	0.190	J	0.095	1.00	0.064	04/25/08	04/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 63
Strontium 90	0.19	U	0.32	3.00	0.54	04/23/08	05/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1129

Radiochemistry

Lab Sample ID: F8D220281-006
Work Order: KLREL
Matrix: SOLID

Date Collected: 04/03/08 1311
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114539**		**Yld %**
Actinium 228	0.35		0.23		0.33	04/23/08	05/14/08
Americium 241	0.062	U	0.086		0.14	04/23/08	05/14/08
Cesium 137	-0.03	U	0.73	0.20	0.11	04/23/08	05/14/08
Cobalt 60	-0.0007	U	0.052		0.10	04/23/08	05/14/08
Europium 152	0.004	U	0.11		0.21	04/23/08	05/14/08
Europium 154	0.05	U	0.39		0.73	04/23/08	05/14/08
Potassium 40	8.5		1.6		0.5	04/23/08	05/14/08
Radium (226)	0.55	J	0.18	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.35		0.23		0.33	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115459**		**Yld % 90**
Thorium 228	0.39	J	0.13	1.00	0.04	04/24/08	05/03/08
Thorium 230	0.42	J	0.14	1.00	0.06	04/24/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 92**
Uranium 233/234	0.41	J	0.13	1.00	0.04	04/25/08	04/30/08
Uranium 235/236	0.022	U	0.035	1.00	0.053	04/25/08	04/30/08
Uranium 238	0.29	J	0.11	1.00	0.04	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1130

Radiochemistry

Lab Sample ID: F8D220281-007
Work Order: KLREM
Matrix: SOLID

Date Collected: 04/03/08 1313
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.42		0.15		0.24	04/23/08	05/14/08
Americium 241	0.053	U	0.072		0.12	04/23/08	05/14/08
Cesium 137	0.0007	U	0.042	0.200	0.077	04/23/08	05/14/08
Cobalt 60	0.016	U	0.043		0.078	04/23/08	05/14/08
Europium 152	0.021	U	0.092		0.16	04/23/08	05/14/08
Europium 154	0.08	U	0.31		0.56	04/23/08	05/14/08
Potassium 40	9.8		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.50	J	0.13	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.42		0.15		0.24	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 79
Thorium 228	0.36	J	0.14	1.00	0.08	04/24/08	05/01/08
Thorium 230	0.56	J	0.17	1.00	0.03	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 82
Uranium 233/234	0.188	J	0.094	1.00	0.063	04/25/08	04/30/08
Uranium 235/236	0.033	U	0.048	1.00	0.073	04/25/08	04/30/08
Uranium 238	0.27	J	0.12	1.00	0.08	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1131

Radiochemistry

Lab Sample ID: F8D220281-008
Work Order: KLREN
Matrix: SOLID

Date Collected: 04/03/08 1320
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.33		0.21		0.29	04/23/08	05/14/08
Americium 241	-0.002	U	0.067		0.12	04/23/08	05/14/08
Cesium 137	0.014	U	0.030	0.200	0.054	04/23/08	05/14/08
Cobalt 60	-0.008	U	0.040		0.078	04/23/08	05/14/08
Europium 152	-0.01	U	0.10		0.18	04/23/08	05/14/08
Europium 154	0.06	U	0.35		0.65	04/23/08	05/14/08
Potassium 40	7.5		1.4		0.6	04/23/08	05/14/08
Radium (226)	0.54	J	0.13	1.00	0.07	04/23/08	05/14/08
Thorium 232	0.33		0.21		0.29	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 61
Thorium 228	0.49	J	0.17	1.00	0.1	04/24/08	05/01/08
Thorium 230	0.51	J	0.17	1.00	0.06	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 76
Uranium 233/234	0.35	J	0.14	1.00	0.09	04/25/08	04/30/08
Uranium 235/236	0.015	U	0.031	1.00	0.041	04/25/08	04/30/08
Uranium 238	0.58	J	0.18	1.00	0.07	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1132

Radiochemistry

Lab Sample ID: F8D220281-009
Work Order: KLREP
Matrix: SOLID

Date Collected: 04/03/08 1323
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.36		0.18		0.23	04/23/08	05/14/08
Americium 241	0.034	U	0.077		0.13	04/23/08	05/14/08
Cesium 137	0.005	U	0.041	0.200	0.074	04/23/08	05/14/08
Cobalt 60	0.0	U	0.0084		0.031	04/23/08	05/14/08
Europium 152	0.030	U	0.075		0.13	04/23/08	05/14/08
Europium 154	-0.10	U	0.35		0.61	04/23/08	05/14/08
Potassium 40	7.4		1.2		0.6	04/23/08	05/14/08
Radium (226)	0.30	J	0.10	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.36		0.18		0.23	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 78
Thorium 228	0.36	J	0.14	1.00	0.08	04/24/08	05/01/08
Thorium 230	0.52	J	0.16	1.00	0.06	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 81
Uranium 233/234	0.35	J	0.13	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.051	U	0.054	1.00	0.057	04/25/08	04/30/08
Uranium 238	0.27	J	0.11	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1133

Radiochemistry

Lab Sample ID: F8D220281-010
Work Order: KLREQ
Matrix: SOLID

Date Collected: 04/03/08 1327
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8114539**	**Yld %**
Actinium 228	0.32		0.17		0.19	04/23/08	05/14/08
Americium 241	0.035	U	0.086		0.15	04/23/08	05/14/08
Cesium 137	0.009	U	0.047	0.200	0.086	04/23/08	05/14/08
Cobalt 60	0.0	U	0.067		0.13	04/23/08	05/14/08
Europium 152	0.045	U	0.087		0.15	04/23/08	05/14/08
Europium 154	-0.04	U	0.28		0.53	04/23/08	05/14/08
Potassium 40	8.6		1.6		0.8	04/23/08	05/14/08
Radium (226)	0.58	J	0.14	1.00	0.1	04/23/08	05/14/08
Thorium 232	0.32		0.17		0.19	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8115459**	**Yld % 76**
Thorium 228	0.47	J	0.16	1.00	0.09	04/24/08	05/03/08
Thorium 230	0.52	J	0.16	1.00	0.03	04/24/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8115462**	**Yld % 80**
Uranium 233/234	0.51	J	0.17	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.0	U	0.013	1.00	0.042	04/25/08	04/30/08
Uranium 238	0.33	J	0.13	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1134

Radiochemistry

Lab Sample ID: F8D220281-011
Work Order: KLRER
Matrix: SOLID

Date Collected: 04/03/08 1330
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8114539		Yld %
Actinium 228	0.31		0.16		0.16	04/23/08	05/14/08
Americium 241	0.027	U	0.078		0.14	04/23/08	05/14/08
Cesium 137	-0.01	U	0.11	0.20	0.11	04/23/08	05/14/08
Cobalt 60	0.0	U	0.071		0.14	04/23/08	05/14/08
Europium 152	-0.002	U	0.11		0.20	04/23/08	05/14/08
Europium 154	0.06	U	0.36		0.67	04/23/08	05/14/08
Potassium 40	6.8		1.5		1	04/23/08	05/14/08
Radium (226)	0.38	J	0.12	1.00	0.08	04/23/08	05/14/08
Thorium 232	0.31		0.16		0.16	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8115459		Yld % 88
Thorium 228	0.31	J	0.12	1.00	0.08	04/24/08	05/01/08
Thorium 230	0.36	J	0.13	1.00	0.03	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8115462		Yld % 89
Uranium 233/234	0.32	J	0.12	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	0.035	U	0.046	1.00	0.065	04/25/08	04/30/08
Uranium 238	0.31	J	0.12	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1135

Radiochemistry

Lab Sample ID: F8D220281-012
Work Order: KLRET
Matrix: SOLID

Date Collected: 04/03/08 1335
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114539		Yld %
Actinium 228	0.39		0.12		0.14	04/23/08	05/14/08
Americium 241	0.09	U	0.30		0.52	04/23/08	05/14/08
Cesium 137	-0.005	U	0.030	0.200	0.055	04/23/08	05/14/08
Cobalt 60	0.0	U	0.0065		0.024	04/23/08	05/14/08
Europium 152	0.005	U	0.075		0.13	04/23/08	05/14/08
Europium 154	0.07	U	0.23		0.41	04/23/08	05/14/08
Potassium 40	9.2		1.2		0.2	04/23/08	05/14/08
Radium (226)	0.52	J	0.11	1.00	0.1	04/23/08	05/14/08
Thorium 232	0.39		0.12		0.14	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 89
Uranium 233/234	0.43	J	0.14	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.037	U	0.046	1.00	0.056	04/25/08	04/30/08
Uranium 238	0.37	J	0.13	1.00	0.05	04/25/08	04/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8135277		Yld % 86
Thorium 228	0.38	J	0.14	1.00	0.1	05/14/08	05/16/08
Thorium 230	0.43	J	0.14	1.00	0.05	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1135 DUP

Radiochemistry

Lab Sample ID: F8D220281-012X
Work Order: KLRET
Matrix: SOLID

Date Collected: 04/03/08 1335
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8135277		Yld % 74
Thorium 228	0.45	J	0.16	1.00	0.09	05/14/08	05/18/08
Thorium 230	0.59	J	0.18	1.00	0.06	05/14/08	05/18/08

NOTE(S)

Data are incomplete without the case narrative.

C is determined by instrument performance only.
old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1136

Radiochemistry

Lab Sample ID: F8D220281-013
Work Order: KLREV
Matrix: SOLID

Date Collected: 04/03/08 1338
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114539**		**Yld %**
Actinium 228	0.27		0.19		0.27	04/23/08	05/14/08
Americium 241	0.040	U	0.097		0.17	04/23/08	05/14/08
Cesium 137	0.006	U	0.039	0.200	0.073	04/23/08	05/14/08
Cobalt 60	0.0	U	0.011		0.042	04/23/08	05/14/08
Europium 152	-0.0003	U	0.071		0.14	04/23/08	05/14/08
Europium 154	-0.07	U	0.39		0.71	04/23/08	05/14/08
Potassium 40	10.7		1.7		0.4	04/23/08	05/14/08
Radium (226)	0.54	J	0.14	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.27		0.19		0.27	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 79**
Uranium 233/234	0.55	J	0.17	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.029	U	0.041	1.00	0.039	04/25/08	04/30/08
Uranium 238	0.48	J	0.16	1.00	0.05	04/25/08	04/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8135277**		**Yld % 79**
Thorium 228	0.53	J	0.17	1.00	0.08	05/14/08	05/16/08
Thorium 230	0.52	J	0.16	1.00	0.03	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1137

Radiochemistry

Lab Sample ID: F8D220281-014
Work Order: KLREX
Matrix: SOLID

Date Collected: 04/03/08 1340
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114539**		**Yld %**
Actinium 228	0.27	U	0.20		0.31	04/23/08	05/14/08
Americium 241	0.05	U	0.11		0.19	04/23/08	05/14/08
Cesium 137	-0.013	U	0.046	0.200	0.081	04/23/08	05/14/08
Cobalt 60	0.010	U	0.045		0.083	04/23/08	05/14/08
Europium 152	-0.006	U	0.13		0.23	04/23/08	05/14/08
Europium 154	0.04	U	0.30		0.55	04/23/08	05/14/08
Potassium 40	**8.9**		**1.3**		**0.3**	**04/23/08**	**05/14/08**
Radium (226)	**2.89**		**0.32**	**1.00**	**0.14**	**04/23/08**	**05/14/08**
Thorium 232	0.27	U	0.20		0.31	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115459**		**Yld % 83**
Thorium 228	**1.07**		**0.24**	**1.00**	**0.05**	**04/24/08**	**05/01/08**
Thorium 230	**0.47**	**J**	**0.15**	**1.00**	**0.07**	**04/24/08**	**05/01/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 80**
Uranium 233/234	**0.46**	**J**	**0.15**	**1.00**	**0.07**	**04/25/08**	**04/30/08**
Uranium 235/236	0.015	U	0.029	1.00	0.039	04/25/08	04/30/08
Uranium 238	**0.43**	**J**	**0.15**	**1.00**	**0.07**	**04/25/08**	**04/30/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1138

Radiochemistry

Lab Sample ID: F8D220281-015
Work Order: KLRE1
Matrix: SOLID

Date Collected: 04/03/08 1343
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114541**		**Yld %**
Actinium 228	0.21	U	0.17		0.26	04/23/08	05/14/08
Americium 241	-0.002	U	0.093		0.16	04/23/08	05/14/08
Cesium 137	-0.014	U	0.053	0.200	0.093	04/23/08	05/14/08
Cobalt 60	-0.004	U	0.058		0.11	04/23/08	05/14/08
Europium 152	-0.0001	U	0.11		0.19	04/23/08	05/14/08
Europium 154	-0.16	U	0.42		0.74	04/23/08	05/14/08
Potassium 40	9.6		1.5		0.6	04/23/08	05/14/08
Radium (226)	0.64	J	0.14	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.21	U	0.17		0.26	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115459**		**Yld % 75**
Thorium 228	0.43	J	0.15	1.00	0.1	04/24/08	05/03/08
Thorium 230	0.44	J	0.15	1.00	0.05	04/24/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 84**
Uranium 233/234	0.31	J	0.12	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.041	J	0.047	1.00	0.037	04/25/08	04/30/08
Uranium 238	0.24	J	0.10	1.00	0.05	04/25/08	04/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**	**Batch # 8114125**		**Yld % 66**
Strontium 90	-0.16	U	0.29	3.00	0.54	04/23/08	05/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1138 DUP

Radiochemistry

Lab Sample ID: F8D220281-015X
Work Order: KLRE1
Matrix: SOLID

Date Collected: 04/03/08 1343
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.31		0.17		0.23	04/23/08	05/14/08
Americium 241	0.058	U	0.091		0.15	04/23/08	05/14/08
Cesium 137	0.0	U	0.040	0.200	0.074	04/23/08	05/14/08
Cobalt 60	0.0	U	0.0086		0.032	04/23/08	05/14/08
Europium 152	-0.020	U	0.088		0.16	04/23/08	05/14/08
Europium 154	0.002	U	0.29		0.55	04/23/08	05/14/08
Potassium 40	11.3		1.5		0.3	04/23/08	05/14/08
Radium (226)	0.68	J	0.15	1.00	0.15	04/23/08	05/14/08
Thorium 232	0.31		0.17		0.23	04/23/08	05/14/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1139

Radiochemistry

Lab Sample ID: F8D220281-016
Work Order: KLRE2
Matrix: SOLID

Date Collected: 04/03/08 1347
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114541**		**Yld %**
Actinium 228	0.17	U	0.17		0.27	04/23/08	05/14/08
Americium 241	-0.04	U	0.10		0.18	04/23/08	05/14/08
Cesium 137	-0.014	U	0.047	0.200	0.084	04/23/08	05/14/08
Cobalt 60	-0.014	U	0.060		0.11	04/23/08	05/14/08
Europium 152	0.01	U	0.098		0.18	04/23/08	05/14/08
Europium 154	-0.13	U	0.39		0.69	04/23/08	05/14/08
Potassium 40	**8.4**		**1.5**		**0.4**	**04/23/08**	**05/14/08**
Radium (226)	**1.01**		**0.20**	**1.00**	**0.14**	**04/23/08**	**05/14/08**
Thorium 232	0.17	U	0.17		0.27	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115459**		**Yld % 101**
Thorium 228	**0.35**	**J**	**0.12**	**1.00**	**0.07**	**04/24/08**	**05/01/08**
Thorium 230	**0.258**	**J**	**0.0997**	**1.00**	**0.044**	**04/24/08**	**05/01/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 74**
Uranium 233/234	**0.32**	**J**	**0.13**	**1.00**	**0.08**	**04/25/08**	**04/30/08**
Uranium 235/236	0.028	U	0.044	1.00	0.065	04/25/08	04/30/08
Uranium 238	**0.32**	**J**	**0.13**	**1.00**	**0.07**	**04/25/08**	**04/30/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1140

Radiochemistry

Lab Sample ID: F8D220281-017
Work Order: KLRE5
Matrix: SOLID

Date Collected: 04/03/08 1350
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.23	U	0.23		0.37	04/23/08	05/14/08
Americium 241	-0.003	U	0.13		0.23	04/23/08	05/14/08
Cesium 137	-0.014	U	0.059	0.200	0.10	04/23/08	05/14/08
Cobalt 60	-0.031	U	0.081		0.14	04/23/08	05/14/08
Europium 152	-0.06	U	0.16		0.27	04/23/08	05/14/08
Europium 154	-0.07	U	0.45		0.83	04/23/08	05/14/08
Potassium 40	9.5		1.7		0.7	04/23/08	05/14/08
Radium (226)	2.24		0.31	1.00	0.15	04/23/08	05/14/08
Thorium 232	0.23	U	0.23		0.37	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115459		Yld % 73
Thorium 228	0.37	J	0.15	1.00	0.09	04/24/08	05/01/08
Thorium 230	0.36	J	0.14	1.00	0.07	04/24/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8115462		Yld % 81
Uranium 233/234	0.44	J	0.14	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.009	U	0.029	1.00	0.068	04/25/08	04/30/08
Uranium 238	0.54	J	0.16	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1141

Radiochemistry

Lab Sample ID: F8D220281-018
Work Order: KLRE6
Matrix: SOLID

Date Collected: 04/03/08 1355
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114541**		**Yld %**
Actinium 228	0.44		0.17		0.18	04/23/08	05/14/08
Americium 241	-0.039	U	0.095		0.16	04/23/08	05/14/08
Cesium 137	0.004	U	0.037	0.200	0.068	04/23/08	05/14/08
Cobalt 60	-0.011	U	0.044		0.079	04/23/08	05/14/08
Europium 152	-0.00006	U	0.078		0.14	04/23/08	05/14/08
Europium 154	0.10	U	0.26		0.45	04/23/08	05/14/08
Potassium 40	8.7		1.3		0.5	04/23/08	05/14/08
Radium (226)	0.46	J	0.12	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.44		0.17		0.18	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 85**
Uranium 233/234	0.33	J	0.12	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.032	U	0.046	1.00	0.070	04/25/08	04/30/08
Uranium 238	0.49	J	0.15	1.00	0.08	04/25/08	04/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8135277**		**Yld % 78**
Thorium 228	0.38	J	0.14	1.00	0.1	05/14/08	05/16/08
Thorium 230	0.33	J	0.13	1.00	0.03	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1142

Radiochemistry

Lab Sample ID: F8D220281-019
Work Order: KLRE7
Matrix: SOLID

Date Collected: 04/03/08 1358
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114541**		**Yld %**
Actinium 228	0.25	U	0.18		0.25	04/23/08	05/14/08
Americium 241	-0.028	U	0.086		0.15	04/23/08	05/14/08
Cesium 137	-0.013	U	0.050	0.200	0.090	04/23/08	05/14/08
Cobalt 60	0.0	U	0.097		0.18	04/23/08	05/14/08
Europium 152	-0.03	U	0.12		0.21	04/23/08	05/14/08
Europium 154	0.02	U	0.30		0.58	04/23/08	05/14/08
Potassium 40	8.7		1.6		0.5	04/23/08	05/14/08
Radium (226)	0.38	J	0.14	1.00	0.17	04/23/08	05/14/08
Thorium 232	0.25	U	0.18		0.25	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8115462**		**Yld % 83**
Uranium 233/234	0.46	J	0.15	1.00	0.08	04/25/08	04/30/08
Uranium 235/236	0.028	U	0.040	1.00	0.038	04/25/08	04/30/08
Uranium 238	0.37	J	0.13	1.00	0.06	04/25/08	04/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8135277**		**Yld % 64**
Thorium 228	0.23	J	0.12	1.00	0.06	05/14/08	05/16/08
Thorium 230	0.32	J	0.14	1.00	0.09	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1104

Radiochemistry

Lab Sample ID: F8D220281-020
Work Order: KLRE8
Matrix: SOLID

Date Collected: 04/03/08 0932
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8114541		Yld %
Actinium 228	0.12	U	0.19		0.32	04/23/08	05/14/08
Americium 241	-0.003	U	0.11		0.19	04/23/08	05/14/08
Cesium 137	0.008	U	0.058	0.200	0.11	04/23/08	05/14/08
Cobalt 60	0.032	U	0.064		0.11	04/23/08	05/14/08
Europium 152	0.007	U	0.11		0.21	04/23/08	05/14/08
Europium 154	-0.07	U	0.40		0.74	04/23/08	05/14/08
Potassium 40	10.3		1.7		0.5	04/23/08	05/14/08
Radium (226)	2.02		0.29	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.12	U	0.19		0.32	04/23/08	05/14/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8115462		Yld % 81
Uranium 233/234	0.25	J	0.11	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	-0.0025	U	0.0050	1.00	0.056	04/25/08	04/30/08
Uranium 238	0.35	J	0.13	1.00	0.05	04/25/08	04/30/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8135277		Yld % 92
Thorium 228	0.170	J	0.087	1.00	0.072	05/14/08	05/16/08
Thorium 230	0.49	J	0.14	1.00	0.03	05/14/08	05/16/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1105

Radiochemistry

Lab Sample ID: F8D220281-021
Work Order: KLRFA
Matrix: SOLID

Date Collected: 04/03/08 0935
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8115304	Yld %
Actinium 228	0.41		0.20		0.27	04/24/08	05/15/08
Americium 241	0.001	U	0.11		0.19	04/24/08	05/15/08
Cesium 137	0.024	U	0.045	0.200	0.077	04/24/08	05/15/08
Cobalt 60	0.0	U	0.00998		0.037	04/24/08	05/15/08
Europium 152	-0.03	U	0.10		0.18	04/24/08	05/15/08
Europium 154	0.0	U	0.42		0.77	04/24/08	05/15/08
Potassium 40	9.0		1.5		1.1	04/24/08	05/15/08
Radium (226)	1.39		0.21	1.00	0.09	04/24/08	05/15/08
Thorium 232	0.41		0.20		0.27	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116274	Yld % 74
Thorium 228	0.41	J	0.14	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.29	J	0.11	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116268	Yld % 80
Uranium 233/234	0.32	J	0.13	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.030	U	0.043	1.00	0.041	04/25/08	04/30/08
Uranium 238	0.40	J	0.14	1.00	0.07	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1105 DUP

Radiochemistry

Lab Sample ID: F8D220281-021X
Work Order: KLRFA
Matrix: SOLID

Date Collected: 04/03/08 0935
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8116274**	**Yld % 82**
Thorium 228	**0.42**	**J**	**0.14**	1.00	**0.07**	**04/25/08**	**05/01/08**
Thorium 230	**0.43**	**J**	**0.14**	1.00	**0.06**	**04/25/08**	**05/01/08**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8116268**	**Yld % 86**
Uranium 233/234	**0.25**	**J**	**0.11**	1.00	**0.05**	**04/25/08**	**04/30/08**
Uranium 235/236	0.037	U	0.046	1.00	0.056	04/25/08	04/30/08
Uranium 238	**0.26**	**J**	**0.11**	1.00	**0.05**	**04/25/08**	**04/30/08**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LOT# F8D220281

Tetra Tech EC, Inc.

Client Sample ID: 15-1106

Radiochemistry

Lab Sample ID: F8D220281-022
Work Order: KLRFD
Matrix: WATER

Date Collected: 04/03/08 0945
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/L**	**Batch # 8114124**		**Yld % 72**
Strontium 90	0.18	U	0.46	3.00	0.78	04/23/08	05/01/08
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 8115554**		**Yld %**
Actinium 228	16	U	28		49	04/24/08	04/26/08
Americium 241	0.0	U	35		61	04/24/08	04/26/08
Cesium 137	2.0	U	7.6	20.0	14	04/24/08	04/26/08
Cobalt 60	-2	U	10		19	04/24/08	04/26/08
Europium 152	-4	U	20		35	04/24/08	04/26/08
Europium 154	-5	U	55		110	04/24/08	04/26/08
Potassium 40	51	U	77		130	04/24/08	04/26/08
Thorium 232	16	U	28		49	04/24/08	04/26/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8115380**		**Yld % 78**
Uranium 233/234	0.001	U	0.052	1.00	0.15	05/02/08	05/05/08
Uranium 235/236	0.059	U	0.084	1.00	0.080	05/02/08	05/05/08
Uranium 238	0.067	U	0.083	1.00	0.10	05/02/08	05/05/08
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 8114195**		**Yld % 107**
Radium (226)	0.20	U	0.22	1.00	0.35	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/L**	**Batch # 8128447**		**Yld % 72**
Thorium 228	-0.026	U	0.052	1.00	0.17	05/07/08	05/10/08
Thorium 230	0.17	J	0.12	1.00	0.06	05/07/08	05/10/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1107

Radiochemistry

Lab Sample ID: F8D220281-023
Work Order: KLRFF
Matrix: SOLID

Date Collected: 04/03/08 0947
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.183		0.098		0.12	04/23/08	05/14/08
Americium 241	0.008	U	0.22		0.39	04/23/08	05/14/08
Cesium 137	0.006	U	0.023	0.200	0.041	04/23/08	05/14/08
Cobalt 60	-0.011	U	0.031		0.055	04/23/08	05/14/08
Europium 152	-0.025	U	0.069		0.12	04/23/08	05/14/08
Europium 154	-0.03	U	0.16		0.31	04/23/08	05/14/08
Potassium 40	3.98		0.70		0.21	04/23/08	05/14/08
Radium (226)	0.199	J	0.074	1.00	0.091	04/23/08	05/14/08
Thorium 232	0.183		0.098		0.12	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 89
Thorium 228	0.165	J	0.089	1.00	0.078	04/25/08	05/01/08
Thorium 230	0.098	J	0.065	1.00	0.050	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 84
Uranium 233/234	0.104	J	0.076	1.00	0.082	04/25/08	04/30/08
Uranium 235/236	0.0	U	0.012	1.00	0.038	04/25/08	04/30/08
Uranium 238	0.150	J	0.085	1.00	0.060	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1108

Radiochemistry

Lab Sample ID: F8D220281-024
Work Order: KLRFH
Matrix: SOLID

Date Collected: 04/03/08 0950
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115304		Yld %
Actinium 228	0.41		0.17		0.31	04/24/08	05/15/08
Americium 241	-0.038	U	0.098		0.17	04/24/08	05/15/08
Cesium 137	0.037	U	0.043	0.200	0.069	04/24/08	05/15/08
Cobalt 60	-0.007	U	0.062		0.12	04/24/08	05/15/08
Europium 152	0.03	U	0.10		0.18	04/24/08	05/15/08
Europium 154	-0.01	U	0.33		0.65	04/24/08	05/15/08
Potassium 40	12.7		2.0		0.7	04/24/08	05/15/08
Radium (226)	0.44	J	0.12	1.00	0.05	04/24/08	05/15/08
Thorium 232	0.41		0.17		0.31	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 87
Thorium 228	0.38	J	0.14	1.00	0.1	04/25/08	05/01/08
Thorium 230	0.49	J	0.15	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 82
Uranium 233/234	0.35	J	0.13	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.030	U	0.043	1.00	0.041	04/25/08	04/30/08
Uranium 238	0.29	J	0.12	1.00	0.05	04/25/08	04/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD			pCi/g		Batch # 8114125		Yld % 62
Strontium 90	0.37	U	0.32	3.00	0.50	04/23/08	05/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1109

Radiochemistry

Lab Sample ID: F8D220281-025
Work Order: KLRFJ
Matrix: SOLID

Date Collected: 04/03/08 0953
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**	**Batch # 8114541**		**Yld %**
Actinium 228	0.21		0.14		0.19	04/23/08	05/14/08
Americium 241	0.004	U	0.067		0.12	04/23/08	05/14/08
Cesium 137	0.021	U	0.038	0.200	0.066	04/23/08	05/14/08
Cobalt 60	-0.012	U	0.051		0.094	04/23/08	05/14/08
Europium 152	0.003	U	0.082		0.15	04/23/08	05/14/08
Europium 154	-0.02	U	0.33		0.61	04/23/08	05/14/08
Potassium 40	6.6		1.3		1	04/23/08	05/14/08
Radium (226)	0.33	J	0.11	1.00	0.11	04/23/08	05/14/08
Thorium 232	0.21		0.14		0.19	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8116274**		**Yld % 86**
Thorium 228	0.58	J	0.17	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.48	J	0.15	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 8116268**		**Yld % 86**
Uranium 233/234	0.53	J	0.16	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.039	U	0.048	1.00	0.058	04/25/08	04/30/08
Uranium 238	0.37	J	0.13	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1110

Radiochemistry

Lab Sample ID: F8D220281-026
Work Order: KLRFN
Matrix: SOLID

Date Collected: 04/03/08 0958
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.32		0.16		0.30	04/23/08	05/14/08
Americium 241	0.018	U	0.092		0.16	04/23/08	05/14/08
Cesium 137	0.026	U	0.050	0.200	0.086	04/23/08	05/14/08
Cobalt 60	0.0	U	0.014		0.050	04/23/08	05/14/08
Europium 152	-0.04	U	0.13		0.23	04/23/08	05/14/08
Europium 154	-0.05	U	0.39		0.73	04/23/08	05/14/08
Potassium 40	12.3		2.0		0.5	04/23/08	05/14/08
Radium (226)	0.42	J	0.17	1.00	0.17	04/23/08	05/14/08
Thorium 232	0.32		0.16		0.30	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 82
Thorium 228	0.35	J	0.13	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.32	J	0.12	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 82
Uranium 233/234	0.45	J	0.15	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	0.030	U	0.042	1.00	0.040	04/25/08	04/30/08
Uranium 238	0.47	J	0.16	1.00	0.06	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1111

Radiochemistry

Lab Sample ID: F8D220281-027
Work Order: KLRFP
Matrix: SOLID

Date Collected: 04/03/08 1001
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8114541	Yld %
Actinium 228	0.22		0.15		0.20	04/23/08	05/14/08
Americium 241	-0.0005	U	0.089		0.16	04/23/08	05/14/08
Cesium 137	0.026	U	0.043	0.200	0.074	04/23/08	05/14/08
Cobalt 60	-0.007	U	0.052		0.098	04/23/08	05/14/08
Europium 152	-0.00008	U	0.10		0.19	04/23/08	05/14/08
Europium 154	-0.19	U	0.40		0.70	04/23/08	05/14/08
Potassium 40	11.1		1.7		0.6	04/23/08	05/14/08
Radium (226)	0.38	J	0.12	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.22		0.15		0.20	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116274	Yld % 86
Thorium 228	0.56	J	0.16	1.00	0.09	04/25/08	05/01/08
Thorium 230	0.52	J	0.16	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116268	Yld % 83
Uranium 233/234	0.40	J	0.14	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	0.042	J	0.048	1.00	0.038	04/25/08	04/30/08
Uranium 238	0.52	J	0.16	1.00	0.07	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1112

Radiochemistry

Lab Sample ID: F8D220281-028
Work Order: KLRFR
Matrix: SOLID

Date Collected: 04/03/08 1006
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.18	U	0.17		0.27	04/23/08	05/14/08
Americium 241	0.021	U	0.082		0.14	04/23/08	05/14/08
Cesium 137	0.01	U	0.043	0.200	0.078	04/23/08	05/14/08
Cobalt 60	0.0002	U	0.040		0.083	04/23/08	05/14/08
Europium 152	-0.03	U	0.11		0.19	04/23/08	05/14/08
Europium 154	0.008	U	0.30		0.59	04/23/08	05/14/08
Potassium 40	8.8		1.6		0.7	04/23/08	05/14/08
Radium (226)	0.49	J	0.14	1.00	0.10	04/23/08	05/14/08
Thorium 232	0.18	U	0.17		0.27	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 86
Thorium 228	0.28	J	0.11	1.00	0.05	04/25/08	05/01/08
Thorium 230	0.33	J	0.12	1.00	0.07	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 74
Uranium 233/234	0.29	J	0.12	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.061	J	0.061	1.00	0.041	04/25/08	04/30/08
Uranium 238	0.23	J	0.11	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1113

Radiochemistry

Lab Sample ID: F8D220281-029
Work Order: KLRFT
Matrix: SOLID

Date Collected: 04/03/08 1015
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.41		0.14		0.16	04/23/08	05/14/08
Americium 241	-0.004	U	0.10		0.18	04/23/08	05/14/08
Cesium 137	0.013	U	0.037	0.200	0.065	04/23/08	05/14/08
Cobalt 60	-0.012	U	0.047		0.085	04/23/08	05/14/08
Europium 152	0.028	U	0.085		0.15	04/23/08	05/14/08
Europium 154	-0.0004	U	0.26		0.50	04/23/08	05/14/08
Potassium 40	8.5		1.3		0.3	04/23/08	05/14/08
Radium (226)	0.40	J	0.11	1.00	0.12	04/23/08	05/14/08
Thorium 232	0.41		0.14		0.16	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 88
Thorium 228	0.42	J	0.14	1.00	0.07	04/25/08	05/01/08
Thorium 230	0.41	J	0.13	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 85
Uranium 233/234	0.44	J	0.14	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.040	J	0.046	1.00	0.036	04/25/08	04/30/08
Uranium 238	0.39	J	0.13	1.00	0.06	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1114

Radiochemistry

Lab Sample ID: F8D220281-030
Work Order: KLRFW
Matrix: SOLID

Date Collected: 04/03/08 1017
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8115304		Yld %
Actinium 228	0.27		0.12		0.20	04/24/08	05/15/08
Americium 241	0.032	U	0.065		0.11	04/24/08	05/15/08
Cesium 137	0.036	U	0.037	0.200	0.058	04/24/08	05/15/08
Cobalt 60	0.005	U	0.031		0.059	04/24/08	05/15/08
Europium 152	0.0	U	0.12		0.21	04/24/08	05/15/08
Europium 154	0.002	U	0.20		0.39	04/24/08	05/15/08
Potassium 40	7.4		1.2		0.3	04/24/08	05/15/08
Radium (226)	0.47	J	0.12	1.00	0.12	04/24/08	05/15/08
Thorium 232	0.27		0.12		0.20	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116274		Yld % 72
Thorium 228	0.29	J	0.12	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.27	J	0.11	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116268		Yld % 80
Uranium 233/234	0.201	J	0.097	1.00	0.048	04/25/08	04/30/08
Uranium 235/236	0.023	U	0.040	1.00	0.069	04/25/08	04/30/08
Uranium 238	0.25	J	0.11	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1115

Radiochemistry

Lab Sample ID: F8D220281-031
Work Order: KLRF0
Matrix: SOLID

Date Collected: 04/03/08 1020
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.69		0.26		0.28	04/23/08	05/14/08
Americium 241	-0.002	U	0.098		0.17	04/23/08	05/14/08
Cesium 137	0.0	U	0.047	0.200	0.090	04/23/08	05/14/08
Cobalt 60	0.020	U	0.060		0.11	04/23/08	05/14/08
Europium 152	-0.03	U	0.14		0.24	04/23/08	05/14/08
Europium 154	0.0	U	0.46		0.86	04/23/08	05/14/08
Potassium 40	7.9		1.6		0.6	04/23/08	05/14/08
Radium (226)	0.61	J	0.16	1.00	0.13	04/23/08	05/14/08
Thorium 232	0.69		0.26		0.28	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 78
Thorium 228	0.38	J	0.14	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.50	J	0.16	1.00	0.06	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 79
Uranium 233/234	0.35	J	0.13	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.011	U	0.028	1.00	0.059	04/25/08	04/30/08
Uranium 238	0.33	J	0.12	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1116

Radiochemistry

Lab Sample ID: F8D220281-032
Work Order: KLRF1
Matrix: SOLID

Date Collected: 04/03/08 1023
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8115304		Yld %
Actinium 228	0.040	U	0.096		0.18	04/24/08	05/15/08
Americium 241	0.054	U	0.083		0.14	04/24/08	05/15/08
Cesium 137	0.001	U	0.047	0.200	0.090	04/24/08	05/15/08
Cobalt 60	0.0	U	0.015		0.056	04/24/08	05/15/08
Europium 152	-0.02	U	0.12		0.22	04/24/08	05/15/08
Europium 154	-0.10	U	0.40		0.73	04/24/08	05/15/08
Potassium 40	8.4		1.7		0.6	04/24/08	05/15/08
Radium (226)	0.30	J	0.12	1.00	0.16	04/24/08	05/15/08
Thorium 232	0.040	U	0.096		0.18	04/24/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 87
Thorium 228	0.45	J	0.14	1.00	0.07	04/25/08	05/03/08
Thorium 230	0.50	J	0.15	1.00	0.03	04/25/08	05/03/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 87
Uranium 233/234	0.28	J	0.12	1.00	0.08	04/25/08	04/30/08
Uranium 235/236	0.0	U	0.012	1.00	0.036	04/25/08	04/30/08
Uranium 238	0.45	J	0.14	1.00	0.06	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1117

Radiochemistry

Lab Sample ID: F8D220281-033
Work Order: KLRF2
Matrix: SOLID

Date Collected: 04/03/08 1027
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.28	U	0.20		0.29	04/23/08	05/14/08
Americium 241	0.0003	U	0.072		0.13	04/23/08	05/14/08
Cesium 137	-0.02	U	0.15	0.20	0.10	04/23/08	05/14/08
Cobalt 60	-0.011	U	0.067		0.13	04/23/08	05/14/08
Europium 152	-0.01	U	0.11		0.20	04/23/08	05/14/08
Europium 154	0.0	U	0.48		0.90	04/23/08	05/14/08
Potassium 40	8.0		1.6		0.5	04/23/08	05/14/08
Radium (226)	0.43	J	0.12	1.00	0.06	04/23/08	05/14/08
Thorium 232	0.28	U	0.20		0.29	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 88
Thorium 228	0.35	J	0.13	1.00	0.1	04/25/08	05/01/08
Thorium 230	0.39	J	0.13	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 84
Uranium 233/234	0.30	J	0.11	1.00	0.04	04/25/08	04/30/08
Uranium 235/236	0.036	U	0.045	1.00	0.055	04/25/08	04/30/08
Uranium 238	0.175	J	0.087	1.00	0.044	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1118

Radiochemistry

Lab Sample ID: F8D220281-034
Work Order: KLRF3
Matrix: SOLID

Date Collected: 04/03/08 1030
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8114541		Yld %
Actinium 228	0.39		0.13		0.16	04/23/08	05/14/08
Americium 241	-0.06	U	0.31		0.53	04/23/08	05/14/08
Cesium 137	0.0003	U	0.031	0.200	0.057	04/23/08	05/14/08
Cobalt 60	0.003	U	0.027		0.051	04/23/08	05/14/08
Europium 152	-0.018	U	0.070		0.12	04/23/08	05/14/08
Europium 154	0.001	U	0.20		0.39	04/23/08	05/14/08
Potassium 40	10.5		1.3		0.4	04/23/08	05/14/08
Radium (226)	0.40	J	0.10	1.00	0.1	04/23/08	05/14/08
Thorium 232	0.39		0.13		0.16	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116274		Yld % 86
Thorium 228	0.49	J	0.15	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.56	J	0.16	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116268		Yld % 85
Uranium 233/234	0.35	J	0.13	1.00	0.06	04/25/08	04/30/08
Uranium 235/236	0.029	U	0.041	1.00	0.039	04/25/08	04/30/08
Uranium 238	0.196	J	0.098	1.00	0.050	04/25/08	04/30/08
Strontium-90 by GFPC DOE SR-03-RC MOD				pCi/g	Batch # 8114125		Yld % 66
Strontium 90	0.17	U	0.27	3.00	0.45	04/23/08	05/06/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1119

Radiochemistry

Lab Sample ID: F8D220281-035
Work Order: KLRF5
Matrix: SOLID

Date Collected: 04/03/08 1040
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD			pCi/g		Batch # 8114541		Yld %
Actinium 228	0.38		0.21		0.29	04/23/08	05/14/08
Americium 241	-0.001	U	0.11		0.18	04/23/08	05/14/08
Cesium 137	-0.002	U	0.044	0.200	0.080	04/23/08	05/14/08
Cobalt 60	0.0	U	0.079		0.14	04/23/08	05/14/08
Europium 152	0.055	U	0.093		0.16	04/23/08	05/14/08
Europium 154	0.14	U	0.29		0.51	04/23/08	05/14/08
Potassium 40	9.9		1.6		0.6	04/23/08	05/14/08
Radium (226)	0.74	J	0.16	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.38		0.21		0.29	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116274		Yld % 80
Thorium 228	0.27	J	0.11	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.37	J	0.13	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 8116268		Yld % 84
Uranium 233/234	0.30	J	0.12	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	-0.0052	U	0.0074	1.00	0.068	04/25/08	04/30/08
Uranium 238	0.198	J	0.096	1.00	0.047	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1120

Radiochemistry

Lab Sample ID: F8D220281-036
Work Order: KLRF9
Matrix: SOLID

Date Collected: 04/03/08 1043
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				**pCi/g**		**Batch # 8114541**	**Yld %**
Actinium 228	0.31		0.20		0.28	04/23/08	05/14/08
Americium 241	0.01	U	0.10		0.18	04/23/08	05/14/08
Cesium 137	0.0	U	0.068	0.200	0.12	04/23/08	05/14/08
Cobalt 60	-0.012	U	0.045		0.083	04/23/08	05/14/08
Europium 152	0.017	U	0.085		0.15	04/23/08	05/14/08
Europium 154	-0.09	U	0.38		0.69	04/23/08	05/14/08
Potassium 40	7.8		1.4		0.6	04/23/08	05/14/08
Radium (226)	0.92	J	0.19	1.00	0.14	04/23/08	05/14/08
Thorium 232	0.31		0.20		0.28	04/23/08	05/14/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8116274**	**Yld % 86**
Thorium 228	0.53	J	0.16	1.00	0.09	04/25/08	05/01/08
Thorium 230	0.46	J	0.15	1.00	0.05	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 8116268**	**Yld % 75**
Uranium 233/234	0.49	J	0.16	1.00	0.05	04/25/08	04/30/08
Uranium 235/236	0.123	J	0.090	1.00	0.067	04/25/08	04/30/08
Uranium 238	0.57	J	0.18	1.00	0.05	04/25/08	04/30/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1121

Radiochemistry

Lab Sample ID: F8D220281-037
Work Order: KLRGC
Matrix: SOLID

Date Collected: 04/03/08 1050
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8114541		Yld %
Actinium 228	0.41		0.16		0.24	04/23/08	05/15/08
Americium 241	-0.003	U	0.12		0.20	04/23/08	05/15/08
Cesium 137	-0.003	U	0.037	0.200	0.067	04/23/08	05/15/08
Cobalt 60	-0.020	U	0.057		0.10	04/23/08	05/15/08
Europium 152	0.008	U	0.091		0.16	04/23/08	05/15/08
Europium 154	0.02	U	0.35		0.63	04/23/08	05/15/08
Potassium 40	10.5		1.4		0.3	04/23/08	05/15/08
Radium (226)	1.76		0.23	1.00	0.14	04/23/08	05/15/08
Thorium 232	0.41		0.16		0.24	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116274		Yld % 87
Thorium 228	0.27	J	0.11	1.00	0.05	04/25/08	05/01/08
Thorium 230	0.63	J	0.17	1.00	0.07	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8127118		Yld % 82
Uranium 233/234	0.35	J	0.13	1.00	0.05	05/06/08	05/10/08
Uranium 235/236	0.009	U	0.029	1.00	0.068	05/06/08	05/10/08
Uranium 238	0.33	J	0.12	1.00	0.05	05/06/08	05/10/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1121 DUP

Radiochemistry

Lab Sample ID: F8D220281-037X
Work Order: KLRGC
Matrix: SOLID

Date Collected: 04/03/08 1050
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8127118	Yld % 90
Uranium 233/234	0.42	J	0.14	1.00	0.05	05/06/08	05/10/08
Uranium 235/236	0.050	J	0.050	1.00	0.034	05/06/08	05/10/08
Uranium 238	0.230	J	0.099	1.00	0.043	05/06/08	05/10/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1122

Radiochemistry

Lab Sample ID: F8D220281-038
Work Order: KLRGF
Matrix: SOLID

Date Collected: 04/03/08 1053
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g	Batch # 8114541		Yld %
Actinium 228	0.26	U	0.15		0.31	04/23/08	05/15/08
Americium 241	0.0	U	0.098		0.17	04/23/08	05/15/08
Cesium 137	-0.017	U	0.052	0.200	0.093	04/23/08	05/15/08
Cobalt 60	0.0	U	0.070		0.13	04/23/08	05/15/08
Europium 152	-0.03	U	0.11		0.19	04/23/08	05/15/08
Europium 154	-0.11	U	0.41		0.74	04/23/08	05/15/08
Potassium 40	8.2		1.6		0.7	04/23/08	05/15/08
Radium (226)	0.39	J	0.12	1.00	0.08	04/23/08	05/15/08
Thorium 232	0.26	U	0.15		0.31	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116274		Yld % 82
Thorium 228	0.30	J	0.12	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.35	J	0.13	1.00	0.03	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 8116268		Yld % 81
Uranium 233/234	0.41	J	0.14	1.00	0.07	04/25/08	04/30/08
Uranium 235/236	0.029	U	0.041	1.00	0.039	04/25/08	04/30/08
Uranium 238	0.30	J	0.12	1.00	0.07	04/25/08	04/30/08

NOTE(S)

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U Result is less than the sample detection limit.

Tetra Tech EC, Inc.

Client Sample ID: 15-1123

Radiochemistry

Lab Sample ID: F8D220281-039
Work Order: KLRGG
Matrix: SOLID

Date Collected: 04/03/08 1055
Date Received: 04/22/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Ra-226 & Hits By EPA 901.1 MOD				pCi/g		Batch # 8114541	Yld %
Actinium 228	0.43		0.22		0.31	04/23/08	05/15/08
Americium 241	0.06	U	0.13		0.22	04/23/08	05/15/08
Cesium 137	0.018	U	0.053	0.200	0.092	04/23/08	05/15/08
Cobalt 60	-0.008	U	0.061		0.11	04/23/08	05/15/08
Europium 152	-0.04	U	0.18		0.30	04/23/08	05/15/08
Europium 154	-0.11	U	0.39		0.69	04/23/08	05/15/08
Potassium 40	11.1		1.5		0.3	04/23/08	05/15/08
Radium (226)	3.91		0.38	1.00	0.16	04/23/08	05/15/08
Thorium 232	0.43		0.22		0.31	04/23/08	05/15/08
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116274	Yld % 87
Thorium 228	0.45	J	0.15	1.00	0.08	04/25/08	05/01/08
Thorium 230	0.37	J	0.13	1.00	0.06	04/25/08	05/01/08
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 8116268	Yld % 86
Uranium 233/234	0.43	J	0.14	1.00	0.04	04/25/08	05/03/08
Uranium 235/236	0.026	U	0.037	1.00	0.036	04/25/08	05/03/08
Uranium 238	0.34	J	0.12	1.00	0.06	04/25/08	05/03/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tetra Tech EC, Inc.
1940 E Deere Avenue, Suite 200
Santa Ana, CA 92705
ATTN: Ms. Sabina Sudoko

June 13, 2008

SUBJECT: NAS Alameda CTO 15, Data Validation

Dear Ms. Sudoko,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 2nd, 2008.

LDC project# 18874:

SDG #	Fraction
F8D220236, F8D220249 F8D220260, F8D220274 F8D220281	Gamma Spec (DOE GA-01-R Mod) Radium-226 (Method 903.0) Isotopic Thorium (DOE A-01-R Mod) Isotopic Uranium (DOE A-01-R Mod) Strontium-90 (DOE SR-03-RC Mod)

The following deliverables are submitted under this report:

Attachment I	Sample ID Cross Reference and Data Review Level
Attachment II	Overall Data Qualification Summary
Attachment III	Tetra Tech EC Database Qualification Summary
Attachment IV	Field Blank Summary
Enclosure I	EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2008	15-1124	F8D220281001	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1124	F8D220281001	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1124	F8D220281001	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1124DUP	F8D220281001DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1124DUP	F8D220281001DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1125	F8D220281002	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1125	F8D220281002	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1125	F8D220281002	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1126	F8D220281003	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1126	F8D220281003	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1126	F8D220281003	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1127	F8D220281004	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1127	F8D220281004	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1127	F8D220281004	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1128	F8D220281005	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1128	F8D220281005	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1128	F8D220281005	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1128	F8D220281005	N	Gen Prep	)OE SR-03-RC MOI	3
03-Apr-2008	15-1129	F8D220281006	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1129	F8D220281006	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1129	F8D220281006	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1130	F8D220281007	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1130	F8D220281007	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1130	F8D220281007	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1131	F8D220281008	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1131	F8D220281008	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2008	15-1131	F8D220281008	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1132	F8D220281009	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1132	F8D220281009	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1132	F8D220281009	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1133	F8D220281010	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1133	F8D220281010	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1133	F8D220281010	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1134	F8D220281011	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1134	F8D220281011	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1134	F8D220281011	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1135	F8D220281012	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1135	F8D220281012	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1135	F8D220281012	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1135DUP	F8D220281012DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1136	F8D220281013	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1136	F8D220281013	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1136	F8D220281013	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1137	F8D220281014	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1137	F8D220281014	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1137	F8D220281014	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1138	F8D220281015	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1138	F8D220281015	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1138	F8D220281015	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1138	F8D220281015	N	Gen Prep	)OE SR-03-RC MOI	3
03-Apr-2008	15-1138DUP	F8D220281015DUP	DUP	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1139	F8D220281016	N	Gen Prep	)OE A-01-R TH MOI	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2008	15-1139	F8D220281016	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1139	F8D220281016	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1140	F8D220281017	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1140	F8D220281017	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1140	F8D220281017	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1141	F8D220281018	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1141	F8D220281018	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1141	F8D220281018	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1142	F8D220281019	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1142	F8D220281019	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1142	F8D220281019	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1104	F8D220281020	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1104	F8D220281020	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1104	F8D220281020	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1105	F8D220281021	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1105	F8D220281021	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1105	F8D220281021	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1105DUP	F8D220281021DUP	DUP	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1105DUP	F8D220281021DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1106	F8D220281022	EB	Gen Prep	903.0 MOD	3
03-Apr-2008	15-1106	F8D220281022	EB	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1106	F8D220281022	EB	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1106	F8D220281022	EB	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1106	F8D220281022	EB	Gen Prep	)OE SR-03-RC MOI	3
03-Apr-2008	15-1107	F8D220281023	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1107	F8D220281023	N	Gen Prep	DOE A-01-R U MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2008	15-1107	F8D220281023	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1108	F8D220281024	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1108	F8D220281024	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1108	F8D220281024	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1108	F8D220281024	N	Gen Prep	)OE SR-03-RC MOI	3
03-Apr-2008	15-1109	F8D220281025	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1109	F8D220281025	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1109	F8D220281025	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1110	F8D220281026	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1110	F8D220281026	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1110	F8D220281026	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1111	F8D220281027	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1111	F8D220281027	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1111	F8D220281027	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1112	F8D220281028	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1112	F8D220281028	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1112	F8D220281028	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1113	F8D220281029	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1113	F8D220281029	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1113	F8D220281029	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1114	F8D220281030	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1114	F8D220281030	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1114	F8D220281030	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1115	F8D220281031	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1115	F8D220281031	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1115	F8D220281031	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2008	15-1116	F8D220281032	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1116	F8D220281032	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1116	F8D220281032	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1117	F8D220281033	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1117	F8D220281033	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1117	F8D220281033	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1118	F8D220281034	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1118	F8D220281034	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1118	F8D220281034	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1118	F8D220281034	N	Gen Prep	)OE SR-03-RC MOI	3
03-Apr-2008	15-1119	F8D220281035	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1119	F8D220281035	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1119	F8D220281035	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1120	F8D220281036	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1120	F8D220281036	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1120	F8D220281036	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1121	F8D220281037	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1121	F8D220281037	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1121	F8D220281037	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1121DUP	F8D220281037DUP	DUP	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1122	F8D220281038	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1122	F8D220281038	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1122	F8D220281038	N	Gen Prep	DOE GA-01-R MOD	3
03-Apr-2008	15-1123	F8D220281039	N	Gen Prep	)OE A-01-R TH MOI	3
03-Apr-2008	15-1123	F8D220281039	N	Gen Prep	DOE A-01-R U MOD	3
03-Apr-2008	15-1123	F8D220281039	N	Gen Prep	DOE GA-01-R MOD	3

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: F8D220281										
DOE A-01-R TH MOD	15-1105	SO	N	THORIUM-230	1.00	0.29J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-1106	AQ	EB	THORIUM-230	1.00	0.17J	0.12	U	pCi/L	
DOE A-01-R TH MOD	15-1107	SO	N	THORIUM-230	1.00	0.098J	0.065	U	pCi/g	
DOE A-01-R TH MOD	15-1114	SO	N	THORIUM-230	1.00	0.27J	0.11	U	pCi/g	
DOE A-01-R TH MOD	15-1124	SO	N	THORIUM-230	1.00	0.41J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1129	SO	N	THORIUM-230	1.00	0.42J	0.14	U	pCi/g	
DOE A-01-R TH MOD	15-1134	SO	N	THORIUM-230	1.00	0.36J	0.13	U	pCi/g	
DOE A-01-R TH MOD	15-1139	SO	N	THORIUM-230	1.00	0.258J	0.099	U	pCi/g	
DOE A-01-R TH MOD	15-1140	SO	N	THORIUM-230	1.00	0.36J	0.14	U	pCi/g	
DOE A-01-R U MOD	15-1128	SO	N	URANIUM-238	1.00	0.190J	0.095	U	pCi/g	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Tetra Tech EC Database Qualification Summary

Reason for Qualified Results

SDG Nos. : F8D220281

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
F8D220281	15-1105	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1106	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1107	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1114	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1124	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1128	DOE A-01-R U MOD	7440611	U		URANIUM-238	Present in method blank
F8D220281	15-1129	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1134	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1139	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank
F8D220281	15-1140	DOE A-01-R TH MOD	14269637	U		THORIUM-230	Present in method blank

Attachment IV

Field Blank Summary

Field QC Detect Summary

SDG	Method	QC Type	Client Sample ID	Sample Matrix	Sample Date	Analyte Name	Client Analyte ID	Lab Result	Units	Lab Qualifier	Reporting Limit
F8D220281	DOE A-01-R TH MOD	EB	15-1106	AQ	04/03/2008 0:00	THORIUM-230	14269-63-7	0.17	pCi/L	J	1.00

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

F8D220281

Method Blank Outlier Report

Lab Reporting Batch : F8D220281
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8D240000459MB

Lab ID: TestAme
Analysis Date : 05/01/2008
Preparation Date :
Preparation Batch : 8115459

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.086	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1124	F8D220281001	1	0.41	J	pCi/g
15-1129	F8D220281006	1	0.42	J	pCi/g
15-1134	F8D220281011	1	0.36	J	pCi/g
15-1139	F8D220281016	1	0.258	J	pCi/g
15-1140	F8D220281017	1	0.36	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220281
Analysis Method : DOE A-01-R U MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8D240000462MB

Lab ID: TestAme
Analysis Date : 04/30/2008
Preparation Date :
Preparation Batch : 8115462

URANIUM-238	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.041	1.00	pCi/g	J	

URANIUM-238 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1128	F8D220281005	1	0.190	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220281
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8D250000274MB

Lab ID: TestAme
Analysis Date : 05/01/2008
Preparation Date :
Preparation Batch : 8116274

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.062	1.00	pCi/g	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1105	F8D220281021	1	0.29	J	pCi/g
15-1107	F8D220281023	1	0.098	J	pCi/g
15-1114	F8D220281030	1	0.27	J	pCi/g

Method Blank Outlier Report

Lab Reporting Batch : F8D220281
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8E070000447MB

Lab ID: TestAme
Analysis Date : 05/12/2008
Preparation Date :
Preparation Batch : 8128447

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.22	1.00	pCi/L	J	

THORIUM-230 was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
15-1106	F8D220281022	1	0.17	J	pCi/L

Method Blank Outlier Report

Lab Reporting Batch : F8D220281
Analysis Method : DOE A-01-R TH MOD
Preparation Type : Gen Prep
Method Blank Lab Sample ID : F8E140000277MB

Lab ID: TestAme
Analysis Date : 05/16/2008
Preparation Date :
Preparation Batch : 8135277

THORIUM-230	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.033	1.00	pCi/g	J	

THORIUM-230 contamination found in the method blank did not qualify any samples.

LDC #: 18874E29
SDG #: F8D220281
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-
Page: 1 of 1
Reviewer: MG
2nd Reviewer: W

METHOD: ~~Total Radium (DOE GA-01-R MOD)~~ Radium 226 (EPA 903.0 Mod)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-3-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	N	Client specified, insufficient sample
IVb.	Laboratory control samples	N	
IVc.	Chemical recovery	A~~N~~	
V.	Sample result verification	N	
VI.	Minimum dectectable activity (MDA)	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	ER = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-1106 W	11		21		31	
2	PBW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 18874E35
SDG #: F8D220281
Laboratory : Test America

VALIDATION COMPLETENESS WORKSHEET
ADR
9M4

Date: 6-10-(
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

DOE GA-01-R Mod

METHOD: Gamma Spectroscopy (~~EPA Method 901.1~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-3-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A, ~~N~~	outliers both N.D. or OK by difference DUP (SDG: F8D220274, F8D220236)
IVb.	Laboratory control samples	N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
IX.	Field blanks	ND	ER = 22

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	3	15-1124	S	11	1	15-1134	S	21	3	15-1105	S
2	1	15-1125		12	1	15-1135		22	4	15-1106	W
3	1	15-1126		13	1	15-1136		23	2	15-1107	S
4	1	15-1127		14	1	15-1137		24	3	15-1108	
5	1	15-1128		15	2	15-1138		25	2	15-1109	
6	1	15-1129		16	2	15-1139		26	2	15-1110	
7	1	15-1130		17	2	15-1140		27	2	15-1111	
8	1	15-1131		18	2	15-1141		28	2	15-1112	
9	1	15-1132		19	2	15-1142		29	2	15-1113	
10	1	15-1133		20	2	15-1104		30	3	15-1114	

31	2	15-1115 S
32	3	15-1116
33	2	15-1117
34	2	15-1118
35	2	15-1119
36	2	15-1120
37	2	15-1121
38	2	15-1122
39	2	15-1123
40	3	15-1124DUP
41	2	15-1138DUP

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBW

LDC #: 18874E59
SDG #: F8D220281
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10.
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: Isotopic Uranium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-3-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP outliers both N.D. or OK by difference
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	ND	ER = 22

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	15-1124	S	11	15-1134	S	21	15-1105	S	31	15-1115	S
2	15-1125		12	15-1135		22	15-1106	W	32	15-1116	
3	15-1126		13	15-1136		23	15-1107	S	33	15-1117	
4	15-1127		14	15-1137		24	15-1108		34	15-1118	
5	15-1128		15	15-1138		25	15-1109		35	15-1119	
6	15-1129		16	15-1139		26	15-1110		36	15-1120	
7	15-1130		17	15-1140		27	15-1111		37	15-1121	
8	15-1131		18	15-1141		28	15-1112		38	15-1122	
9	15-1132		19	15-1142		29	15-1113		39	15-1123	
10	15-1133		20	15-1104		30	15-1114		40	15-1124DUP	
									41	15-1105DUP	
									42	15-1121DUP	

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBW

LDC #: 18874E61
SDG #: F8D220281
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

3 and 2

METHOD: Strontium-90 (DOE SR-02-RC MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-3-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (SDG: F8D220236) both N,D.
IVb.	Laboratory control samples	N	
IVc.	Carrier recovery	A N	
V.	Minimum dectectable activity (MDA)	N	
VI.	Sample result verification	N	
VII.	Overall assessment of data	N	
VIII.	Field duplicates	N	
XIV.	Field blanks	ND	ER = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1 1	15-1128 S	11		21		31		
2 1	15-1138 ↓	12		22		32		
3 2	15-1106 W	13		23		33		
4 1	15-1108 S	14		24		34		
5 1	15-1118 ↓	15		25		35		
6 1	PBS	16		26		36		
7 2	PBW	17		27		37		
8		18		28		38		
9		19		29		39		
10		20		30		40		

Notes:

LDC #: 18874E73
SDG #: F8D220281
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6-10-0
Page: 1 of 1
Reviewer: MG
2nd Reviewer: L

METHOD: Isotopic Thorium (DOE A-01-R MOD)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 4-3-08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	N	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A N	DUP (all < 40% D)
IVa.	Laboratory control samples	N	
V.	Tracer Recovery	A N	
VI.	Minimum Detectable Activity (MDA)	N	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	N	
IX.	Field duplicates	N	
X	Field blanks	* (ADR)	ER = 22 (* hit for Th-230)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	1 15-1124 S	11	1 15-1134 S	21	2 15-1105 S	31	2 15-1115 S
2	1 15-1125	12	3 15-1135	22	4 15-1106 W	32	2 15-1116
3	1 15-1126	13	3 15-1136	23	2 15-1107 S	33	2 15-1117
4	1 15-1127	14	1 15-1137	24	2 15-1108	34	2 15-1118
5	1 15-1128	15	1 15-1138	25	2 15-1109	35	2 15-1119
6	1 15-1129	16	1 15-1139	26	2 15-1110	36	2 15-1120
7	1 15-1130	17	1 15-1140	27	2 15-1111	37	2 15-1121
8	1 15-1131	18	3 15-1141	28	2 15-1112	38	2 15-1122
9	1 15-1132	19	3 15-1142	29	2 15-1113	39	2 15-1123
10	1 15-1133	20	3 15-1104	30	2 15-1114	40	3 15-1135DUP
						41	2 15-1105DUP

Notes:

1 PBS1
2 PBS2
3 PBS3
4 PBW

APPENDIX G

LABORATORY ANALYTICAL RESULTS
(Available on CD only)

G-1 POST-EXCAVATION SUMMARY TABLE

G-2 POST-EXCAVATION BACKGROUND SOIL

G-3 POST-EXCAVATION IR SITE 1 SOIL

G-4 POST-EXCAVATION IR SITE 2 SOIL

G-5 POST-EXCAVATION IR SITE 32 SOIL

G-6 IMPORT MATERIAL

G-7 FIRING-RANGE BERM STOCKPILE

G-8 DEBRIS PIT STOCKPILE

G-9 DISPOSAL TRENCH STOCKPILE

G-10 BEDDING SAND STOCKPILE

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Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
IR1-13A	IR1-13A	RANDOM	15-168	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	-0.025	U	0.097	0.17	0.012	U	0.042	0.076	-0.008	U	0.053	0.10	-0.03	U	0.10	0.18
IR1-13B	IR1-13B	RANDOM	15-169	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	0.011	U	0.080	0.14	-0.02	U	0.18	0.11	-0.011	U	0.045	0.056	-0.04	U	0.13	0.22
IR1-27B	IR1-27B	RANDOM	15-170	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	-0.025	U	0.080	0.14	0.018	U	0.034	0.059	-0.0001	U	0.053	0.10	0.015	U	0.087	0.16
IR1-27A	IR1-27A	RANDOM	15-171	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	0.018	U	0.083	0.14	0.030	U	0.051	0.087	0.0	U	0.012	0.044	0.042	U	0.086	0.15
IR1-26A	IR1-26A	RANDOM	15-172	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	0.056	U	0.090	0.15	0.042	U	0.046	0.075	0.0	U	0.039	0.075	-0.013	U	0.096	0.17
IR1-21	IR1-21	RANDOM	15-173	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	0.05	U	0.11	0.18	-0.007	U	0.061	0.11	0.009	U	0.046	0.091	0.0	U	0.17	0.30
IR1-22-1	IR1-22-1	RANDOM	15-174	10/2/2007			pCi/g	N/A	N/A	N/A	N/A	-0.05	U	0.22	0.17	-0.02	U	0.24	0.11	-0.01	U	0.82	0.12	-0.019	U	0.093	0.17
IR1-22-2	IR1-22-2	RANDOM	15-175	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	-0.022	U	0.099	0.17	-0.014	U	0.045	0.079	-0.002	U	0.048	0.090	0.01	U	0.11	0.19
IR1-14	IR1-14	RANDOM	15-176	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	0.0007	U	0.086	0.15	0.032	U	0.049	0.083	0.014	U	0.043	0.080	-0.03	U	0.12	0.22
IR1-15	IR1-15	RANDOM	15-177	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	0.02	U	0.10	0.18	-0.02	U	0.15	0.11	0.016	U	0.043	0.088	-0.03	U	0.12	0.21
IR1-16	IR1-16	RANDOM	15-178	10/5/2007			pCi/g	0.22	U	0.16	0.24	0.018	U	0.088	0.15	0.020	U	0.037	0.064	0.005	U	0.044	0.084	-0.0006	U	0.078	0.14
IR1-17	IR1-17	RANDOM	15-179	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	-0.003	U	0.081	0.14	-0.007	U	0.050	0.091	-0.002	U	0.042	0.085	-0.011	U	0.085	0.16
IR1-18A	IR1-18A	RANDOM	15-180	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	0.0009	U	0.080	0.14	0.011	U	0.045	0.079	0.01	U	0.038	0.069	0.02	U	0.10	0.18
IR1-20	IR1-20	RANDOM	15-181	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	-0.03	U	0.11	0.20	-0.0009	U	0.051	0.096	0.0	U	0.015	0.054	0.02	U	0.11	0.20
IR1-23	IR1-23	RANDOM	15-182	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	-0.04	U	0.18	0.17	-0.04	U	0.92	0.1	0.006	U	0.051	0.10	-0.03	U	0.12	0.21
IR1-24	IR1-24	RANDOM	15-183	10/5/2007			pCi/g	N/A	N/A	N/A	N/A	-0.046	U	0.093	0.16	0.013	U	0.056	0.10	-0.0005	U	0.044	0.088	0.042	U	0.094	0.16
IR1-25	IR1-25	RANDOM	15-184	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.061	U	0.085	0.14	0.0	U	0.065	0.12	0.01	U	0.047	0.091	-0.03	U	0.11	0.20
IR1-AB-1	IR1-AB-1	RANDOM	15-185	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.041	U	0.074	0.13	-0.006	U	0.079	0.12	0.016	U	0.51	0.10	-0.02	U	0.13	0.23
IR32-1	IR32-1	RANDOM	15-186	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.004	U	0.083	0.15	0.013	U	0.035	0.063	0.014	U	0.036	0.068	-0.03	U	0.10	0.18
IR32-2	IR32-2	RANDOM	15-187	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.02	U	0.11	0.19	-0.006	U	0.050	0.092	0.0	U	0.013	0.048	-0.03	U	0.11	0.2
IR32-3	IR32-3	RANDOM	15-188	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.030	U	0.087	0.15	0.035	U	0.057	0.096	0.0	U	0.10	0.18	0.022	U	0.087	0.16
IR32-4A	IR32-4A	RANDOM	15-189	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.0	U	0.085	0.15	0.037	U	0.035	0.054	-0.016	U	0.052	0.093	-0.003	U	0.079	0.14
IR32-4B	IR32-4B	RANDOM	15-190	10/8/2007			pCi/g	N/A	N/A	N/A	N/A	0.024	U	0.086	0.15	0.008	U	0.043	0.079	-0.015	U	0.052	0.095	-0.03	U	0.10	0.19
IR1-2A-1a	IR1-2A-1a	RANDOM	15-191	10/17/2007	0	0.5	pCi/g	0.41		0.19	0.39	0.06	U	0.12	0.20	0.003	U	0.057	0.10	0.013	U	0.066	0.12	-0.007	U	0.13	0.23
IR1-3A-1a	IR1-3A-1a	RANDOM	15-192	10/17/2007	0	0.5	pCi/g	0.32		0.16	0.29	0.004	U	0.11	0.18	0.099	J	0.059	0.086	0.0	U	0.077	0.14	0.001	U	0.093	0.17
IR1-3COE-1a	IR1-3CDE-1a	RANDOM	15-193	10/17/2007	0	0.5	pCi/g	0.65		0.23	0.37	0.09	U	0.13	0.21	0.0	U	0.056	0.11	-0.017	U	0.068	0.13	-0.05	U	0.15	0.27
IR1-4A-1a	IR1-4A-1a	RANDOM	15-194	10/17/2007	0	0.5	pCi/g	0.39		0.23	0.29	-0.01	U	2.1	0.2	0.01	U	0.055	0.11	-0.005	U	0.059	0.11	-0.04	U	0.13	0.23
IR1-2A-1b	IR1-2A-1b	RANDOM	15-195	10/18/2007	2	2.5	pCi/g	0.22	U	0.16	0.23	0.009	U	0.077	0.13	0.0	U	0.067	0.12	0.0	U	0.057	0.11	-0.005	U	0.081	0.15
IR1-3A-1b	IR1-3A-1b	RANDOM	15-196	10/18/2007	2	2.5	pCi/g	0.58		0.18	0.33	0.04	U	0.11	0.19	0.002	U	0.039	0.073	0.01	U	0.053	0.096	-0.03	U	0.13	0.22
IR1-3COE-1b	IR1-3CDE-1b	RANDOM	15-197	10/18/2007	2.5	3	pCi/g	0.53		0.16	0.20	0.02	U	0.12	0.20	-0.0007	U	0.044	0.081	0.015	U	0.057	0.10	0.02	U	0.11	0.19
IR1-4A-1b	IR1-4A-1b	RANDOM	15-198	10/18/2007	2.5	3	pCi/g	0.18	U	0.26	0.44	-0.004	U	0.12	0.22	0.001	U	0.052	0.10	0.018	U	0.077	0.14	0.00007	U	0.10	0.20
IR1-5AB-1a	IR1-5AB-1a	RANDOM	15-199	10/18/2007	2	2.5	pCi/g	0.44		0.24	0.30	0.027	U	0.095	0.17	-0.009	U	0.093	0.11	0.0	U	0.080	0.15	0.011	U	0.099	0.18
IR1-5AB-1b	IR1-5AB-1b	RANDOM	15-200	10/18/2007	2.5	3	pCi/g	0.20	U	0.20	0.34	0.031	U	0.086	0.15	-0.003	U	0.048	0.088	-0.013	U	0.058	0.11	-0.007	U	0.12	0.21
IR1-6A-1a	IR1-6A-1a	RANDOM	15-201	10/18/2007	3	3.5	pCi/g	0.46		0.21	0.27	-0.02	U	0.12	0.20	0.008	U	0.047	0.085	0.003	U	0.049	0.092	0.007	U	0.096	0.17
IR1-6A-1b	IR1-6A-1b	RANDOM	15-202	10/18/2007	3.5	4	pCi/g	0.17	U	0.24	0.41	-0.04	U	0.12	0.20	-0.007	U	0.060	0.11	0.0	U	0.016	0.057	-0.02	U	0.13	0.24
IR1-6B-1a	IR1-6B-1a	RANDOM	15-203	10/19/2007	2	2.5	pCi/g	0.26		0.17	0.25	-0.003	U	0.074	0.13	-0.013	U	0.044	0.078	-0.020	U	0.068	0.12	0.001	U	0.087	0.16
IR1-6B-1b	IR1-6B-1b	RANDOM	15-204	10/19/2007	2.5	3	pCi/g	0.37		0.18	0.20	0.016	U	0.073	0.13	0.010	U	0.044	0.080	-0.0005	U	0.057	0.11	-0.01	U	0.11	0.19
IR1-8-A-1a	IR1-8A-1a	RANDOM	15-205	10/19/2007	1	1.5	pCi/g	0.38		0.20	0.27	0.039	U	0.095	0.16	-0.0002	U	0.036	0.070	0.0	U	0.012	0.044	0.01	U	0.11	0.19
IR1-8A-1b	IR1-8A-1b	RANDOM	15-206	10/19/2007	1.5	2	pCi/g	0.13	U	0.19	0.33	0.061	U	0.085	0.14	0.026	U	0.045	0.076	0.0	U	0.013	0.048	-0.02	U	0.12	0.21
IR1-8B-1a	IR1-8B-1a	RANDOM	15-207	10/19/2007	1	1.5	pCi/g	0.32		0.21	0.28	0.055	U	0.080	0.13	-0.002	U	0.054	0.10	-0.010	U	0.057	0.11	-0.04	U	0.12	0.20
IR1-8B-1b	IR1-8B-1b	RANDOM	15-208	10/19/2007	1.5	2	pCi/g	0.27		0.16	0.21	0.023	U	0.075	0.13	-0.013	U	0.046	0.082	0.006	U	0.056	0.11	-0.017	U	0.093	0.17
IR1-8C-1a	IR1-8C-1a	RANDOM	15-209	10/19/2007	1	1.5	pCi/g	0.21	U	0.18	0.27	0.058	U	0.081	0.13	0.018	U	0.047	0.083	0.0	U	0.062	0.12	0.026	U	0.097	0.17
IR1-8C-1b	IR1-8C-1b	RANDOM	15-210	10/19/2007	1.5	2	pCi/g	0.44		0.19	0.32	0.0	U	0.12	0.21	0.032	U	0.049	0.083	0.008	U	0.063	0.12	0.0	U	0.096	0.18
IR1-8D-1a	IR1-8D-1a	RANDOM	15-211	10/19/2007	1	1.5	pCi/g	0.23	U	0.18	0.27	-0.002	U	0.13	0.14	-0.01	U	0.15	0.10	0.008	U	0.042	0.083	0.020	U	0.083	0.15
IR1-8D-1b	IR1-8D-1b	RANDOM	15-212	10/19/2007	1.5	2	pCi/g	0.28		0.19	0.27	-0.027	U	0.076	0.13	0.013	U	0.036	0.064	-0.012	U	0.056	0.10	-0.003	U	0.073	0.14
IR1-8E-1a	IR1-8E-1a	RANDOM	15-213	10/19/2007	1	1.5	pCi/g	0.43		0.16	0.26	0.092	U	0.080	0.13	-0.001	U	0.041	0.077	-0.011	U	0.045	0.085	0.033	U	0.087	0.15
IR1-8E-1b	IR1-8E-1b	RANDOM	15-214	10/19/2007	1.5	2	pCi/g	0.22	U	0.19	0.31	0.02	U	0.10	0.18	-0.008	U	0.043	0.078	0.0	U	0.009	0.034	0.03	U	0.11	0.19
IR1-8F-1a	IR1-8F-1a	RANDOM	15-215	10/19/2007	1	1.5	pCi/g	0.20	U	0.15	0.22	-0.01	U	0.11	0.18	-0.004	U	0.036	0.065	0.0	U	0.070	0.13	0.03	U	0.10	0.18
IR1-8F-1b	IR1-8F-1b	RANDOM	15-216	10/19/2007	1.5	2	pCi/g	0.20	U	0.23	0.39	0.005	U	0.10	0.18	-0.020	U	0.066	0.12	0.0	U	0.082	0.15	-0.03	U	0.13	0.23
IR1-8G-1a	IR1-8G-1a	RANDOM	15-217	10/19/2007	1	1.5	pCi/g	0.30	U	0.17	0.33	0.022	U	0.084	0.15	-0.03	U	0.67	0.1	0.020	U	0.060	0.11	-0.04	U	0.11	0.20
IR1-8G-1b	IR1-8G-1b	RANDOM	15-218	10/19/2007	1.5	2	pCi/g	0.56		0.23	0.27	0.039	U	0.082	0.14	0.036	U	0.049	0.080	0.0	U	0.061	0.12	0.019	U	0.089	0.16
IR1-8H-1a	IR1-8H-1a	RANDOM	15-219	10/19/2007	1	1.5	pCi/g	0.15	U	0.20	0.33	0.038	U	0.075	0.13	0.0	U	0.039	0.073	-0.005	U	0.043	0.083	-0.031	U	0.090	0.16
IR1-8H-1b	IR1-8H-1b	RANDOM	15-220	10/19/2007	1.5	2	pCi/g	0.15	U	0.17	0.30	0.04	U	0.10	0.18	0.018	U	0.046	0.079	-0.0003	U	0.033	0.067	-0.02	U	0.12	0.21
IR1-8I-1a	IR1-8I-1a	RANDOM	15-221	10/19/2007	1	1.5	pCi/g	0.31		0.20	0.29	0.050	U	0.094	0.16	0.013	U	0.042	0.074	-0.004	U	0.048	0.089	-0.004	U	0.11	0.19
IR1-8I-1b	IR1-8I-1b	RANDOM	15-222	10/19/2007	1.5	2	pCi/g	0.11	U	0.21	0.37	-0.04	U	0.11	0.20	-0.015	U	0.057	0.10	0.0	U	0.082	0.16	-0.005	U	0.12	0.23
IR1-8J-1a	IR1-8J-1a	RANDOM	15-223	10/19/2007	1	1.5	pCi/g	0.35		0.20	0.27	0.008	U	0.090	0.16	0.00002	U	0.049	0.10	0.0	U	0.072	0.14	-0.03	U	0.12	0.21
IR1-8J-1b	IR1-8J-1b	RANDOM	15-224	10/19/2007	1	1.5	pCi/g	0.31		0.17	0.23	0.060	U	0.066	0.11	0.0	U	0.050	0.092	0.0	U	0.011	0.039	0.024	U	0.089	0.16
IR1-8K-1a	IR1-8K-1a	RANDOM	15-225	10/22/2007	1	1.5	pCi/g	0.30		0.14	0.29	0.040	U	0.090	0.15	0.056	U	0.049	0.077	0.0	U	0.052	0.097	0.0	U	0.068	0.13
IR1-8K-1b	IR1-8K-1b	RANDOM	15-226	10/22/2007	1.5	2	pCi/g	0.19	UJ	0.19	0.30	0.0	UJ	0.13	0.22	0.024	UJ	0.044	0.075	-0.009	UJ	0.047	0.086	0.06	UJ	0.10	0.17
IR1-8L-1a	IR1-8L-1a	RANDOM	15-227	10/22/2007	1	1.5	pCi/g	0.13	U	0.15	0.23	-0.001	U	0.080	0.14	0.014	U	0.043	0.076	-0.002	U	0.053	0.10	-0.001	U	0.060	0.11
IR1-8L-1b	IR1-8L-1b	RANDOM	15-228	10/22/2007	1.5	2	pCi/g	0.31		0.19	0.30	0.05	U	0.11	0.19	0.003	U	0.038	0.071	-0.021	U	0.058	0.10	0.016	U	0.091	0.16
IR1-8M-1a	IR1-8M-1a	RANDOM	15-229	10/22/2007	1	1.5	pCi/g	0.34	U	0.25	0.38	0.0006	U	0.098	0.17	0.089	U	0.067	0.10	0.0	U	0.014	0.052	0.04	U	0.11	0.20
IR1-8M-1b	IR1-8M-1b	RANDOM	15-230	10/22/2007	1.5	2	pCi/g	0.33	U	0.24	0.34	0.006	U	0.091	0.16	-0.006	U	0.078	0.11	-0.015	U	0.049	0.092	0.0	U	0.094	0.18
IR1-9-1a	IR1-9-1a	RANDOM	15-231	10/22/2007	1	1.5	pCi/g	0.41		0.18	0.21	0.047	U	0.076	0.13	0.088	J	0.048	0.065	-0.019	U	0.058	0.10	0.010	U	0.084	0.15
IR1-9-1b	IR1-9-1b	RANDOM	15-232	10/22/2007	1.5	2	pCi/g	0.20	U	0.18	0.27	-0.036	U	0.088	0.15	0.019	U	0.038	0.067	0.0	U	0.012	0.043	0.039	U	0.084	0.15
IR1-1AB-1a	IR1-1AB-1a	RANDOM	15-233	10/22/2007	1	1.5	pCi/g	0.41	U	0.28	0.44	0.04	U	0.26	0.43	0.025	U	0.079	0.13	0.0	U	0.085	0.15	0.54		0.23	0.48
IR1-1AB-1b	IR1-1AB-1b	RANDOM	15-234	10/22/2007	1.5	2	pCi/g	0.22	UJ	0.28	0.46	0.14	UJ	0.26	0.43	-0.055	UJ	0.096	0.16	-0.005	UJ	0.074	0.13	0.71	J	0.32	0.57
IR1-11-1a	IR1-11-1a	RANDOM	15-235	10/24/2007	2	2.5	pCi/g	0.16	U	0.21	0.37	0.07	U	0.13	0.21	0.025	U	0.049	0.084	-0.013	U	0.054	0.098	0.19	U	0.14	0.22
IR1-11-1b	IR1-11-1b	RANDOM	15-236	10/24/2007	2.5	3	pCi/g	0.35		0.14	0.26	-0.011	U	0.093	0.16	0.007	U	0.039	0.070	0.014	U	0.040	0.071	-0.03	U	0.11	0.19
IR1-12-1a	IR1-12-1a	RANDOM	15-237	10/24/2007	2	2.5	pCi/g	0.33	U	0.20	0.38	0.04	U	0.13	0.22	0.009	U	0.067	0.12	-0.015	U	0.077	0.14	-0.03	U	0.15	0.26

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
IR1-12-1b	IR1-12-1b	RANDOM	15-238	10/24/2007	2.5	3	pCi/g	0.14	U	0.21	0.36	-0.05	U	0.20	0.21	-0.04	U	1.1	0.1	0.035	U	0.048	0.079	-0.001	U	0.13	0.24
IR2-160-1a	IR2-160-1a	RANDOM	15-239	10/24/2007	3	3.5	pCi/g	0.38		0.16	0.29	0.001	U	0.088	0.15	0.0	U	0.080	0.14	-0.004	U	0.056	0.11	0.029	U	0.093	0.16
IR2-160-1b	IR2-160-1b	RANDOM	15-240	10/24/2007	3.5	4	pCi/g	0.37	U	0.19	0.39	0.03	U	0.11	0.19	0.038	U	0.050	0.083	0.0	U	0.094	0.17	0.02	U	0.13	0.24
IR2-171-1a	IR2-171-1a	RANDOM	15-241	10/24/2007	2	2.5	pCi/g	0.31		0.13	0.23	0.053	U	0.096	0.16	0.032	U	0.047	0.079	0.003	U	0.034	0.065	0.004	U	0.10	0.19
IR2-171-1b	IR2-171-1b	RANDOM	15-242	10/24/2007	2.5	3	pCi/g	0.28	U	0.18	0.36	0.04	U	0.10	0.18	0.049	U	0.062	0.10	0.0	U	0.016	0.057	0.01	U	0.10	0.19
IR2-172-1a	IR2-172-1a	RANDOM	15-243	10/24/2007	2	2.5	pCi/g	0.20	U	0.29	0.48	-0.01	U	1.0	0.4	0.057	U	0.095	0.17	-0.0008	U	0.059	0.12	0.03	U	0.20	0.36
IR2-172-1b	IR2-172-1b	RANDOM	15-244	10/24/2007	2.5	3	pCi/g	0.28	U	0.28	0.46	-0.06	U	0.23	0.38	0.033	U	0.075	0.13	0.008	U	0.079	0.14	0.18	U	0.14	0.42
IR2-182-1a	IR2-182-1a	RANDOM	15-245	10/24/2007	2	2.5	pCi/g	0.39		0.15	0.31	0.035	U	0.099	0.17	0.0	U	0.045	0.083	0.0	U	0.076	0.14	-0.02	U	0.11	0.20
IR2-182-1b	IR2-182-1b	RANDOM	15-246	10/24/2007	2.5	3	pCi/g	0.41		0.19	0.38	0.08	U	0.11	0.18	0.032	U	0.064	0.11	-0.002	U	0.066	0.13	-0.03	U	0.14	0.25
IR2-183ABC-1a	IR2-183ABC-1a	RANDOM	15-247	10/25/2007	2	2.5	pCi/g	0.44		0.25	0.34	0.039	U	0.088	0.15	-0.02	U	0.27	0.12	0.020	U	0.049	0.091	-0.00005	U	0.11	0.21
IR2-183ABC-1b	IR2-183ABC-1b	RANDOM	15-248	10/25/2007	2.5	3	pCi/g	0.43		0.22	0.29	-0.001	U	0.086	0.15	0.013	U	0.045	0.081	0.0009	U	0.053	0.10	0.0	U	0.11	0.20
IR2-187-1a	IR2-187-1a	RANDOM	15-249	10/25/2007	2	2.5	pCi/g	0.55		0.19	0.20	0.002	U	0.12	0.20	0.033	U	0.044	0.072	-0.006	U	0.046	0.087	-0.02	U	0.11	0.20
IR2-187-1b	IR2-187-1b	RANDOM	15-250	10/25/2007	2.5	3	pCi/g	0.30		0.17	0.29	0.037	U	0.094	0.16	0.053	U	0.049	0.077	0.0	U	0.077	0.14	0.034	U	0.093	0.16
IR2-188AB-1a	IR2-188AB-1a	RANDOM	15-251	10/25/2007	2	2.5	pCi/g	0.35		0.17	0.23	0.006	U	0.13	0.22	0.254		0.075	0.039	0.0	U	0.016	0.060	0.04	U	0.15	0.26
IR2-188AB-Ab	IR2-188AB-1b	RANDOM	15-252	10/25/2007	2.5	3	pCi/g	0.37		0.21	0.26	0.057	U	0.072	0.12	0.155	J	0.059	0.067	0.014	U	0.053	0.10	0.0	U	0.13	0.24
IR2-190ABC-1a	IR2-190ABC-1a	RANDOM	15-253	10/25/2007	2	2.5	pCi/g	0.34		0.14	0.27	0.001	U	0.087	0.15	0.079	J	0.046	0.059	0.004	U	0.056	0.11	0.044	U	0.091	0.16
IR2-190ABC-1b	IR2-190ABC-1b	RANDOM	15-254	10/25/2007	2.5	3	pCi/g	0.27	U	0.18	0.28	-0.05	U	0.12	0.21	0.043	U	0.061	0.10	-0.005	U	0.053	0.10	0.03	U	0.11	0.20
32IR-G-01a	IR32-G-01a	RANDOM	15-274	12/4/2007	0	0.5	pCi/g	0.32		0.21	0.31	0.053	U	0.092	0.15	0.0	U	0.055	0.10	-0.004	U	0.071	0.13	0.012	U	0.099	0.18
32IR-G-01b	IR32-G-01b	RANDOM	15-275	12/4/2007	0.5	1	pCi/g	0.45		0.23	0.30	0.013	U	0.082	0.15	-0.04	U	0.59	0.11	0.020	U	0.059	0.11	0.0	U	0.11	0.21
32IR-G-02a	IR32-G-02a	RANDOM	15-276	12/4/2007	0	0.5	pCi/g	0.54		0.15	0.23	-0.002	U	0.088	0.15	-0.003	U	0.046	0.082	-0.014	U	0.057	0.10	-0.026	U	0.094	0.16
32IR-G-02b	IR32-G-02b	RANDOM	15-277	12/4/2007	0.5	1	pCi/g	0.32		0.20	0.27	0.00007	U	0.070	0.12	0.0	U	0.027	0.055	0.007	U	0.043	0.083	-0.001	U	0.098	0.18
32IR-G-03a	IR32-G-03a	RANDOM	15-278	12/4/2007	0	0.5	pCi/g	1.13		0.20	0.17	0.01	U	0.14	0.23	0.0	U	0.093	0.16	0.003	U	0.052	0.096	-0.02	U	0.12	0.21
32IR-G-03b	IR32-G-03b	RANDOM	15-279	12/4/2007	0.5	1	pCi/g	0.15	UJ	0.14	0.22	0.037	UJ	0.087	0.15	0.011	UJ	0.033	0.059	-0.008	UJ	0.041	0.075	0.006	UJ	0.085	0.15
32IR-G-04a	IR32-G-04a	RANDOM	15-280	12/4/2007	0	0.5	pCi/g	0.74		0.22	0.36	0.03	U	0.14	0.23	0.001	U	0.059	0.11	-0.023	U	0.076	0.14	0.0	U	0.13	0.24
32IR-G-04b	IR32-G-04b	RANDOM	15-281	12/4/2007	0.5	1	pCi/g	0.19	U	0.21	0.34	0.023	U	0.083	0.15	-0.04	U	0.44	0.11	0.0	U	0.10	0.19	-0.03	U	0.12	0.21
32IR-G-05a	IR32-G-05a	RANDOM	15-282	12/5/2007	0	0.5	pCi/g	0.42		0.19	0.28	0.04	U	0.10	0.17	0.012	U	0.036	0.064	-0.007	U	0.041	0.075	0.0002	U	0.099	0.18
32IR-G-05b	IR32-G-05b	RANDOM	15-283	12/5/2007	0.5	1	pCi/g	0.18	UJ	0.19	0.30	-0.02	UJ	0.11	0.19	0.0	UJ	0.049	0.089	0.0	UJ	0.051	0.096	-0.03	UJ	0.11	0.19
32IR-G-06a	IR32-G-06a	RANDOM	15-284	12/5/2007	0	0.5	pCi/g	-0.04	U	0.72	0.34	-0.033	U	0.092	0.16	-0.005	U	0.053	0.099	0.0	U	0.014	0.053	0.04	U	0.11	0.19
32IR-G-06b	IR32-G-06b	RANDOM	15-285	12/5/2007	0.5	1	pCi/g	0.22	U	0.20	0.31	-0.003	U	0.17	0.15	-0.02	U	0.17	0.11	0.0	U	0.013	0.048	0.0	U	0.13	0.24
32IR-G-07a	IR32-G-07a	RANDOM	15-286	12/5/2007	0	0.5	pCi/g	0.63		0.19	0.28	0.05	U	0.10	0.17	-0.0003	U	0.034	0.062	-0.006	U	0.046	0.084	-0.007	U	0.10	0.18
32IR-G-07b	IR32-G-07b	RANDOM	15-287	12/5/2007	0.5	1	pCi/g	0.18	U	0.18	0.30	0.005	U	0.087	0.15	0.0	U	0.047	0.089	0.0	U	0.13	0.23	-0.01	U	0.11	0.19
32IR-G-08a	IR32-G-08a	RANDOM	15-288	12/5/2007	0	0.5	pCi/g	0.84		0.23	0.28	0.04	U	0.12	0.20	-0.03	U	0.48	0.11	0.013	U	0.072	0.13	0.06	U	0.13	0.22
32IR-G-08b	IR32-G-08b	RANDOM	15-289	12/5/2007	0.5	1	pCi/g	0.33		0.20	0.26	0.029	U	0.082	0.14	0.0005	U	0.052	0.096	0.008	U	0.050	0.096	0.0001	U	0.089	0.17
32IR-G-09a	IR32-G-09a	RANDOM	15-290	12/5/2007	0	0.5	pCi/g	0.67	J	0.21	0.25	0.07	UJ	0.11	0.18	-0.007	UJ	0.048	0.084	0.0	UJ	0.041	0.078	0.001	UJ	0.11	0.19
32IR-G-09b	IR32-G-09b	RANDOM	15-291	12/5/2007	0.5	1	pCi/g	0.30	J	0.16	0.22	0.03	UJ	0.12	0.20	0.0	UJ	0.053	0.094	0.0	UJ	0.063	0.11	0.04	UJ	0.11	0.18
32IR-G-10a	IR32-G-10a	RANDOM	15-292	12/5/2007	0	0.5	pCi/g	1.01		0.25	0.34	0.004	U	0.15	0.25	-0.0004	U	0.054	0.10	0.0	U	0.13	0.23	0.005	U	0.12	0.21
32IR-G-10b	IR32-G-10b	RANDOM	15-293	12/5/2007	0.5	1	pCi/g	0.28		0.19	0.27	-0.01	U	0.87	0.14	-0.004	U	0.056	0.087	0.0	U	0.011	0.042	0.017	U	0.078	0.14
B-1IR-B-1ABa	IR1-B-1ABa	BIASED	15-294	12/6/2007	4	4.5	pCi/g	0.33		0.17	0.30	0.003	U	0.12	0.21	-0.006	U	0.050	0.089	0.0	U	0.070	0.13	0.003	U	0.088	0.16
B-1IR-B-1ABb	IR1-B-1ABb	BIASED	15-295	12/6/2007	4.5	5	pCi/g	0.38		0.15	0.23	-0.01	U	0.10	0.18	0.0	U	0.042	0.077	-0.002	U	0.053	0.098	0.005	U	0.10	0.18
B-1IR-B-3CDa	IR1-B-3-CDa	BIASED	15-299	12/6/2007	3	3.5	pCi/g	0.65		0.17	0.20	-0.07	U	0.12	0.20	0.006	U	0.045	0.081	0.006	U	0.050	0.093	-0.03	U	0.11	0.19
B-1IR-B-3CDb	IR1-B-3-CDb	BIASED	15-300	12/6/2007	3.5	4	pCi/g	0.35		0.20	0.24	-0.015	U	0.091	0.16	0.01	U	0.049	0.090	0.0	U	0.015	0.053	0.0	U	0.11	0.20
1IR-3-02a	IR1-3-02a	RANDOM	15-301	12/6/2007	0	0.5	pCi/g	0.32	U	0.24	0.35	0.02	U	0.10	0.18	0.067	U	0.060	0.10	0.019	U	0.069	0.13	0.01	U	0.11	0.20
1IR-3-02b	IR1-3-02b	RANDOM	15-302	12/6/2007	0.5	1	pCi/g	0.34	U	0.24	0.35	0.027	U	0.080	0.14	0.016	U	0.050	0.10	0.0	U	0.014	0.052	0.0	U	0.11	0.20
1IR-3-03a	IR1-3-03a	RANDOM	15-303	12/6/2007	0	0.5	pCi/g	0.42		0.13	0.15	0.19	U	0.27	0.45	0.029	U	0.035	0.057	0.004	U	0.032	0.061	0.029	U	0.086	0.15
1IR-3-03b	IR1-3-03b	RANDOM	15-304	12/6/2007	0.5	1	pCi/g	0.23		0.16	0.22	0.049	U	0.090	0.15	-0.003	U	0.049	0.089	-0.0007	U	0.060	0.11	-0.02	U	0.10	0.18
1IR-3-04a	IR1-3-04a	RANDOM	15-305	12/6/2007	0	0.5	pCi/g	0.53		0.15	0.21	-0.15	U	0.32	0.55	0.475		0.083	0.049	0.009	U	0.028	0.051	-0.019	U	0.080	0.14
1IR-3-04b	IR1-3-04b	RANDOM	15-306	12/6/2007	0.5	1	pCi/g	0.55		0.17	0.28	0.055	U	0.084	0.14	0.064	U	0.046	0.066	-0.01	U	0.056	0.10	-0.027	U	0.091	0.16
1IR-3-05a	IR1-3-05a	RANDOM	15-307	12/6/2007	1	0.5	pCi/g	0.34		0.15	0.28	-0.005	U	0.11	0.18	0.144	J	0.054	0.040	-0.005	U	0.040	0.075	0.023	U	0.090	0.16
1IR-3-05b	IR1-3-05b	RANDOM	15-308	12/6/2007	0.5	1	pCi/g	0.39	U	0.28	0.41	0.0	U	0.11	0.19	0.0	U	0.087	0.16	0.006	U	0.061	0.12	0.05	U	0.12	0.20
1IR-3-06a	IR1-3-06a	RANDOM	15-309	12/6/2007	0	0.5	pCi/g	0.31	U	0.22	0.32	0.015	U	0.089	0.15	0.010	U	0.045	0.094	0.076		0.053	0.063	0.0	U	0.11	0.21
1IR-3-06b	IR1-3-06b	RANDOM	15-310	12/6/2007	0.5	1	pCi/g	0.58		0.16	0.1	0.24	U	0.22	0.36	-0.00007	U	0.030	0.055	0.0	U	0.049	0.090	-0.020	U	0.084	0.15
1IR-3-07a	IR1-3-07a	RANDOM	15-311	12/6/2007	0	0.5	pCi/g	0.30		0.13	0.21	0.036	U	0.078	0.13	0.002	U	0.042	0.078	0.0	U	0.058	0.11	0.061	U	0.078	0.13
1IR-3-07b	IR1-3-07b	RANDOM	15-312	12/6/2007	0.5	1	pCi/g	0.12	U	0.17	0.29	-0.026	U	0.085	0.15	0.005	U	0.050	0.093	0.0	U	0.012	0.046	0.05	U	0.11	0.18
1IR-3-08a	IR1-3-08a	RANDOM	15-313	12/6/2007	0	0.5	pCi/g	0.67		0.21	0.23	0.001	U	0.10	0.18	0.224		0.080	0.064	0.024	U	0.050	0.086	-0.008	U	0.10	0.19
1IR-3-08b	IR1-3-08b	RANDOM	15-314	12/6/2007	0.5	1	pCi/g	0.0	U	0.20	0.36	-0.03	U	0.10	0.17	0.074	J	0.045	0.064	-0.0009	U	0.050	0.093	-0.06	U	0.13	0.22
1IR-3-09a	IR1-3-09a	RANDOM	15-315	12/6/2007	0	0.5	pCi/g	0.52		0.17	0.18	0.06	U	0.12	0.19	0.161	J	0.079	0.10	-0.009	U	0.048	0.094	0.02	U	0.11	0.20
1IR-3-09b	IR1-3-09b	RANDOM	15-316	12/6/2007	0.5	1	pCi/g	0.46		0.18	0.20	0.008	U	0.078	0.14	0.055	U	0.047	0.072	0.0	U	0.058	0.11	-0.015	U	0.099	0.18
1IR-3-10a	IR1-3-10a	RANDOM	15-317	12/6/2007	0	0.5	pCi/g	0.36		0.15	0.32	-0.04	U	0.10	0.18	0.146	J	0.049	0.029	0.0	U	0.062	0.12	0.0	U	0.11	0.20
1IR-3-10b	IR1-3-10b	RANDOM	15-318	12/6/2007	0.5	1	pCi/g	0.23	U	0.21	0.32	0.030	U	0.083	0.14	-0.01	U	0.12	0.12	0.0	U	0.078	0.15	-0.02	U	0.13	0.23
B-1IR-4Aa	IR1-B-4Aa	BIASED	15-319	12/6/2007	2	2.5	pCi/g	0.40		0.15	0.17	-0.002	U	0.25	0.44	0.0	U	0.038	0.069	0.009	U	0.015	0.027	-0.026	U	0.084	0.15
B-1IR-4Ab	IR1-B-4Ab	BIASED	15-320	12/6/2007	2.5	3	pCi/g	0.21	U	0.16	0.24	0.028	U	0.086	0.15	-0.010	U	0.054	0.096	-0.0005	U	0.051	0.099	-0.002	U	0.098	0.18
B-1IR-4BCa	IR1-B-4BCa	BIASED	15-322	12/6/2007	2	2.5	pCi/g	0.36		0.25	0.35	0.069	U	0.099	0.16	-0.0128	U	0.099	0.10	0.031	U	0.054	0.093	-0.01	U	0.11	0.20
B-1IR-4BCb	IR1-B-4BCb	BIASED	15-323	12/6/2007	2.5	3	pCi/g	0.62		0.15	0.07	0.13	U	0.25	0.43	-0.0002	U	0.033	0.060	-0.006	U	0.035	0.064	0.045	U	0.079	0.13
1IR-4-02a	IR1-4-02a	RANDOM	15-324	12/6/2007	0	0.5	pCi/g	0.40		0.18	0.21	0.003	U	0.091	0.16	0.050	U	0.047	0.073	0.013	U	0.046	0.084	0.008	U	0.091	0.17
1IR-4-02b	IR1-4-02b	RANDOM	15-325	12/6/2007	0.5	1	pCi/g	0.53		0.20	0.19	-0.01	U	0.12	0.20	0.044	U	0.043	0.068	0.013	U	0.055	0.10	-0.0009	U	0.098	0.18
1IR-4-03a	IR1-4-03a	RANDOM	15-326	12/6/2007	0	0.5	pCi/g	0.41		0.23	0.31	0.060	U	0.093	0.15	0.017	U	0.056	0.11	0.017	U	0.044	0.083	-0.002	U	0.096	0.18
1IR-4-03b	IR1-4-03b	RANDOM	15-327	12/6/2007	0.5	1	pCi/g	0.12	U	0.23	0.39	0.038	U	0.091	0.16	-0.01	U	0.10	0.11	0.0	U	0.072	0.14	0.034	U	0.076	0.13
1IR-4-04a	IR1-4-04a	RANDOM	15-328	12/7/2007	0	0.5	pCi/g	0.31		0.14	0.23	0.003	U	0.092	0.16	0.034	U	0.045	0.075	-0.005	U	0.061	0.11	-0.02	U	0.11	0.19
1IR-4-04b	IR1-4-04b	RANDOM	15-329	12/7/2007	0.5	1	pCi/g	0.34		0.16	0.29	0.0003	U	0.097	0.17	-0.009	U	0.043	0.078	0.012	U	0.038	0.070	-0.03	U	0.11	0.20
1IR-4-05a	IR1-4-05a	RANDOM	15-330	12/7/2007	0	0.5	pCi/g	0.22	U	0.25	0.40	-0.04	U	0.11	0.20	-0.007	U	0.057	0.10	-0.017	U	0.068	0.13	0.02	U	0.11	0.20

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
1IR-4-05b	IR1-4-05b	RANDOM	15-331	12/7/2007	0.5	1	pCi/g	0.48		0.18	0.30	0.027	U	0.085	0.15	-0.03	U	1.3	0.1	0.037	U	0.046	0.073	0.05	U	0.11	0.19
1IR-4-06a	IR1-4-06a	RANDOM	15-332	12/7/2007	0	0.5	pCi/g	0.47		0.19	0.23	-0.02	U	0.11	0.19	0.030	U	0.038	0.062	-0.007	U	0.039	0.073	-0.03	U	0.12	0.21
1IR-4-06b	IR1-4-06b	RANDOM	15-333	12/7/2007	0.5	1	pCi/g	0.33		0.20	0.27	0.048	U	0.059	0.096	0.001	U	0.033	0.063	0.0	U	0.011	0.039	-0.001	U	0.082	0.15
1IR-4-07a	IR1-4-07a	RANDOM	15-334	12/7/2007	0	0.5	pCi/g	0.32		0.16	0.19	0.040	U	0.080	0.13	0.050	U	0.045	0.070	0.030	U	0.034	0.053	-0.020	U	0.093	0.17
1IR-4-07b	IR1-4-07b	RANDOM	15-335	12/7/2007	0.5	1	pCi/g	0.43		0.22	0.30	0.016	U	0.098	0.17	0.0	U	0.057	0.10	0.024	U	0.044	0.076	0.004	U	0.10	0.18
1IR-4-08a	IR1-4-08a	RANDOM	15-336	12/7/2007	0	0.5	pCi/g	0.22	U	0.22	0.34	0.03	U	0.11	0.18	0.0	U	0.078	0.14	0.0	U	0.015	0.055	-0.05	U	0.14	0.24
1IR-4-08b	IR1-4-08b	RANDOM	15-337	12/7/2007	0.5	1	pCi/g	0.47		0.22	0.26	-0.014	U	0.091	0.16	-0.01	U	0.10	0.10	-0.004	U	0.059	0.11	-0.02	U	0.10	0.19
1IR-4-09a	IR1-4-09a	RANDOM	15-338	12/7/2007	0	0.5	pCi/g	0.38		0.19	0.37	0.069	U	0.087	0.14	0.009	U	0.049	0.10	0.0	U	0.13	0.23	0.02	U	0.12	0.21
1IR-4-09b	IR1-4-09b	RANDOM	15-339	12/7/2007	0.5	1	pCi/g	0.53		0.14	0.15	0.08	U	0.23	0.39	-0.007	U	0.033	0.058	0.012	U	0.033	0.060	0.015	U	0.068	0.12
1IR-4-10a	IR1-4-10a	RANDOM	15-340	12/7/2007	0	0.5	pCi/g	0.35		0.19	0.26	0.034	U	0.079	0.13	0.051	U	0.050	0.079	0.013	U	0.042	0.077	0.003	U	0.088	0.16
1IR-4-10b	IR1-4-10b	RANDOM	15-341	12/7/2007	0.5	1	pCi/g	0.44		0.23	0.30	0.004	U	0.078	0.14	0.004	U	0.055	0.10	0.004	U	0.043	0.086	-0.02	U	0.10	0.19
B-1IR-5ABa	IR1-B-5ABa	BIASED	15-342	12/7/2007	0	0.5	pCi/g	0.0	U	0.20	0.37	-0.03	U	0.17	0.29	-0.01	U	0.066	0.12	-0.022	U	0.065	0.11	0.03	U	0.18	0.31
B-1IR-5ABb	IR1-B-5ABb	BIASED	15-343	12/7/2007	0.5	1	pCi/g	0.37		0.19	0.26	0.003	U	0.11	0.19	-0.007	U	0.044	0.079	0.0	U	0.052	0.098	-0.002	U	0.11	0.20
B-1IR-6Aa	IR1-B-6Aa	BIASED	15-345	12/7/2007	0	0.5	pCi/g	0.61		0.20	0.20	0.02	U	0.10	0.18	0.036	U	0.050	0.082	0.0	U	0.015	0.055	0.005	U	0.13	0.24
B-1IR-6Ab	IR1-B-6Ab	BIASED	15-346	12/7/2007	0.5	1	pCi/g	0.19	U	0.21	0.34	0.041	U	0.077	0.13	-0.02	U	0.14	0.11	0.013	U	0.057	0.11	0.039	U	0.098	0.17
1IR-6A-02a	IR1-6A-02a	RANDOM	15-347	12/7/2007	0	0.5	pCi/g	0.29		0.11	0.17	0.02	U	0.32	0.56	0.102	J	0.042	0.039	-0.005	U	0.031	0.058	0.0	U	0.096	0.17
1IR-6A-02b	IR1-6A-02b	RANDOM	15-348	12/7/2007	0.5	1	pCi/g	0.41		0.15	0.17	-0.12	U	0.31	0.53	0.032	U	0.036	0.057	-0.002	U	0.035	0.066	0.043	U	0.071	0.12
1IR-6A-03a	IR1-6A-03a	RANDOM	15-349	12/7/2007	0	0.5	pCi/g	0.26	U	0.25	0.39	-0.02	U	0.11	0.19	0.089	U	0.065	0.095	0.0	U	0.085	0.16	-0.02	U	0.12	0.21
1IR-6A-03b	IR1-6A-03b	RANDOM	15-350	12/7/2007	0.5	1	pCi/g	0.30	U	0.26	0.40	0.030	U	0.088	0.15	-0.01	U	0.10	0.11	0.042	U	0.042	0.058	0.006	U	0.11	0.21
1IR-6A-04a	IR1-6A-04a	RANDOM	15-351	12/7/2007	0	0.5	pCi/g	0.29		0.14	0.19	-0.01	U	0.27	0.48	0.076	J	0.042	0.059	0.0	U	0.064	0.11	0.035	U	0.064	0.11
1IR-6A-04b	IR1-6A-04b	RANDOM	15-352	12/7/2007	0.5	1	pCi/g	0.31		0.13	0.24	-0.0004	U	0.078	0.14	0.012	U	0.048	0.086	0.0	U	0.060	0.11	0.051	U	0.071	0.12
1IR-6A-05a	IR1-6A-05a	RANDOM	15-353	12/7/2007	0	0.5	pCi/g	0.17	U	0.24	0.40	0.047	U	0.074	0.12	0.092	J	0.053	0.069	0.0	U	0.067	0.13	0.047	U	0.094	0.16
1IR-6A-05b	IR1-6A-05b	RANDOM	15-354	12/7/2007	0.5	1	pCi/g	0.37		0.19	0.25	0.030	U	0.095	0.16	0.036	U	0.048	0.078	0.002	U	0.047	0.089	-0.03	U	0.13	0.23
B-1IR-6Ba	IR1-B-6B-a	BIASED	15-355	12/10/2007	0	0.5	pCi/g	0.37		0.20	0.26	0.018	U	0.081	0.14	-0.001	U	0.049	0.092	-0.014	U	0.060	0.11	0.0	U	0.11	0.20
B-1IR-6Bb	IR1-B-6B-b	BIASED	15-356	12/10/2007	0.5	1	pCi/g	0.45		0.15	0.21	-0.11	U	0.29	0.50	0.0	U	0.057	0.10	0.006	U	0.030	0.056	-0.04	U	0.11	0.19
1IR-6B-02a	IR1-6B-02a	RANDOM	15-359	12/10/2007	0	0.5	pCi/g	0.11	U	0.18	0.30	-0.035	U	0.094	0.16	0.150	J	0.061	0.076	-0.016	U	0.049	0.089	-0.0006	U	0.089	0.16
1IR-6B-02b	IR1-6B-02b	RANDOM	15-360	12/10/2007	0.5	1	pCi/g	0.23	U	0.20	0.31	0.012	U	0.099	0.17	0.0	U	0.066	0.12	0.011	U	0.041	0.078	0.050	U	0.094	0.16
1IR-6B-03a	IR1-6B-03a	RANDOM	15-361	12/10/2007	0	0.5	pCi/g	0.16	U	0.19	0.32	0.004	U	0.11	0.19	-0.03	U	0.88	0.13	0.001	U	0.057	0.11	0.02	U	0.12	0.22
1IR-6B-03b	IR1-6B-03b	RANDOM	15-362	12/10/2007	0.5	1	pCi/g	0.38		0.12	0.17	0.22	U	0.24	0.39	0.0009	U	0.028	0.053	-0.004	U	0.037	0.068	0.013	U	0.067	0.12
1IR-6B-04a	IR1-6B-04a	RANDOM	15-363	12/10/2007	0	0.5	pCi/g	0.35		0.14	0.24	-0.029	U	0.087	0.15	0.192	J	0.068	0.079	-0.028	U	0.072	0.13	-0.02	U	0.10	0.18
1IR-6B-04b	IR1-6B-04b	RANDOM	15-364	12/10/2007	0.5	1	pCi/g	0.25	U	0.19	0.27	0.065	U	0.093	0.16	0.034	U	0.055	0.093	0.0	U	0.094	0.17	-0.02	U	0.10	0.18
1IR-6B-05a	IR1-6B-05a	RANDOM	15-365	12/10/2007	0	0.5	pCi/g	0.30		0.16	0.27	0.005	U	0.098	0.17	0.165	J	0.047	0.024	0.0	U	0.076	0.14	0.04	U	0.11	0.18
1IR-6B-05b	IR1-6B-05b	RANDOM	15-366	12/10/2007	0.5	1	pCi/g	0.13	U	0.15	0.25	0.0	U	0.081	0.14	0.015	U	0.044	0.078	-0.004	U	0.047	0.089	0.011	U	0.070	0.13
1IR-6B-06a	IR1-6B-06a	RANDOM	15-367	12/10/2007	0	0.5	pCi/g	0.42		0.22	0.28	0.050	U	0.096	0.16	0.104	J	0.062	0.083	0.0	U	0.083	0.16	0.04	U	0.12	0.22
1IR-6B-06b	IR1-6B-06b	RANDOM	15-368	12/10/2007	0.5	1	pCi/g	0.37		0.12	0.20	0.07	U	0.27	0.46	0.033	U	0.034	0.055	-0.001	U	0.027	0.053	0.004	U	0.066	0.12
1IR-6B-07a	IR1-6B-07a	RANDOM	15-369	12/10/2007	0	0.5	pCi/g	0.18	U	0.15	0.23	0.024	U	0.062	0.11	0.130	J	0.055	0.068	0.0009	U	0.041	0.081	0.004	U	0.094	0.17
1IR-6B-07b	IR1-6B-07b	RANDOM	15-370	12/10/2007	0.5	1	pCi/g	0.26	U	0.20	0.30	0.053	U	0.091	0.15	0.046	U	0.046	0.073	0.0	U	0.063	0.12	-0.03	U	0.10	0.18
1IR-6B-08a	IR1-6B-08a	RANDOM	15-371	12/10/2007	0	0.5	pCi/g	0.43		0.23	0.29	-0.003	U	0.067	0.12	0.086	U	0.057	0.092	-0.016	U	0.058	0.11	-0.02	U	0.12	0.21
1IR-6B-08b	IR1-6B-08b	RANDOM	15-372	12/10/2007	0.5	1	pCi/g	0.42		0.15	0.26	0.047	U	0.084	0.14	0.060	U	0.050	0.077	-0.009	U	0.046	0.084	0.030	U	0.096	0.17
1IR-6B-09a	IR1-6B-09a	RANDOM	15-373	12/10/2007	0	0.5	pCi/g	0.61		0.20	0.21	0.03	U	0.11	0.18	0.207		0.072	0.053	-0.004	U	0.049	0.091	0.016	U	0.098	0.17
1IR-6B-09b	IR1-6B-09b	RANDOM	15-374	12/10/2007	0.5	1	pCi/g	0.29	U	0.22	0.31	0.020	U	0.085	0.15	0.046	U	0.055	0.088	-0.026	U	0.089	0.16	-0.02	U	0.14	0.25
1IR-6B-10a	IR1-6B-10a	RANDOM	15-375	12/10/2007	0	0.5	pCi/g	0.30	U	0.21	0.30	-0.004	U	0.10	0.18	0.059	U	0.063	0.11	-0.006	U	0.062	0.12	-0.04	U	0.12	0.20
1IR-6B-10b	IR1-6B-10b	RANDOM	15-376	12/10/2007	0.5	1	pCi/g	0.30		0.11	0.19	0.03	U	0.25	0.44	-0.0002	U	0.033	0.061	-0.003	U	0.035	0.066	-0.011	U	0.083	0.15
B-1IR-7Aa	IR1-B-7Aa	BIASED	15-377	12/11/2007	3	3.5	pCi/g	0.48		0.15	0.23	0.02	U	0.26	0.45	0.014	U	0.031	0.053	0.0	U	0.051	0.092	0.018	U	0.063	0.11
B-1IR-7Ab	IR1-B-7Ab	BIASED	15-378	12/11/2007	3.5	4	pCi/g	0.49		0.16	0.26	0.033	U	0.092	0.16	0.016	U	0.044	0.077	-0.0008	U	0.056	0.11	-0.02	U	0.11	0.19
B-1IR-7Ba	IR1-B-7Ba	BIASED	15-380	12/11/2007	3	3.5	pCi/g	0.41		0.18	0.34	-0.01	U	0.11	0.19	0.062	U	0.051	0.078	0.007	U	0.049	0.093	0.007	U	0.12	0.22
B-1IR-7Bb	IR1-B-7Bb	BIASED	15-381	12/11/2007	3.5	4	pCi/g	0.81		0.23	0.36	-0.03	U	0.13	0.22	0.030	U	0.058	0.099	-0.004	U	0.065	0.13	-0.02	U	0.14	0.24
B-1IR-7Ca	IR1-B-7Ca	BIASED	15-382	12/11/2007	3	3.5	pCi/g	0.56		0.25	0.29	0.023	U	0.088	0.15	-0.06	U	0.28	0.13	0.032	U	0.061	0.11	-0.05	U	0.13	0.23
B-1IR-7Cb	IR1-B-7Cb	BIASED	15-383	12/11/2007	3.5	4	pCi/g	0.45		0.13	0.20	0.1	U	0.28	0.48	0.0	U	0.038	0.069	0.007	U	0.036	0.067	-0.016	U	0.082	0.14
B-1IR-7Da	IR1-B-7Da	BIASED	15-384	12/11/2007	3	3.5	pCi/g	0.48		0.17	0.30	0.058	U	0.087	0.14	0.029	U	0.047	0.079	0.0004	U	0.040	0.080	-0.036	U	0.098	0.17
B-1IR-7Db	IR1-B-7Db	BIASED	15-385	12/11/2007	3.5	4	pCi/g	0.54		0.19	0.30	0.027	U	0.092	0.16	0.051	U	0.051	0.080	0.006	U	0.047	0.092	-0.02	U	0.11	0.20
B-1IR-8Aa	IR1-B-8Aa	BIASED	15-386	12/11/2007	2	2.5	pCi/g	0.32		0.15	0.28	-0.06	U	0.10	0.17	0.015	U	0.038	0.066	-0.01	U	0.058	0.10	0.0	U	0.13	0.24
B-1IR-8Ab	IR1-B-8Ab	BIASED	15-387	12/11/2007	2.5	3	pCi/g	0.45		0.18	0.21	-0.040	U	0.098	0.17	0.013	U	0.042	0.075	0.0	U	0.008	0.033	-0.006	U	0.11	0.20
B-1IR-8Ba	IR1-B-8Ba	BIASED	15-388	12/11/2007	2	2.5	pCi/g	0.32		0.16	0.21	0.004	U	0.094	0.16	0.012	U	0.044	0.078	0.0006	U	0.052	0.098	0.059	U	0.096	0.16
B-1IR-8Bb	IR1-B-8Bb	BIASED	15-389	12/11/2007	2.5	3	pCi/g	0.36		0.18	0.15	0.0	U	0.12	0.22	-0.010	U	0.051	0.095	0.0	U	0.015	0.056	0.0	U	0.14	0.25
1IR-8AB-02a	IR1-8AB-02a	RANDOM	15-390	12/11/2007	0	0.5	pCi/g	0.38		0.16	0.28	0.036	U	0.081	0.14	-0.002	U	0.061	0.11	-0.0005	U	0.049	0.097	0.0003	U	0.098	0.18
1IR-8AB-02b	IR1-8AB-02b	RANDOM	15-391	12/11/2007	0.5	1	pCi/g	0.34		0.12	0.18	0.01	U	0.32	0.55	0.012	U	0.029	0.051	-0.005	U	0.031	0.058	-0.025	U	0.092	0.16
1IR-8AB-03a	IR1-8AB-03a	RANDOM	15-392	12/11/2007	0	0.5	pCi/g	0.24	U	0.14	0.30	0.0	U	0.092	0.16	0.184	J	0.063	0.068	-0.017	U	0.051	0.092	-0.025	U	0.092	0.16
1IR-8AB-03b	IR1-8AB-03b	RANDOM	15-393	12/11/2007	0.5	1	pCi/g	0.25		0.16	0.21	0.030	U	0.072	0.12	0.016	U	0.036	0.065	-0.0005	U	0.042	0.085	0.01	U	0.082	0.15
1IR-8AB-04a	IR1-8AB-04a	RANDOM	15-394	12/11/2007	0	0.5	pCi/g	0.38		0.15	0.27	0.051	U	0.090	0.15	0.258		0.066	0.039	0.024	U	0.046	0.080	-0.01	U	0.090	0.16
1IR-8AB-04b	IR1-8AB-04b	RANDOM	15-395	12/11/2007	0.5	1	pCi/g	0.24	U	0.18	0.27	0.020	U	0.087	0.15	0.033	U	0.047	0.078	-0.007	U	0.043	0.080	-0.011	U	0.091	0.16
1IR-8AB-05a	IR1-8AB-05a	RANDOM	15-396	12/11/2007	0	0.5	pCi/g	0.19	U	0.20	0.31	0.073	U	0.097	0.16	0.030	U	0.051	0.086	0.005	U	0.053	0.10	-0.006	U	0.11	0.20
1IR-8AB-05b	IR1-8AB-05b	RANDOM	15-397	12/11/2007	0.5	1	pCi/g	0.28	U	0.20	0.28	0.074	U	0.090	0.15	-0.03	U	0.94	0.12	0.0	U	0.071	0.13	0.03	U	0.10	0.18
B-1IR-8Ka	IR1-B-8Ka	BIASED	15-429	12/12/2007	0.5	1	pCi/g	0.32		0.19	0.25	0.026	U	0.080	0.14	0.048	U	0.058	0.10	0.0	U	0.014	0.051	-0.02	U	0.12	0.22
B-1IR-8Ca	IR1-B-8Ca	BIASED	15-398	12/12/2007	2	2.5	pCi/g	0.37		0.14	0.17	0.08	U	0.23	0.40	0.006	U	0.028	0.051	0.01	U	0.026	0.047	0.0	U	0.052	0.098
B-1IR-8Cb	IR1-B-8Cb	BIASED	15-399	12/12/2007	2.5	3	pCi/g	0.41		0.20	0.26	0.012	U	0.089	0.15	-0.009	U	0.042	0.076	0.0	U	0.058	0.11	0.008	U	0.086	0.16
B-1IR-8Kb	IR1-B-8Kb	BIASED	15-430	12/12/2007	1	1.5	pCi/g	0.33		0.15	0.20	0.005	U	0.21	0.38	0.011	U	0.026	0.047	0.004	U	0.034	0.064	0.003	U	0.077	0.14
B-1IR-8Da	IR1-B-8Da	BIASED	15-400	12/12/2007	2	2.5	pCi/g	0.39		0.19	0.22	0.004	U	0.084	0.15	0.013	U	0.036	0.065	0.0	U	0.057	0.11	-0.03	U	0.10	0.18
B-1IR-8Db	IR1-B-8Db	BIASED	15-401	12/12/2007	2.5	3	pCi/g	0.51		0.20	0.23	0.013	U	0.091	0.16	-0.004	U	0.038	0.070	0.0008	U	0.046	0.087	-0.001	U	0.089	0.16
1IR-8K-02a	IR1-8K-02a	RANDOM	15-432	12/12/2007	0	0.5	pCi/g	0.25	U	0.19	0.29	0.03	U	0.10	0.17	0.083	J	0.053	0.076	0.031	U	0.052	0.090	-0.04	U	0.11	0.19

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
1IR-8D-02a	IR1-8D-02a	RANDOM	15-402	12/12/2007	0	0.5	pCi/g	0.20	U	0.17	0.26	-0.019	U	0.092	0.16	0.027	U	0.040	0.067	0.0	U	0.046	0.087	-0.04	U	0.11	0.19
1IR-8K-02b	IR1-8K-02b	RANDOM	15-433	12/12/2007	0.5	1	pCi/g	0.40		0.12	0.15	0.15	U	0.26	0.43	0.021	U	0.035	0.059	0.0	U	0.050	0.091	0.003	U	0.071	0.13
1IR-8D-02b	IR1-8D-02b	RANDOM	15-403	12/12/2007	0.5	1	pCi/g	0.38		0.24	0.33	0.005	U	0.10	0.18	0.018	U	0.052	0.093	-0.003	U	0.058	0.11	-0.04	U	0.14	0.25
B-1IR-8Ea	IR1-B-8Ea	BIASED	15-404	12/12/2007	2	2.5	pCi/g	0.61		0.18	0.27	0.051	U	0.081	0.13	0.032	U	0.045	0.075	0.0	U	0.008	0.031	-0.01	U	0.10	0.18
B-1IR-8La	IR1-B-8La	BIASED	15-434	12/12/2007	0.5	1	pCi/g	0.34		0.21	0.31	0.027	U	0.095	0.16	0.033	U	0.038	0.061	-0.016	U	0.054	0.098	-0.018	U	0.095	0.17
B-1IR-8Eb	IR1-B-8Eb	BIASED	15-405	12/12/2007	2.5	3	pCi/g	0.32		0.18	0.25	0.050	U	0.093	0.16	-0.016	U	0.045	0.078	-0.0009	U	0.046	0.087	-0.0004	U	0.096	0.18
B-1IR-8Lb	IR1-B-8Lb	BIASED	15-435	12/12/2007	1	1.5	pCi/g	0.40		0.19	0.19	0.00006	U	0.073	0.13	0.012	U	0.053	0.095	0.003	U	0.054	0.11	0.02	U	0.11	0.20
1IR-8L-02a	IR1-8L-02a	RANDOM	15-436	12/12/2007	0	0.5	pCi/g	0.45		0.12	0.18	0.08	U	0.22	0.38	0.038	U	0.035	0.055	-0.0009	U	0.033	0.063	-0.027	U	0.098	0.17
1IR-8L-02b	IR1-8L-02b	RANDOM	15-437	12/12/2007	0.5	1	pCi/g	0.23	U	0.19	0.29	-0.007	U	0.085	0.15	0.0008	U	0.049	0.090	0.0	U	0.011	0.042	0.014	U	0.092	0.17
1IR-8E-02a	IR1-8E-02a	RANDOM	15-407	12/12/2007	0	0.5	pCi/g	0.28		0.18	0.25	0.033	U	0.090	0.15	0.144	J	0.072	0.097	0.0	U	0.013	0.049	0.06	U	0.12	0.20
1IR-8E-02b	IR1-8E-02b	RANDOM	15-408	12/12/2007	0.5	1	pCi/g	0.29		0.15	0.17	-0.016	U	0.062	0.11	0.025	U	0.047	0.088	0.025	U	0.037	0.061	-0.0005	U	0.082	0.15
B-1IR-8Fa	IR1-B-8Fa	BIASED	15-409	12/12/2007	2	2.5	pCi/g	0.48		0.14	0.18	-0.07	U	0.25	0.44	0.028	U	0.032	0.051	0.0	U	0.006	0.024	0.0	U	0.087	0.16
B-1IR-8Fb	IR1-B-8Fb	BIASED	15-410	12/12/2007	2.5	3	pCi/g	0.39		0.14	0.20	0.059	U	0.084	0.14	-0.004	U	0.038	0.071	0.0	U	0.098	0.17	-0.002	U	0.080	0.15
B-1IR-8Ma	IR1-B-8Ma	BIASED	15-438	12/12/2007	1	1.5	pCi/g	0.12	U	0.18	0.30	0.029	U	0.088	0.15	0.012	U	0.047	0.085	0.009	U	0.034	0.068	-0.016	U	0.098	0.18
B-1IR-8Mb	IR1-B-8Mb	BIASED	15-439	12/12/2007	1.5	2	pCi/g	0.35		0.24	0.33	-0.02	U	0.10	0.17	-0.04	U	160	0.1	0.022	U	0.055	0.099	0.050	U	0.099	0.17
1IR-8F-02a	IR1-8F-02a	RANDOM	15-411	12/12/2007	0	0.5	pCi/g	0.30	U	0.14	0.34	-0.0482	U	0.100	0.17	0.0	U	0.065	0.12	-0.006	U	0.050	0.097	-0.03	U	0.11	0.20
1IR-8F-02b	IR1-8F-02b	RANDOM	15-412	12/12/2007	0.5	1	pCi/g	0.40		0.19	0.24	0.014	U	0.091	0.16	0.013	U	0.042	0.075	0.008	U	0.042	0.080	-0.008	U	0.080	0.15
1IR-8M-02a	IR1-8M-02a	RANDOM	15-440	12/12/2007	0	0.5	pCi/g	0.50		0.15	0.18	0.14	U	0.28	0.47	0.124	J	0.045	0.037	0.0	U	0.051	0.093	-0.041	U	0.094	0.16
1IR-8M-02b	IR1-8M-02b	RANDOM	15-441	12/12/2007	0.5	1	pCi/g	0.32		0.20	0.28	0.017	U	0.091	0.16	-0.004	U	0.043	0.079	-0.015	U	0.053	0.097	-0.002	U	0.086	0.16
B-1IR-8Ga	IR1-B-8Ga	BIASED	15-413	12/12/2007	2	2.5	pCi/g	0.33		0.15	0.23	-0.05	U	0.11	0.19	0.055	U	0.052	0.081	-0.015	U	0.054	0.10	0.0003	U	0.093	0.17
B-1IR-8Gb	IR1-B-8Gb	BIASED	15-414	12/12/2007	2.5	3	pCi/g	0.43		0.13	0.17	0.09	U	0.28	0.47	0.0001	U	0.029	0.054	-0.003	U	0.039	0.072	0.004	U	0.079	0.14
1IR-8G-02a	IR1-8G-02a	RANDOM	15-415	12/12/2007	0	0.5	pCi/g	0.35		0.21	0.29	0.063	U	0.087	0.14	0.041	U	0.041	0.065	0.002	U	0.051	0.097	-0.014	U	0.094	0.17
1IR-8G-02b	IR1-8G-02b	RANDOM	15-416	12/12/2007	0.5	1	pCi/g	0.26	U	0.19	0.27	0.079	U	0.057	0.083	-0.005	U	0.039	0.074	-0.005	U	0.033	0.068	0.0	U	0.10	0.19
B-1IR-9Aa	IR1-B-9Aa	BIASED	15-442	12/12/2007	2	2.5	pCi/g	0.39		0.16	0.24	-0.035	U	0.096	0.16	0.056	U	0.049	0.074	-0.0004	U	0.047	0.093	-0.005	U	0.092	0.17
B-1IR-8Ha	IR1-B-8Ha	BIASED	15-417	12/12/2007	2	2.5	pCi/g	0.26		0.17	0.22	0.031	U	0.083	0.14	0.018	U	0.049	0.096	0.002	U	0.053	0.10	-0.02	U	0.11	0.20
B-1IR-9Ab	IR1-B-9Ab	BIASED	15-443	12/12/2007	2.5	3	pCi/g	0.34		0.21	0.28	-0.038	U	0.094	0.16	-0.02	U	0.17	0.11	0.028	U	0.051	0.090	-0.02	U	0.11	0.20
B-1IR-8Hb	IR1-B-8Hb	BIASED	15-418	12/12/2007	2.5	3	pCi/g	0.46		0.14	0.14	-0.06	U	0.28	0.48	0.035	U	0.030	0.046	-0.011	U	0.037	0.067	0.017	U	0.080	0.14
1IR-8H02a	IR1-8H-02a	RANDOM	15-419	12/12/2007	0	0.5	pCi/g	0.38		0.15	0.26	0.0	U	0.098	0.17	0.020	U	0.050	0.086	0.001	U	0.050	0.096	-0.04	U	0.10	0.18
1IR-8H-02b	IR1-8H-02b	RANDOM	15-420	12/12/2007	0.5	1	pCi/g	0.27	U	0.19	0.27	-0.06	U	0.11	0.18	-0.0002	U	0.049	0.091	0.0006	U	0.042	0.086	-0.01	U	0.11	0.20
1IR-9A-02a	IR1-9A-02a	RANDOM	15-444	12/12/2007	0	0.5	pCi/g	0.31		0.10	0.17	0.06	U	0.28	0.48	0.099	J	0.036	0.039	-0.00005	U	0.026	0.052	-0.012	U	0.082	0.15
1IR-9A-02b	IR1-9A-02b	RANDOM	15-445	12/12/2007	0.5	1	pCi/g	0.44		0.16	0.27	0.044	U	0.070	0.12	0.013	U	0.039	0.070	0.0	U	0.009	0.037	-0.0002	U	0.079	0.15
1IR-9A-03a	IR1-9A-03a	RANDOM	15-446	12/12/2007	0	0.5	pCi/g	0.52		0.19	0.24	0.008	U	0.099	0.17	0.013	U	0.039	0.070	0.0	U	0.012	0.046	-0.008	U	0.12	0.22
B-1IR-8Ia	IR1-B-8Ia	BIASED	15-421	12/12/2007	2	2.5	pCi/g	0.41		0.21	0.24	-0.001	U	0.094	0.16	-0.02	U	0.22	0.12	0.027	U	0.063	0.11	0.06	U	0.11	0.19
B-1IR-8Ib	IR1-B-8Ib	BIASED	15-422	12/12/2007	2.5	3	pCi/g	0.34		0.11	0.14	-0.01	U	0.28	0.48	0.030	U	0.030	0.047	-0.008	U	0.037	0.067	-0.024	U	0.084	0.15
1IR-9A-03b	IR1-9A-03b	RANDOM	15-447	12/12/2007	0.5	1	pCi/g	0.23	U	0.18	0.26	0.029	U	0.075	0.13	-0.02	U	0.26	0.11	0.030	U	0.057	0.099	0.05	U	0.11	0.19
1IR-8I-02a	IR1-8I-02a	RANDOM	15-423	12/12/2007	0	0.5	pCi/g	0.23	U	0.17	0.26	0.046	U	0.077	0.13	0.125	J	0.050	0.057	-0.011	U	0.051	0.094	0.035	U	0.067	0.12
1IR-8I-02b	IR1-8I-02b	RANDOM	15-424	12/12/2007	0.5	1	pCi/g	0.23	U	0.18	0.27	0.0	U	0.099	0.17	0.104	J	0.057	0.076	0.002	U	0.051	0.10	0.026	U	0.087	0.16
1IR-9A-04a	IR1-9A-04a	RANDOM	15-448	12/12/2007	0	0.5	pCi/g	0.232		0.092	0.16	0.06	U	0.19	0.34	0.065	J	0.033	0.043	-0.0008	U	0.025	0.049	0.003	U	0.061	0.11
B-1IR-8Ja	IR1-B-8Ja	BIASED	15-425	12/12/2007	2	2.5	pCi/g	0.28	U	0.21	0.31	0.0008	U	0.090	0.16	0.076	U	0.064	0.11	-0.026	U	0.076	0.14	-0.03	U	0.11	0.20
1IR-9A-04 b	IR1-9A-04b	RANDOM	15-449	12/12/2007	0.5	1	pCi/g	0.36		0.19	0.23	0.032	U	0.080	0.14	-0.03	U	0.97	0.13	0.022	U	0.043	0.077	-0.017	U	0.092	0.17
B-1IR-8Jb	IR1-B-8Jb	BIASED	15-426	12/12/2007	2.5	3	pCi/g	0.35		0.13	0.21	0.09	U	0.28	0.48	0.040	U	0.034	0.052	-0.005	U	0.030	0.057	-0.003	U	0.057	0.11
1IR-8J-02a	IR1-8J-02a	RANDOM	15-427	12/12/2007	0	0.5	pCi/g	0.22	U	0.17	0.24	-0.05	U	0.10	0.17	0.102	J	0.051	0.064	-0.002	U	0.051	0.098	0.02	U	0.10	0.18
1IR-8J-02b	IR1-8J-02b	RANDOM	15-428	12/12/2007	0.5	1	pCi/g	0.19	U	0.19	0.29	-0.020	U	0.093	0.16	-0.001	U	0.033	0.066	0.0	U	0.013	0.047	0.002	U	0.082	0.16
1IR-9A-05a	IR1-9A-05a	RANDOM	15-450	12/12/2007	0	0.5	pCi/g	0.38		0.15	0.25	0.008	U	0.078	0.13	0.105	J	0.055	0.074	0.012	U	0.041	0.076	0.001	U	0.084	0.15
1IR-9A-05b	IR1-9A-05b	RANDOM	15-451	12/12/2007	0.5	1	pCi/g	0.37		0.22	0.30	-0.017	U	0.089	0.15	0.0	U	0.062	0.11	-0.007	U	0.051	0.097	0.024	U	0.077	0.14
1IR-9A-06a	IR1-9A-06a	RANDOM	15-452	12/12/2007	0	0.5	pCi/g	0.26	U	0.14	0.28	0.063	U	0.091	0.15	0.045	U	0.049	0.078	0.0	U	0.10	0.18	-0.03	U	0.13	0.22
1IR-9A-06b	IR1-9A-06b	RANDOM	15-453	12/12/2007	0.5	1	pCi/g	0.39	U	0.30	0.46	-0.005	U	0.13	0.23	-0.003	U	0.053	0.10	0.037	U	0.054	0.090	0.01	U	0.13	0.24
B-1IR-11a	IR1-B-11a	BIASED	15-462	12/12/2007	2	2.5	pCi/g	0.15	U	0.17	0.28	-0.0004	U	0.070	0.12	0.006	U	0.043	0.088	0.0	U	0.065	0.12	-0.009	U	0.066	0.13
B-1IR-11b	IR1-B-11b	BIASED	15-463	12/12/2007	2.5	3	pCi/g	0.38		0.11	0.14	0.03	U	0.25	0.43	-0.010	U	0.033	0.058	0.0	U	0.054	0.097	-0.029	U	0.076	0.13
1IR-9A-07a	IR1-9A-07a	RANDOM	15-454	12/12/2007	0	0.5	pCi/g	0.20	U	0.19	0.30	0.050	U	0.073	0.12	0.171	J	0.073	0.10	0.0	U	0.013	0.047	-0.002	U	0.088	0.16
1IR-11-02a	IR1-11-02a	RANDOM	15-465	12/12/2007	0	0.5	pCi/g	0.31		0.12	0.21	0.004	U	0.079	0.14	0.058	U	0.044	0.066	0.002	U	0.047	0.088	-0.014	U	0.081	0.14
1IR-11-02b	IR1-11-02b	RANDOM	15-466	12/12/2007	0.5	1	pCi/g	0.27		0.14	0.26	-0.033	U	0.087	0.15	0.030	U	0.035	0.056	-0.014	U	0.046	0.084	0.0	U	0.10	0.19
1IR-9A-07b	IR1-9A-07b	RANDOM	15-455	12/12/2007	0.5	1	pCi/g	0.39		0.13	0.18	0.03	U	0.25	0.44	0.0	U	0.043	0.077	-0.008	U	0.038	0.068	-0.005	U	0.070	0.13
1IR-9A-08a	IR1-9A-08a	RANDOM	15-456	12/12/2007	0	0.5	pCi/g	0.25		0.15	0.20	-0.002	U	0.083	0.14	0.01	U	0.043	0.078	0.0	U	0.057	0.11	0.0	U	0.13	0.23
1IR-9A-08b	IR1-9A-08b	RANDOM	15-457	12/12/2007	0.5	1	pCi/g	0.34		0.21	0.28	0.035	U	0.096	0.16	-0.016	U	0.049	0.088	-0.009	U	0.054	0.10	-0.0008	U	0.11	0.20
1IR-9A-09a	IR1-9A-09a	RANDOM	15-458	12/12/2007	0	0.5	pCi/g	0.36		0.17	0.23	0.031	U	0.088	0.15	0.084	U	0.058	0.088	0.005	U	0.049	0.090	0.003	U	0.10	0.18
B-1IR-12a	IR1-B-12a	BIASED	15-467	12/12/2007	2	2.5	pCi/g	0.0	U	0.23	0.40	0.04	U	0.18	0.30	-0.021	U	0.071	0.12	-0.025	U	0.076	0.13	0.29	U	0.17	0.32
B-1IR-12b	IR1-B-12b	BIASED	15-468	12/12/2007	2.5	3	pCi/g	0.41	U	0.49	0.80	0.14	U	0.36	0.59	-0.07	U	0.14	0.23	0.05	U	0.13	0.22	1.13		0.36	0.75
1IR-9A-09b	IR1-9A-09b	RANDOM	15-459	12/12/2007	0.5	1	pCi/g	0.27		0.16	0.22	0.008	U	0.079	0.14	0.051	U	0.042	0.065	0.004	U	0.044	0.082	0.006	U	0.091	0.16
1IR-9A-10a	IR1-9A-10a	RANDOM	15-460	12/12/2007	0	0.5	pCi/g	0.35		0.20	0.26	0.033	U	0.097	0.17	0.056	U	0.052	0.080	0.0	U	0.014	0.051	0.005	U	0.096	0.18
1IR-9A-10b	IR1-9A-10b	RANDOM	15-461	12/12/2007	0.5	1	pCi/g	0.28	U	0.21	0.30	0.053	U	0.090	0.15	-0.02	U	0.23	0.11	-0.003	U	0.060	0.12	-0.02	U	0.11	0.19
1IR-12-02a	IR1-12-02a	RANDOM	15-469	12/12/2007	0	0.5	pCi/g	0.27	U	0.22	0.32	0.0	U	0.078	0.14	-0.008	U	0.083	0.10	0.0	U	0.013	0.047	-0.03	U	0.12	0.21
1IR-12-02b	IR1-12-02b	RANDOM	15-470	12/12/2007	0.5	1	pCi/g	0.29		0.11	0.17	0.03	U	0.26	0.45	0.014	U	0.022	0.038	-0.004	U	0.025	0.047	0.034	U	0.067	0.11
1IR-12-03a	IR1-12-03a	RANDOM	15-471	12/12/2007	2	2.5	pCi/g	0.35	U	0.24	0.37	-0.04	U	0.18	0.30	-0.011	U	0.066	0.11	0.014	U	0.054	0.097	-0.002	U	0.19	0.33
1IR-12-03b	IR1-12-03b	RANDOM	15-472	12/12/2007	2.5	3	pCi/g	0.18	U	0.18	0.28	0.0	U	0.11	0.19	0.047	U	0.046	0.073	0.025	U	0.055	0.096	-0.0001	U	0.10	0.19
1IR-12-04a	IR1-12-04a	RANDOM	15-473	12/12/2007	2	2.5	pCi/g	0.62		0.30	0.42	-0.0001	U	0.16	0.28	0.0	U	0.10	0.18	-0.015	U	0.069	0.12	0.15	U	0.15	0.25
1IR-12-04b	IR1-12-04b	RANDOM	15-474	12/12/2007	2.5	3	pCi/g	0.47		0.29	0.42	-0.009	U	0.18	0.31	-0.017	U	0.084	0.15	-0.031	U	0.094	0.16	-0.001	U	0.17	0.30
1IR-12-05a	IR1-12-05a	RANDOM	15-475	12/12/2007	0	0.5	pCi/g	0.41		0.23	0.32	-0.027	U	0.094	0.16	0.071	U	0.054	0.080	0.0	U	0.071	0.13	-0.01	U	0.079	0.15
1IR-12-05b	IR1-12-05b	RANDOM	15-476	12/12/2007	0.5	1	pCi/g	0.33		0.19	0.26	-0.012	U	0.094	0.16	0.082	U	0.057	0.091	0.0002	U	0.047	0.092	0.020	U	0.095	0.17
B-1IR-13Ba	IR1-B-13Ba	BIASED	15-477	12/13/2007	2	2.5	pCi/g	0.22	U	0.25	0.41	-0.12	U	0.18	0.29	-0.02	U	0.26	0.12	0.011	U	0.076	0.14	0.02	U	0.22	0.37

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-1IR-13Bb	IR1-B-13Bb	BIASED	15-478	12/13/2007	2.5	3	pCi/g	0.18	U	0.16	0.25	-0.08	U	0.47	0.79	-0.012	U	0.041	0.072	-0.004	U	0.044	0.079	0.02	U	0.13	0.23
1IR-18ABC-01a	IR1-18ABC-01a	RANDOM	15-508	12/13/2007	0	0.5	pCi/g	0.27		0.17	0.25	0.049	U	0.082	0.14	0.017	U	0.039	0.068	0.0002	U	0.031	0.063	0.02	U	0.12	0.21
1IR-13B-02a	IR1-13B-02a	RANDOM	15-479	12/13/2007	0	0.5	pCi/g	0.29		0.19	0.28	0.016	U	0.077	0.13	0.006	U	0.032	0.060	0.013	U	0.041	0.076	0.0008	U	0.089	0.16
1IR-18ABC-01b	IR1-18ABC-01b	RANDOM	15-509	12/13/2007	0.5	1	pCi/g	0.38		0.18	0.23	-0.0005	U	0.078	0.14	0.0	U	0.037	0.069	-0.0001	U	0.042	0.081	-0.02	U	0.10	0.18
1IR-13B-02b	IR1-13B-02b	RANDOM	15-480	12/13/2007	0.5	1	pCi/g	0.22	U	0.16	0.24	-0.003	U	0.095	0.16	0.022	U	0.040	0.068	-0.002	U	0.038	0.072	-0.0276	U	0.099	0.17
1IR-13B-03a	IR1-13B-03a	RANDOM	15-481	12/13/2007	2	2.5	pCi/g	0.08	U	0.18	0.30	-0.006	U	0.086	0.15	0.003	U	0.046	0.084	0.008	U	0.041	0.076	0.0	U	0.14	0.24
1IR-13B-03b	IR1-13B-03b	RANDOM	15-482	12/13/2007	2.5	3	pCi/g	0.20	U	0.23	0.38	0.026	U	0.080	0.14	0.01	U	0.056	0.10	0.002	U	0.070	0.13	-0.004	U	0.11	0.20
1IR-13B-04a	IR1-13B-04a	RANDOM	15-483	12/13/2007	0	0.5	pCi/g	0.27		0.19	0.27	0.05	U	0.10	0.17	0.002	U	0.054	0.11	0.016	U	0.042	0.077	0.05	U	0.11	0.20
1IR-13B-04b	IR1-13B-04b	RANDOM	15-484	12/13/2007	0.5	1	pCi/g	0.23		0.14	0.21	0.09	U	0.29	0.50	0.011	U	0.028	0.049	0.0001	U	0.026	0.050	0.0007	U	0.077	0.14
1IR-13B-05a	IR1-13B-05a	RANDOM	15-485	12/13/2007	2	2.5	pCi/g	0.27		0.16	0.22	-0.035	U	0.080	0.13	0.019	U	0.039	0.067	0.0	U	0.009	0.035	0.016	U	0.070	0.13
1IR-13B-05b	IR1-13B-05b	RANDOM	15-486	12/13/2007	2.5	3	pCi/g	0.28		0.18	0.26	0.007	U	0.069	0.12	0.007	U	0.031	0.058	0.0	U	0.010	0.038	-0.021	U	0.097	0.17
1IR-18ABC-02a	IR1-18ABC-02a	RANDOM	15-511	12/13/2007	0	0.5	pCi/g	0.37		0.23	0.32	-0.02	U	0.11	0.19	0.049	U	0.051	0.081	0.0	U	0.082	0.15	-0.007	U	0.096	0.18
1IR-18ABC-02b	IR1-18ABC-02b	RANDOM	15-512	12/13/2007	0.5	1	pCi/g	0.16	U	0.21	0.34	-0.022	U	0.091	0.16	0.003	U	0.056	0.11	0.018	U	0.061	0.11	-0.03	U	0.12	0.21
B-1IR-21a	IR1-B-21a	BIASED	15-550	12/13/2007	2	2.5	pCi/g	0.44		0.26	0.35	-0.04	U	0.11	0.19	-0.04	U	1.4	0.2	-0.005	U	0.069	0.13	-0.0006	U	0.11	0.21
1IR-18ABC-03a	IR1-18ABC-03a	RANDOM	15-513	12/13/2007	0	0.5	pCi/g	0.33		0.12	0.19	-0.002	U	0.30	0.53	0.184	J	0.056	0.044	-0.005	U	0.037	0.067	0.001	U	0.078	0.14
B-1IR-21b	IR1-B-21b	BIASED	15-551	12/13/2007	2.5	3	pCi/g	0.32		0.15	0.20	0.0	U	0.28	0.50	-0.001	U	0.029	0.054	0.006	U	0.033	0.062	0.003	U	0.080	0.15
1IR-18ABC-03b	IR1-18ABC-03b	RANDOM	15-514	12/13/2007	0.5	1	pCi/g	0.13	U	0.16	0.26	0.019	U	0.062	0.11	-0.003	U	0.039	0.073	0.0	U	0.10	0.18	-0.005	U	0.085	0.16
B-1IR-15a	IR1-B-15a	BIASED	15-487	12/13/2007	2	2.5	pCi/g	0.23	U	0.16	0.24	0.021	U	0.094	0.16	0.003	U	0.037	0.068	0.0	U	0.008	0.030	0.0	U	0.11	0.20
B-1IR-15b	IR1-B-15b	BIASED	15-488	12/13/2007	2.5	3	pCi/g	0.31		0.20	0.27	0.033	U	0.095	0.16	-0.0006	U	0.051	0.096	-0.004	U	0.060	0.12	-0.01	U	0.12	0.21
1IR-18ABC-04a	IR1-18ABC-04a	RANDOM	15-515	12/13/2007	2	2.6	pCi/g	0.40		0.21	0.28	-0.034	U	0.097	0.17	0.0	U	0.043	0.082	-0.008	U	0.054	0.10	0.037	U	0.088	0.15
1IR-21-02a	IR1-21-02a	RANDOM	15-553	12/13/2007	2	2.5	pCi/g	0.28	U	0.13	0.34	0.065	U	0.092	0.15	0.023	U	0.045	0.077	0.014	U	0.048	0.089	0.0	U	0.10	0.19
1IR-15-02a	IR1-15-02a	RANDOM	15-490	12/13/2007	0	0.5	pCi/g	0.20	U	0.20	0.31	0.069	U	0.085	0.14	0.012	U	0.055	0.11	0.022	U	0.034	0.058	0.008	U	0.098	0.18
1IR-18ABC-05a	IR1-18ABC-05a	RANDOM	15-516	12/13/2007	2	2.6	pCi/g	0.18	U	0.14	0.20	0.026	U	0.093	0.16	0.004	U	0.036	0.066	0.017	U	0.043	0.077	-0.02	U	0.10	0.18
1IR-15-02b	IR1-15-02b	RANDOM	15-491	12/13/2007	0.5	1	pCi/g	0.36		0.14	0.18	0.01	U	0.22	0.39	0.058	J	0.034	0.049	-0.00005	U	0.029	0.056	0.045	U	0.065	0.11
1IR-21-02b	IR1-21-02b	RANDOM	15-554	12/13/2007	2.5	3	pCi/g	0.25	U	0.20	0.29	-0.0307	U	0.099	0.17	0.0	U	0.032	0.065	0.0	U	0.070	0.13	-0.03	U	0.12	0.21
B-1IR-16a	IR1-B-16a	BIASED	15-492	12/13/2007	2	2.5	pCi/g	0.31		0.14	0.26	0.044	U	0.078	0.13	0.023	U	0.042	0.073	0.0	U	0.009	0.035	-0.029	U	0.096	0.17
1IR-18ABC-05b	IR1-18ABC-05b	RANDOM	15-517	12/13/2007	2.6	3	pCi/g	0.24	U	0.17	0.26	0.0004	U	0.083	0.15	-0.005	U	0.044	0.080	0.0	U	0.051	0.095	0.027	U	0.096	0.17
B-1IR-16b	IR1-B-16b	BIASED	15-493	12/13/2007	2.5	3	pCi/g	0.36		0.16	0.17	0.0	U	0.088	0.15	0.022	U	0.043	0.074	0.0	U	0.057	0.11	0.003	U	0.094	0.17
1IR-21-03a	IR1-21-03a	RANDOM	15-555	12/13/2007	2	2.5	pCi/g	0.39		0.22	0.32	0.070	U	0.076	0.12	-0.004	U	0.039	0.072	0.0	U	0.009	0.035	-0.06	U	0.13	0.22
1IR-16-02a	IR1-16-02a	RANDOM	15-496	12/13/2007	2	2.5	pCi/g	0.35		0.15	0.18	0.067	U	0.081	0.13	0.021	U	0.042	0.072	-0.007	U	0.038	0.071	0.03	U	0.10	0.18
1IR-21-03b	IR1-21-03b	RANDOM	15-556	12/13/2007	2.5	3	pCi/g	0.31	U	0.21	0.32	0.073	U	0.091	0.15	0.017	U	0.049	0.086	-0.011	U	0.051	0.092	-0.02	U	0.10	0.18
1IR-16-02b	IR1-16-02b	RANDOM	15-497	12/13/2007	2.5	3	pCi/g	0.38		0.20	0.35	-0.002	U	0.099	0.17	0.018	U	0.056	0.099	0.014	U	0.056	0.11	-0.006	U	0.093	0.17
1IR-21-04a	IR1-21-04a	RANDOM	15-557	12/13/2007	2	2.5	pCi/g	0.60		0.28	0.34	0.04	U	0.13	0.22	0.01	U	0.053	0.098	0.0	U	0.016	0.059	0.001	U	0.16	0.28
1IR-18ABC-06a	IR1-18ABC-06a	RANDOM	15-518	12/13/2007	0	0.5	pCi/g	0.26	U	0.18	0.27	-0.04	U	0.10	0.18	0.269		0.059	0.022	-0.001	U	0.043	0.083	-0.04	U	0.12	0.21
1IR-21-04b	IR1-21-04b	RANDOM	15-558	12/13/2007	2.5	3	pCi/g	0.50		0.18	0.30	0.03	U	0.10	0.17	-0.04	U	0.51	0.09	0.023	U	0.066	0.12	0.03	U	0.10	0.19
1IR-18ABC006b	IR1-18ABC-06b	RANDOM	15-519	12/13/2007	0.5	1	pCi/g	0.30		0.17	0.23	0.025	U	0.091	0.15	0.002	U	0.044	0.080	-0.004	U	0.044	0.083	-0.04	U	0.11	0.19
B-1IR-17a	IR1-B-17a	BIASED	15-498	12/13/2007	2	2.5	pCi/g	0.22	U	0.21	0.33	-0.004	U	0.078	0.14	-0.01	U	0.12	0.11	0.0	U	0.074	0.14	-0.018	U	0.093	0.17
1IR-21-05a	IR1-21-05a	RANDOM	15-559	12/13/2007	0	0.5	pCi/g	0.39		0.13	0.19	-0.11	U	0.34	0.57	0.046	U	0.040	0.062	0.0	U	0.055	0.10	-0.019	U	0.090	0.16
B-1IR-17b	IR1-B-17b	BIASED	15-499	12/13/2007	2.5	3	pCi/g	0.39		0.14	0.16	-0.10	U	0.29	0.49	-0.009	U	0.034	0.060	-0.012	U	0.034	0.062	0.029	U	0.070	0.12
1IR-18ABC-07a	IR1-18ABC-07a	RANDOM	15-520	12/13/2007	2	2.6	pCi/g	0.27	U	0.20	0.28	0.009	U	0.070	0.12	-0.01	U	0.051	0.093	0.017	U	0.030	0.053	0.020	U	0.089	0.16
1IR-17-02a	IR1-17-02a	RANDOM	15-500	12/13/2007	2	2.5	pCi/g	0.43		0.20	0.24	0.047	U	0.083	0.14	-0.001	U	0.039	0.072	0.009	U	0.047	0.088	0.060	U	0.094	0.16
1IR-21095b	IR1-21-05b	RANDOM	15-560	12/13/2007	0.5	1	pCi/g	0.16	U	0.25	0.42	0.005	U	0.10	0.18	0.020	U	0.066	0.12	0.01	U	0.055	0.11	-0.001	U	0.12	0.22
1IR-18ABC-07b	IR1-18ABC-07b	RANDOM	15-521	12/13/2007	2.6	3	pCi/g	0.18	U	0.19	0.30	0.034	U	0.082	0.14	-0.03	U	0.84	0.10	0.006	U	0.051	0.099	0.007	U	0.094	0.17
1IR-17-02b	IR1-17-02b	RANDOM	15-501	12/13/2007	2.5	3	pCi/g	0.34		0.20	0.26	-0.01	U	0.11	0.18	0.0	U	0.042	0.080	-0.004	U	0.047	0.093	-0.002	U	0.083	0.16
1IR-18ABC-08a	IR1-18ABC-08a	RANDOM	15-522	12/13/2007	2	2.6	pCi/g	0.33		0.12	0.20	0.12	U	0.22	0.37	-0.002	U	0.029	0.054	0.0	U	0.043	0.079	-0.021	U	0.082	0.14
1IR-18ABC-08b	IR1-18ABC-08b	RANDOM	15-523	12/13/2007	2.6	3	pCi/g	0.18	U	0.17	0.26	0.050	U	0.083	0.14	0.014	U	0.038	0.068	-0.001	U	0.046	0.091	-0.008	U	0.088	0.16
B-1IR-22a	IR1-B-22a	BIASED	15-561	12/13/2007	2	2.5	pCi/g	0.28	U	0.21	0.31	0.01	U	0.083	0.15	-0.05	U	0.35	0.12	0.030	U	0.064	0.11	0.0001	U	0.079	0.15
1IR-18ABC-09a	IR1-18ABC-09a	RANDOM	15-524	12/13/2007	2	2.6	pCi/g	0.25	U	0.20	0.29	-0.02	U	0.10	0.17	-0.002	U	0.044	0.081	-0.014	U	0.064	0.12	-0.01	U	0.10	0.18
B-1IR-22b	IR1-B-22b	BIASED	15-562	12/13/2007	2.5	3	pCi/g	0.35		0.15	0.18	-0.07	U	0.32	0.55	0.013	U	0.030	0.053	-0.0008	U	0.032	0.063	-0.007	U	0.075	0.14
B-1IR-18Aa	IR1-B-18Aa	BIASED	15-502	12/13/2007	2	2.5	pCi/g	0.15	U	0.15	0.24	-0.029	U	0.086	0.15	0.006	U	0.035	0.063	-0.0005	U	0.040	0.075	0.004	U	0.077	0.14
1IR-18ABC-09b	IR1-18ABC-09b	RANDOM	15-525	12/13/2007	2.6	3	pCi/g	0.27		0.18	0.26	0.032	U	0.092	0.16	0.003	U	0.038	0.070	0.00004	U	0.052	0.097	0.07	U	0.10	0.17
B-1IR-18Ab	IR1-B-18Ab	BIASED	15-503	12/13/2007	2.5	3	pCi/g	0.41		0.16	0.18	0.004	U	0.093	0.16	0.010	U	0.039	0.069	-0.003	U	0.043	0.080	-0.03	U	0.10	0.18
B-1IR-18Ba	IR1-B-18Ba	BIASED	15-504	12/13/2007	2	2.5	pCi/g	0.22	U	0.19	0.30	0.053	U	0.085	0.14	0.025	U	0.050	0.087	0.004	U	0.046	0.091	0.02	U	0.13	0.22
B-1IR-18Bb	IR1-B-18Bb	BIASED	15-505	12/13/2007	2.5	3	pCi/g	0.43		0.17	0.28	-0.03	U	0.11	0.19	0.0008	U	0.054	0.11	-0.005	U	0.043	0.086	0.012	U	0.098	0.18
1IR-18ABC-10a	IR1-18ABC-10a	RANDOM	15-526	12/13/2007	2	2.6	pCi/g	0.25		0.16	0.24	0.029	U	0.078	0.13	0.113	J	0.051	0.069	0.009	U	0.042	0.076	-0.015	U	0.090	0.16
1IR-22-02a	IR1-22-02a	RANDOM	15-563	12/13/2007	2	2.5	pCi/g	0.36		0.18	0.20	0.038	U	0.083	0.14	-0.016	U	0.045	0.079	0.024	U	0.046	0.080	-0.023	U	0.099	0.18
1IR-18ABC-10b	IR1-18ABC-10b	RANDOM	15-527	12/13/2007	2.6	3	pCi/g	0.20	U	0.21	0.33	0.07	U	0.10	0.17	-0.001	U	0.047	0.089	0.0	U	0.013	0.050	-0.02	U	0.14	0.25
B-1IR-18Ca	IR1-B-18Ca	BIASED	15-506	12/13/2007	2	2.5	pCi/g	0.27		0.13	0.16	0.06	U	0.20	0.35	0.001	U	0.027	0.050	0.01	U	0.027	0.049	0.0	U	0.076	0.14
1IR-22-02b	IR1-22-02b	RANDOM	15-564	12/13/2007	2.5	3	pCi/g	0.42		0.23	0.32	0.060	U	0.076	0.12	-0.007	U	0.049	0.088	-0.013	U	0.064	0.11	0.03	U	0.11	0.19
B-1IR-18Cb	IR1-B-18Cb	BIASED	15-507	12/13/2007	2.5	3	pCi/g	0.37		0.16	0.18	0.0001	U	0.078	0.14	0.033	U	0.044	0.072	0.0	U	0.009	0.035	0.004	U	0.080	0.15
1IR-22-03a	IR1-22-03a	RANDOM	15-565	12/13/2007	0	0.5	pCi/g	0.44		0.18	0.21	-0.004	U	0.098	0.17	0.012	U	0.038	0.068	-0.005	U	0.053	0.098	0.0	U	0.12	0.21
1IR-22-03b	IR1-22-03b	RANDOM	15-566	12/13/2007	0.5	1	pCi/g	0.39		0.24	0.33	0.001	U	0.078	0.14	0.0	U	0.009	0.036	0.011	U	0.052	0.10	0.03	U	0.12	0.21
B-1IR-19a	IR1-B-19a	BIASED	15-528	12/13/2007	2	2.6	pCi/g	0.39		0.16	0.31	0.015	U	0.089	0.15	0.020	U	0.047	0.082	0.011	U	0.044	0.082	-0.02	U	0.12	0.21
1IR-22-04a	IR1-22-04a	RANDOM	15-567	12/13/2007	0	0.5	pCi/g	0.16	U	0.21	0.35	0.060	U	0.092	0.15	0.030	U	0.062	0.12	0.011	U	0.059	0.11	0.12	U	0.12	0.19
B-1IR-24a	IR1-B-24a	BIASED	15-581	12/13/2007	2	2.5	pCi/g	0.20	U	0.19	0.29	-0.027	U	0.086	0.15	0.003	U	0.041	0.075	0.0008	U	0.048	0.091	0.063	U	0.093	0.16
B-1IR-19b	IR1-B-19b	BIASED	15-529	12/13/2007	2.6	3	pCi/g	0.44		0.20	0.21	0.0	U	0.093	0.16	0.0	U	0.043	0.081	-0.006	U	0.052	0.099	0.059	U	0.097	0.17
B-1IR-24b	IR1-B-24b	BIASED	15-582	12/13/2007	2.5	3	pCi/g	0.33		0.14	0.24	0.028	U	0.096	0.16	0.059	U	0.050	0.077	0.018	U	0.052	0.093	0.045	U	0.098	0.17
1IR-22-04b	IR1-22-04b	RANDOM	15-568	12/13/2007	0.5	1	pCi/g	0.41		0.14	0.18	-0.12	U	0.30	0.50	0.01	U	0.024	0.042	-0.011	U	0.032	0.058	0.008	U	0.081	0.15
1IR-22-05a	IR1-22-05a	RANDOM	15-569	12/13/2007	0	0.5	pCi/g	0.19	U	0.19	0.30	-0.012	U	0.093	0.16	0.068	U	0.051	0.075	0.009	U	0.048	0.091	-0.02	U	0.11	0.20

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
1IR-24-02a	IR1-24-02a	RANDOM	15-584	12/13/2007	0	0.5	pCi/g	0.29	U	0.24	0.35	-0.006	U	0.087	0.16	0.163	J	0.078	0.098	0.0	U	0.016	0.059	0.03	U	0.12	0.21
1IR-24-02b	IR1-24-02b	RANDOM	15-585	12/13/2007	0.5	1	pCi/g	0.24	U	0.20	0.29	0.031	U	0.096	0.17	-0.03	U	0.52	0.12	-0.0002	U	0.049	0.10	-0.05	U	0.13	0.23
1IR-19-02a	IR1-19-02a	RANDOM	15-532	12/13/2007	0	0.5	pCi/g	0.34		0.22	0.33	0.029	U	0.096	0.16	0.062	U	0.056	0.087	0.022	U	0.051	0.089	0.01	U	0.10	0.19
1IR-22-05b	IR1-22-05b	RANDOM	15-570	12/13/2007	0.5	1	pCi/g	0.24		0.17	0.23	0.005	U	0.075	0.13	-0.013	U	0.052	0.094	-0.012	U	0.062	0.12	-0.005	U	0.11	0.20
1IR-19-02b	IR1-19-02b	RANDOM	15-533	12/13/2007	0.5	1	pCi/g	0.39		0.16	0.26	-0.026	U	0.092	0.16	0.0	U	0.053	0.096	0.0	U	0.053	0.10	0.0	U	0.11	0.19
B-1IR-23a	IR1-B-23a	BIASED	15-571	12/13/2007	2	2.5	pCi/g	0.15	U	0.22	0.38	0.046	U	0.089	0.15	-0.020	U	0.063	0.11	0.0006	U	0.041	0.088	0.0	U	0.18	0.31
1IR-19-03a	IR1-19-03a	RANDOM	15-534	12/13/2007	0	0.5	pCi/g	0.50		0.25	0.28	-0.01	U	0.14	0.24	0.200		0.092	0.12	0.017	U	0.073	0.14	0.01	U	0.12	0.21
B-1IR-23b	IR1-B-23b	BIASED	15-572	12/13/2007	2.5	3	pCi/g	0.22	U	0.21	0.34	-0.04	U	0.11	0.18	-0.01	U	0.11	0.12	0.0008	U	0.047	0.096	-0.02	U	0.12	0.21
1IR-19-03b	IR1-19-03b	RANDOM	15-535	12/13/2007	0.5	1	pCi/g	0.44		0.19	0.36	-0.03	U	0.12	0.20	-0.01	U	0.11	0.12	0.036	U	0.074	0.13	-0.03	U	0.14	0.25
1IR-19-04a	IR1-19-04a	RANDOM	15-536	12/13/2007	2	2.5	pCi/g	0.35		0.21	0.29	-0.003	U	0.10	0.18	-0.002	U	0.039	0.076	0.0	U	0.066	0.13	-0.01	U	0.11	0.20
1IR-23-02a	IR1-23-02a	RANDOM	15-573	12/13/2007	0	0.5	pCi/g	0.46		0.12	0.18	0.07	U	0.25	0.43	0.026	U	0.031	0.050	0.0	U	0.006	0.025	-0.008	U	0.070	0.13
1IR-19-04b	IR1-19-04b	RANDOM	15-537	12/13/2007	2.6	3	pCi/g	0.29		0.19	0.28	0.023	U	0.099	0.17	-0.005	U	0.048	0.087	0.0	U	0.009	0.036	0.025	U	0.097	0.17
1IR-23-02b	IR1-23-02b	RANDOM	15-574	12/13/2007	0.5	1	pCi/g	0.30		0.19	0.25	-0.033	U	0.098	0.17	0.009	U	0.044	0.080	0.006	U	0.062	0.12	0.0	U	0.11	0.21
B-1IR-25a	IR1-B-25a	BIASED	15-586	12/13/2007	2	2.5	pCi/g	0.50		0.15	0.22	-0.08	U	0.37	0.65	0.0	U	0.041	0.075	-0.01	U	0.048	0.088	0.0004	U	0.092	0.17
1IR-23-03a	IR1-23-03a	RANDOM	15-575	12/13/2007	2	2.5	pCi/g	0.45		0.17	0.18	-0.06	U	0.12	0.21	0.001	U	0.055	0.10	0.014	U	0.060	0.11	0.008	U	0.10	0.19
B-1IR-25b	IR1-B-25b	BIASED	15-587	12/13/2007	2.5	3	pCi/g	0.45		0.19	0.34	-0.02	U	0.13	0.22	-0.027	U	0.066	0.11	0.0	U	0.015	0.055	0.0	U	0.11	0.21
1IR-19-05a	IR1-19-05a	RANDOM	15-538	12/13/2007	2	2.6	pCi/g	0.43		0.29	0.41	-0.03	U	0.12	0.20	0.0	U	0.044	0.087	0.0	U	0.096	0.18	0.04	U	0.11	0.20
1IR-23-03b	IR1-23-03b	RANDOM	15-576	12/13/2007	2.5	3	pCi/g	0.19	U	0.19	0.30	0.044	U	0.099	0.17	0.013	U	0.045	0.080	-0.016	U	0.062	0.11	-0.04	U	0.13	0.22
1IR-23-04a	IR1-23-04a	RANDOM	15-577	12/13/2007	0	0.5	pCi/g	0.19	U	0.23	0.38	0.006	U	0.098	0.17	0.027	U	0.055	0.095	0.0	U	0.087	0.16	-0.04	U	0.11	0.19
1IR-19-05b	IR1-19-05b	RANDOM	15-539	12/13/2007	2.6	3	pCi/g	0.0	U	0.23	0.43	0.019	U	0.068	0.12	0.015	U	0.048	0.10	0.0	U	0.084	0.16	0.002	U	0.12	0.22
1IR-23-04b	IR1-23-04b	RANDOM	15-578	12/13/2007	0.5	1	pCi/g	0.33		0.22	0.31	0.061	U	0.091	0.15	0.152	J	0.060	0.072	-0.012	U	0.060	0.11	-0.01	U	0.12	0.22
1IR-25-02a	IR1-25-02a	RANDOM	15-588	12/13/2007	2	2.5	pCi/g	0.29	U	0.22	0.33	-0.034	U	0.093	0.16	0.031	U	0.032	0.049	0.0	U	0.064	0.12	-0.0006	U	0.088	0.17
1IR-23-05a	IR1-23-05a	RANDOM	15-579	12/13/2007	2	2.5	pCi/g	0.40		0.14	0.18	-0.08	U	0.26	0.45	0.003	U	0.031	0.057	0.001	U	0.028	0.056	0.0	U	0.11	0.19
1IR-25-02b	IR1-25-02b	RANDOM	15-589	12/13/2007	2.5	3	pCi/g	0.35		0.20	0.28	-0.027	U	0.094	0.16	0.007	U	0.047	0.085	0.0	U	0.056	0.10	0.002	U	0.090	0.17
1IR-19-06a	IR1-19-06a	RANDOM	15-540	12/13/2007	0	0.5	pCi/g	0.36		0.12	0.17	0.08	U	0.25	0.43	0.094	J	0.031	0.018	0.0	U	0.006	0.025	0.015	U	0.081	0.14
1IR-23-05b	IR1-23-05b	RANDOM	15-580	12/13/2007	2.5	3	pCi/g	0.37		0.11	0.20	-0.07	U	0.31	0.53	0.001	U	0.028	0.052	0.0004	U	0.030	0.059	-0.018	U	0.068	0.12
1IR-25-03a	IR1-25-03a	RANDOM	15-590	12/13/2007	2	2.5	pCi/g	0.22		0.15	0.22	-0.01	U	0.10	0.18	0.0	U	0.053	0.095	-0.004	U	0.042	0.080	0.0	U	0.10	0.19
1IR-19-06b	IR1-19-06b	RANDOM	15-541	12/13/2007	0.5	1	pCi/g	0.36		0.14	0.25	0.027	U	0.081	0.14	0.0007	U	0.046	0.085	-0.0005	U	0.047	0.093	0.015	U	0.088	0.16
1IR-25-03b	IR1-25-03b	RANDOM	15-591	12/13/2007	2.5	3	pCi/g	0.34		0.16	0.29	-0.028	U	0.092	0.16	0.031	U	0.053	0.091	0.0	U	0.012	0.045	-0.02	U	0.11	0.19
1IR-25-04a	IR1-25-04a	RANDOM	15-592	12/13/2007	2	2.5	pCi/g	0.31		0.20	0.27	0.027	U	0.099	0.17	0.011	U	0.037	0.070	-0.0006	U	0.038	0.082	-0.03	U	0.12	0.21
1IR-25-04b	IR1-25-04b	RANDOM	15-593	12/13/2007	2.5	3	pCi/g	0.36		0.16	0.27	0.0	U	0.11	0.19	0.0003	U	0.051	0.093	0.002	U	0.048	0.091	0.03	U	0.10	0.18
1IR-19-07a	IR1-19-07a	RANDOM	15-542	12/13/2007	2	2.6	pCi/g	0.49		0.22	0.25	0.006	U	0.090	0.16	-0.013	U	0.050	0.090	0.006	U	0.025	0.054	0.015	U	0.093	0.17
1IR-25-05a	IR1-25-05a	RANDOM	15-594	12/13/2007	2	2.5	pCi/g	0.57		0.24	0.28	0.008	U	0.12	0.21	0.012	U	0.061	0.11	0.0	U	0.070	0.13	-0.03	U	0.14	0.25
1IR-25-05b	IR1-25-05b	RANDOM	15-595	12/13/2007	2.5	3	pCi/g	0.49	U	0.40	0.60	-0.05	U	0.16	0.27	0.0	U	0.13	0.24	-0.03	U	0.11	0.20	0.05	U	0.17	0.31
B-1IR-26Ba	IR1-B-26-Ba	BIASED	15-596	12/13/2007	2	2.5	pCi/g	0.29	U	0.23	0.34	0.021	U	0.085	0.15	0.111	J	0.064	0.083	0.016	U	0.059	0.11	0.00009	U	0.065	0.13
B-1IR-26Bb	IR1-B-26-Bb	BIASED	15-597	12/13/2007	2.5	3	pCi/g	0.40		0.13	0.21	-0.08	U	0.24	0.42	0.062	J	0.033	0.043	0.0	U	0.007	0.026	-0.016	U	0.083	0.15
1IR-19-07b	IR1-19-07b	RANDOM	15-543	12/13/2007	2.6	3	pCi/g	0.42		0.16	0.23	-0.006	U	0.092	0.16	-0.005	U	0.050	0.091	-0.008	U	0.057	0.10	-0.05	U	0.13	0.22
1IR-26B-01a	IR1-26B-01a	RANDOM	15-598	12/13/2007	0	0.5	pCi/g	0.32		0.14	0.23	0.038	U	0.096	0.16	0.086	J	0.053	0.076	-0.007	U	0.053	0.099	0.009	U	0.092	0.17
1IR-26B-01b	IR1-26B-01b	RANDOM	15-599	12/13/2007	0.5	1	pCi/g	0.34		0.19	0.25	0.002	U	0.093	0.16	0.025	U	0.041	0.071	-0.001	U	0.057	0.11	0.0	U	0.14	0.25
1IR-19-08a	IR1-19-08a	RANDOM	15-544	12/13/2007	2	2.6	pCi/g	0.26	U	0.16	0.30	-0.005	U	0.094	0.16	0.014	U	0.039	0.069	0.0	U	0.056	0.10	0.0	U	0.14	0.24
1IR-26B-02a	IR1-26B-02a	RANDOM	15-600	12/13/2007	0	0.5	pCi/g	0.42		0.24	0.35	0.024	U	0.083	0.14	0.043	U	0.059	0.098	0.009	U	0.050	0.093	0.0	U	0.15	0.27
1IR-19-08b	IR1-19-08b	RANDOM	15-545	12/13/2007	2.6	3	pCi/g	0.31	U	0.22	0.31	-0.04	U	0.11	0.19	-0.020	U	0.063	0.11	-0.020	U	0.074	0.14	-0.004	U	0.12	0.21
1IR-26B-02b	IR1-26B-02b	RANDOM	15-601	12/13/2007	0.5	1	pCi/g	0.47		0.19	0.23	-0.010	U	0.088	0.15	0.015	U	0.045	0.080	0.0001	U	0.048	0.091	-0.0003	U	0.11	0.20
B-1IR-A28a	IR1-B-A28a	BIASED	15-602	12/13/2007	2	2.5	pCi/g	0.28		0.19	0.26	0.03	U	0.10	0.17	0.015	U	0.046	0.082	0.013	U	0.062	0.11	-0.003	U	0.097	0.18
B-1IR-A28b	IR1-B-A28b	BIASED	15-603	12/13/2007	2.5	3	pCi/g	0.25	U	0.24	0.38	0.0	U	0.14	0.24	0.0	U	0.048	0.092	0.007	U	0.058	0.11	0.004	U	0.12	0.22
1IR-19-09a	IR1-19-09a	RANDOM	15-546	12/13/2007	2	2.6	pCi/g	0.24	U	0.21	0.32	0.033	U	0.094	0.16	-0.03	U	0.28	0.1	0.032	U	0.064	0.11	-0.02	U	0.12	0.22
1IR-19-09b	IR1-19-09b	RANDOM	15-547	12/13/2007	2.6	3	pCi/g	0.33		0.12	0.20	0.0	U	0.28	0.49	0.008	U	0.028	0.051	-0.0007	U	0.031	0.061	-0.043	U	0.099	0.17
1IR-A28-01a	IR1-28A-01a	RANDOM	15-605	12/13/2007	0	0.5	pCi/g	0.37		0.15	0.27	-0.023	U	0.098	0.17	0.003	U	0.049	0.088	0.0001	U	0.040	0.077	-0.03	U	0.11	0.20
1IR-19-10a	IR1-19-10a	RANDOM	15-548	12/13/2007	2	2.6	pCi/g	0.47		0.21	0.24	0.014	U	0.090	0.15	-0.006	U	0.045	0.083	-0.004	U	0.053	0.10	0.025	U	0.099	0.18
1IR-A28-01b	IR1-28A-01b	RANDOM	15-606	12/13/2007	0.5	1	pCi/g	0.19	U	0.20	0.31	0.007	U	0.070	0.12	0.016	U	0.039	0.069	0.0	U	0.090	0.16	-0.016	U	0.088	0.16
1IR-19-10b	IR1-19-10b	RANDOM	15-549	12/13/2007	2.6	3	pCi/g	0.33		0.20	0.26	0.04	U	0.11	0.18	-0.018	U	0.055	0.098	0.026	U	0.041	0.069	-0.05	U	0.14	0.24
1IR-A28-02a	IR1-28A-02a	RANDOM	15-607	12/13/2007	0	0.5	pCi/g	0.23		0.16	0.23	0.006	U	0.073	0.13	0.004	U	0.040	0.074	0.0	U	0.11	0.19	0.027	U	0.095	0.17
1IR-A28-02b	IR1-28A-02b	RANDOM	15-608	12/13/2007	0.5	1	pCi/g	0.01	U	0.15	0.29	-0.0003	U	0.079	0.14	0.0	U	0.060	0.11	0.008	U	0.047	0.092	-0.002	U	0.11	0.20
1IR-A28-03a	IR1-28A-03a	RANDOM	15-609	12/13/2007	0	0.5	pCi/g	0.13	U	0.20	0.33	-0.025	U	0.084	0.15	-0.03	U	0.13	0.07	0.0	U	0.098	0.18	0.026	U	0.087	0.16
1IR-A28-03b	IR1-28A-03b	RANDOM	15-610	12/13/2007	0.5	1	pCi/g	0.28		0.11	0.20	0.09	U	0.25	0.43	0.006	U	0.026	0.046	0.0004	U	0.029	0.055	0.028	U	0.055	0.095
1IR-A28-04a	IR1-28A-04a	RANDOM	15-611	12/13/2007	0	0.5	pCi/g	0.32		0.12	0.20	-0.003	U	0.070	0.12	-0.00005	U	0.043	0.079	0.0	U	0.009	0.034	-0.025	U	0.087	0.15
1IR-A28-04b	IR1-28A-04b	RANDOM	15-612	12/13/2007	0.5	1	pCi/g	0.36		0.11	0.12	-0.04	U	0.24	0.42	-0.0009	U	0.024	0.045	0.0	U	0.056	0.10	0.006	U	0.055	0.10
1IR-A28-05a	IR1-28A-05a	RANDOM	15-613	12/13/2007	0	0.5	pCi/g	0.28		0.13	0.25	-0.006	U	0.069	0.12	0.031	U	0.043	0.072	0.007	U	0.057	0.11	-0.041	U	0.092	0.16
1IR-A28-05b	IR1-28A-05b	RANDOM	15-614	12/13/2007	0.5	1	pCi/g	0.27		0.17	0.23	0.029	U	0.079	0.14	0.007	U	0.038	0.071	-0.011	U	0.045	0.084	0.022	U	0.073	0.13
B-2IR-1a	IR2-B-1a	BIASED	15-648	12/13/2007	2	2.5	pCi/g	0.37		0.22	0.30	0.017	U	0.097	0.17	0.019	U	0.044	0.077	-0.017	U	0.064	0.12	-0.0006	U	0.091	0.17
B-2IR-1b	IR2-B-1b	BIASED	15-649	12/13/2007	2.5	3	pCi/g	0.43		0.25	0.35	-0.019	U	0.096	0.17	-0.012	U	0.055	0.099	0.0	U	0.076	0.14	0.023	U	0.090	0.16
B-2IR-2a	IR2-B-2a	BIASED	15-650	12/13/2007	2	2.5	pCi/g	0.30		0.14	0.24	-0.004	U	0.060	0.11	-0.007	U	0.039	0.072	0.003	U	0.047	0.091	0.026	U	0.093	0.16
B-2IR-2b	IR2-B-2b	BIASED	15-651	12/13/2007	2.5	3	pCi/g	0.41		0.22	0.29	0.0	U	0.12	0.21	0.003	U	0.046	0.086	0.0	U	0.065	0.12	0.02	U	0.10	0.19
B-2IR-3a	IR2-B-3a	BIASED	15-652	12/13/2007	2	2.5	pCi/g	0.31	U	0.27	0.42	0.04	U	0.14	0.23	-0.026	U	0.067	0.12	0.024	U	0.048	0.085	-0.01	U	0.17	0.30
B-2IR-3b	IR2-B-3b	BIASED	15-653	12/13/2007	2.5	3	pCi/g	0.38		0.22	0.32	-0.01	U	0.14	0.24	-0.011	U	0.057	0.10	0.006	U	0.051	0.093	-0.03	U	0.16	0.28
B-1IR-93a	IR1-B-93a	BIASED	15-637	12/13/2007	3.5	4	pCi/g	0.62		0.19	0.29	0.012	U	0.095	0.16	0.011	U	0.043	0.076	0.002	U	0.049	0.093	0.05	U	0.11	0.19
B-1IR-93b	IR1-B-93b	BIASED	15-638	12/13/2007	4	4.5	pCi/g	0.42		0.14	0.26	0.027	U	0.096	0.16	-0.007	U	0.049	0.089	-0.009	U	0.062	0.11	0.01	U	0.11	0.20
B-2IR-4a	IR2-B-4a	BIASED	15-654	12/13/2007	2	2.5	pCi/g	0.24	U	0.21	0.32	0.042	U	0.077	0.13	-0.015	U	0.054	0.098	0.0	U	0.015	0.054	-0.02	U	0.13	0.23
B-1IR-92a	IR1-B-92a	BIASED	15-615	12/13/2007	2	2.5	pCi/g	0.44		0.16	0.24	0.04	U	0.11	0.18	-0.002	U	0.047	0.086	-0.006	U	0.044	0.083	0.01	U	0.11	0.19
B-1IR-92b	IR1-B-92b	BIASED	15-616	12/13/2007	2.5	3	pCi/g	0.32	U	0.27	0.40	0.063	U	0.095	0.16	0.002	U	0.054	0.10	0.0	U	0.017	0.062	-0.04	U	0.14	0.24

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-2IR-4b	IR2-B-4b	BIASED	15-655	12/13/2007	2.5	3	pCi/g	0.22	U	0.20	0.30	0.060	U	0.082	0.14	-0.011	U	0.096	0.10	0.001	U	0.059	0.12	-0.02	U	0.11	0.21
B-2IR-5a	IR2-B-5a	BIASED	15-656	12/13/2007	2	2.5	pCi/g	0.21		0.10	0.12	0.13	U	0.21	0.35	0.003	U	0.025	0.046	0.0005	U	0.027	0.052	0.0	U	0.095	0.17
B-2IR-5b	IR2-B-5b	BIASED	15-657	12/13/2007	2.5	3	pCi/g	0.45		0.16	0.25	-0.04	U	0.10	0.17	0.019	U	0.051	0.089	0.023	U	0.047	0.082	-0.002	U	0.088	0.16
B-1IR-97a	IR1-B-97a	BIASED	15-639	12/14/2007	2	2.5	pCi/g	0.52		0.14	0.23	0.024	U	0.096	0.16	0.006	U	0.038	0.067	0.0007	U	0.041	0.078	-0.0008	U	0.089	0.16
B-2IR-6a	IR2-B-6a	BIASED	15-658	12/14/2007	2	2.5	pCi/g	0.45		0.20	0.23	-0.042	U	0.096	0.16	-0.010	U	0.050	0.089	-0.002	U	0.062	0.12	-0.007	U	0.097	0.18
B-1IR-97b	IR1-B-97b	BIASED	15-640	12/14/2007	2.5	3	pCi/g	0.25	U	0.23	0.37	-0.027	U	0.098	0.17	0.002	U	0.045	0.084	0.010	U	0.042	0.081	-0.03	U	0.12	0.22
B-2IR-6b	IR2-B-6b	BIASED	15-659	12/14/2007	2.5	3	pCi/g	0.25	U	0.20	0.30	0.021	U	0.084	0.15	-0.016	U	0.046	0.083	0.0	U	0.013	0.047	-0.002	U	0.11	0.20
B-2IR-7a	IR2-B-7a	BIASED	15-660	12/14/2007	2	2.5	pCi/g	0.85		0.22	0.26	-0.0004	U	0.12	0.20	0.021	U	0.048	0.083	0.0	U	0.046	0.091	0.0	U	0.13	0.23
B-2IR-7b	IR2-B-7b	BIASED	15-661	12/14/2007	2.5	3	pCi/g	0.45		0.15	0.21	-0.02	U	0.12	0.20	0.013	U	0.046	0.080	0.008	U	0.052	0.094	-0.012	U	0.091	0.16
B-2IR-8a	IR2-B-8a	BIASED	15-662	12/14/2007	2	2.5	pCi/g	0.47		0.26	0.36	-0.007	U	0.11	0.18	0.0	U	0.068	0.12	0.0	U	0.013	0.048	-0.02	U	0.13	0.23
B-2IR-8b	IR2-B-8b	BIASED	15-663	12/14/2007	2.5	3	pCi/g	0.29	U	0.23	0.35	0.0	U	0.11	0.18	-0.03	U	3.6	0.1	0.032	U	0.044	0.073	-0.003	U	0.11	0.19
B-1IR-114a	IR1-B-114a	BIASED	15-641	12/14/2007	2	2.5	pCi/g	0.19	U	0.36	0.60	0.13	U	0.27	0.45	-0.13	U	0.13	0.20	-0.005	U	0.092	0.16	1.16		0.30	0.55
B-2IR-10a	IR2-B-B-10a	BIASED	15-664	12/14/2007	2	2.5	pCi/g	0.44		0.15	0.16	0.05	U	0.26	0.46	-0.005	U	0.028	0.051	0.0	U	0.048	0.087	-0.025	U	0.080	0.14
B-2IR-10b	IR2-B-10b	BIASED	15-665	12/14/2007	2.5	3	pCi/g	0.29		0.18	0.26	-0.035	U	0.092	0.16	-0.0005	U	0.045	0.084	0.0	U	0.085	0.15	-0.03	U	0.10	0.18
B-1IR-114b	IR1-B-114b	BIASED	15-642	12/14/2007	2.5	3	pCi/g	0.23	U	0.22	0.35	-0.06	U	0.17	0.28	-0.036	U	0.072	0.12	0.010	U	0.048	0.087	0.06	U	0.16	0.27
B-1IR-AB1a	IR1-B-AB1a	BIASED	15-643	12/14/2007	1	1.5	pCi/g	0.35		0.21	0.28	-0.017	U	0.082	0.14	0.015	U	0.051	0.093	0.0	U	0.015	0.054	0.04	U	0.10	0.18
B-1IR-AB1b	IR1-B-AB1b	BIASED	15-644	12/14/2007	1.5	2	pCi/g	0.29	U	0.24	0.36	0.043	U	0.085	0.14	-0.011	U	0.098	0.10	0.031	U	0.053	0.090	0.006	U	0.091	0.17
1IR-92-01a	IR1-92-01a	RANDOM	15-617	12/14/2007	0	0.5	pCi/g	0.27	U	0.20	0.29	-0.004	U	0.089	0.15	-0.003	U	0.056	0.096	0.043	U	0.053	0.086	0.01	U	0.083	0.15
1IR-AB1-02a	IR1-1AB-02a	RANDOM	15-645	12/14/2007	0	0.5	pCi/g	0.57		0.16	0.15	0.03	U	0.27	0.46	0.147	J	0.048	0.055	0.002	U	0.033	0.063	-0.025	U	0.068	0.12
1IR-92-01b	IR1-92-01b	RANDOM	15-618	12/14/2007	0.5	1	pCi/g	0.33		0.10	0.16	0.12	U	0.24	0.41	-0.002	U	0.028	0.051	0.0008	U	0.028	0.053	0.054	U	0.061	0.098
1IR-AB1-02b	IR1-1AB-02b	RANDOM	15-646	12/14/2007	0.5	1	pCi/g	0.29		0.13	0.22	0.042	U	0.071	0.12	-0.005	U	0.039	0.071	-0.008	U	0.039	0.075	0.010	U	0.086	0.16
1IR-92-02a	IR1-92-02a	RANDOM	15-619	12/14/2007	0	0.5	pCi/g	0.35		0.14	0.27	-0.019	U	0.089	0.15	0.251		0.064	0.042	0.0	U	0.052	0.099	0.008	U	0.079	0.14
1IR-92-02b	IR1-92-02b	RANDOM	15-620	12/14/2007	0.5	1	pCi/g	0.34		0.17	0.20	0.040	U	0.082	0.14	0.026	U	0.043	0.073	0.0	U	0.011	0.039	-0.02	U	0.11	0.19
2IR-10-01a	IR2-10-01a	RANDOM	15-666	12/14/2007	0	0.5	pCi/g	0.20		0.14	0.19	0.034	U	0.061	0.10	-0.0001	U	0.039	0.074	0.0	U	0.055	0.11	0.005	U	0.077	0.14
2IR-10-01b	IR2-10-01b	RANDOM	15-667	12/14/2007	0.5	1	pCi/g	0.35		0.22	0.31	0.051	U	0.086	0.14	0.015	U	0.045	0.080	0.0	U	0.076	0.14	-0.03	U	0.13	0.23
1IR-92-03a	IR1-92-03a	RANDOM	15-621	12/14/2007	0	0.5	pCi/g	0.49		0.19	0.31	0.028	U	0.097	0.16	0.020	U	0.045	0.077	-0.01	U	0.056	0.10	-0.03	U	0.12	0.21
1IR-92-03b	IR1-92-03b	RANDOM	15-622	12/14/2007	0.5	1	pCi/g	0.47		0.17	0.25	0.022	U	0.098	0.17	0.025	U	0.040	0.067	0.0	U	0.007	0.028	-0.01	U	0.11	0.19
2IR-10-2a	IR2-10-02a	RANDOM	15-668	12/14/2007	0	0.5	pCi/g	0.78		0.25	0.44	0.1	U	0.13	0.21	-0.009	U	0.068	0.12	0.020	U	0.081	0.15	-0.06	U	0.17	0.30
1IR-92-04a	IR1-92-04a	RANDOM	15-623	12/14/2007	0	0.5	pCi/g	0.32	U	0.17	0.39	0.04	U	0.10	0.17	0.004	U	0.053	0.098	0.0	U	0.014	0.050	0.004	U	0.098	0.18
2IR-10-2b	IR2-10-02b	RANDOM	15-669	12/14/2007	0.5	1	pCi/g	0.95		0.26	0.38	0.03	U	0.14	0.25	0.0003	U	0.059	0.11	0.0	U	0.094	0.17	0.002	U	0.13	0.24
1IR-92-04b	IR1-92-04b	RANDOM	15-624	12/14/2007	0.5	1	pCi/g	0.057		0.024	0.027	0.006	U	0.010	0.017	-0.002	U	0.020	0.011	0.0	U	0.001	0.0053	-0.0004	U	0.012	0.023
1IR-92-05a	IR1-92-05a	RANDOM	15-625	12/14/2007	0	0.5	pCi/g	0.45		0.12	0.16	0.11	U	0.22	0.38	0.011	U	0.026	0.045	0.0	U	0.005	0.019	-0.026	U	0.081	0.14
1IR-92-05b	IR1-92-05b	RANDOM	15-626	12/14/2007	0.5	1	pCi/g	0.52		0.14	0.22	-0.027	U	0.083	0.14	0.008	U	0.039	0.071	0.012	U	0.043	0.079	0.0004	U	0.073	0.13
2IR-10-3a	IR2-10-03a	RANDOM	15-670	12/14/2007	0	0.5	pCi/g	0.24	U	0.20	0.29	0.038	U	0.092	0.16	0.026	U	0.058	0.10	0.002	U	0.048	0.097	-0.0003	U	0.12	0.23
1IR-92-06A	IR1-92-06a	RANDOM	15-627	12/14/2007	0	0.5	pCi/g	0.60		0.16	0.16	0.17	U	0.22	0.37	0.011	U	0.027	0.048	-0.009	U	0.037	0.066	-0.007	U	0.074	0.13
2IR-10-3b	IR2-10-03b	RANDOM	15-671	12/14/2007	0.5	1	pCi/g	0.26	U	0.21	0.31	0.024	U	0.085	0.15	0.106	J	0.063	0.097	0.0	U	0.012	0.046	0.0	U	0.078	0.15
1IR-92-06B	IR1-92-06b	RANDOM	15-628	12/14/2007	0.5	1	pCi/g	0.36		0.13	0.23	-0.003	U	0.082	0.14	0.025	U	0.040	0.067	0.011	U	0.039	0.071	-0.009	U	0.086	0.15
2IR-10-4a	IR2-10-04a	RANDOM	15-672	12/14/2007	0	0.5	pCi/g	0.35		0.12	0.19	0.0	U	0.34	0.59	-0.002	U	0.033	0.061	-0.0003	U	0.031	0.061	0.024	U	0.056	0.099
B-2IR-232a	IR2-B-232a	BIASED	15-779	12/14/2007	2.5	3	pCi/g	0.34		0.13	0.24	0.059	U	0.090	0.15	-0.000007	U	0.037	0.069	0.0	U	0.008	0.030	0.019	U	0.083	0.15
1IR-92-07A	IR1-92-07a	RANDOM	15-629	12/14/2007	0	0.5	pCi/g	0.32		0.18	0.24	0.031	U	0.076	0.13	0.201		0.064	0.067	0.0	U	0.010	0.037	0.013	U	0.087	0.16
2IR-10-4b	IR2-10-04b	RANDOM	15-673	12/14/2007	0.5	1	pCi/g	0.18	U	0.18	0.29	0.025	U	0.077	0.13	0.008	U	0.049	0.087	0.0	U	0.009	0.036	0.0	U	0.074	0.14
B-2IR-232b	IR2-B-232b	BIASED	15-780	12/14/2007	3	3.5	pCi/g	0.18	U	0.16	0.24	0.054	U	0.083	0.14	0.018	U	0.052	0.092	-0.006	U	0.041	0.081	0.045	U	0.099	0.17
1IR-92-07B	IR1-92-07b	RANDOM	15-630	12/14/2007	0.5	1	pCi/g	0.28		0.15	0.21	0.047	U	0.077	0.13	0.071	J	0.042	0.061	0.000002	U	0.035	0.068	0.029	U	0.059	0.10
2IR-10-5a	IR2-10-05a	RANDOM	15-674	12/14/2007	0	0.5	pCi/g	0.30		0.19	0.27	-0.012	U	0.094	0.16	0.022	U	0.041	0.071	-0.008	U	0.048	0.091	0.016	U	0.082	0.15
2IR-10-5b	IR2-10-05b	RANDOM	15-675	12/14/2007	0.5	1	pCi/g	0.48		0.17	0.29	0.0007	U	0.11	0.18	0.009	U	0.044	0.079	-0.002	U	0.046	0.086	0.05	U	0.10	0.18
1IR-92-08A	IR1-92-08a	RANDOM	15-631	12/14/2007	0	0.5	pCi/g	0.37		0.18	0.19	0.012	U	0.088	0.15	0.017	U	0.057	0.10	-0.008	U	0.055	0.10	0.00001	U	0.11	0.19
1IR-92-08B	IR1-92-08b	RANDOM	15-632	12/14/2007	0.5	1	pCi/g	0.19	U	0.17	0.25	0.044	U	0.075	0.13	-0.009	U	0.079	0.090	0.031	U	0.044	0.073	-0.032	U	0.096	0.17
1IR-92-09A	IR1-92-09a	RANDOM	15-633	12/14/2007	0	0.5	pCi/g	0.51		0.11	0.05	0.08	U	0.20	0.35	0.013	U	0.027	0.046	-0.014	U	0.036	0.062	-0.005	U	0.070	0.13
1IR-92-09B	IR1-92-09b	RANDOM	15-634	12/14/2007	0.5	1	pCi/g	0.27		0.16	0.21	0.026	U	0.080	0.14	0.008	U	0.037	0.067	0.004	U	0.052	0.098	-0.0004	U	0.087	0.16
B-2IR-11Aa	IR2-B-11Aa	BIASED	15-676	12/14/2007	2	2.5	pCi/g	0.28		0.17	0.24	-0.02	U	0.10	0.17	0.0	U	0.076	0.13	0.002	U	0.045	0.086	-0.04	U	0.13	0.23
1IR-92-10A	IR1-92-10a	RANDOM	15-635	12/14/2007	0	0.5	pCi/g	0.66		0.18	0.22	-0.012	U	0.091	0.16	0.010	U	0.040	0.071	0.0006	U	0.037	0.074	-0.021	U	0.096	0.17
B-2IR-11Ab	IR2-B-11Ab	BIASED	15-677	12/14/2007	2.5	3	pCi/g	0.36		0.16	0.27	0.0	U	0.12	0.20	-0.002	U	0.044	0.082	0.0	U	0.012	0.046	0.020	U	0.082	0.15
1IR-92-10B	IR1-92-10b	RANDOM	15-636	12/14/2007	0.5	1	pCi/g	0.55		0.20	0.24	0.008	U	0.098	0.17	0.016	U	0.042	0.073	-0.0008	U	0.046	0.085	-0.01	U	0.11	0.19
2IR-11A-01a	IR2-11A-01a	RANDOM	15-679	12/14/2007	2	2.5	pCi/g	0.50		0.16	0.27	0.014	U	0.089	0.15	0.023	U	0.049	0.085	0.0	U	0.008	0.033	0.02	U	0.13	0.22
2IR-11A-01b	IR2-11A-01b	RANDOM	15-680	12/14/2007	2.5	3	pCi/g	0.03	U	0.21	0.38	0.0	U	0.12	0.20	0.017	U	0.052	0.093	-0.0007	U	0.075	0.14	0.02	U	0.12	0.21
B-2IR-188a	IR2-B-188a	BIASED	15-740	12/14/2007	2	2.5	pCi/g	0.32	U	0.23	0.32	-0.002	U	0.11	0.19	0.088	U	0.071	0.11	0.0	U	0.015	0.056	-0.03	U	0.14	0.25
B-2IR-188b	IR2-B-188b	BIASED	15-741	12/14/2007	2.5	3	pCi/g	0.17	U	0.19	0.30	-0.016	U	0.085	0.15	0.035	U	0.059	0.11	0.029	U	0.062	0.11	-0.002	U	0.12	0.22
2IR-11A-02a	IR2-11A-02a	RANDOM	15-681	12/14/2007	2	2.5	pCi/g	0.49		0.27	0.35	0.05	U	0.11	0.18	0.01	U	0.055	0.11	-0.0003	U	0.064	0.13	0.078	U	0.087	0.14
2IR-11A-02b	IR2-11A-02b	RANDOM	15-682	12/14/2007	2.5	3	pCi/g	0.46		0.14	0.23	0.06	U	0.28	0.49	0.0	U	0.032	0.059	0.0	U	0.007	0.026	-0.003	U	0.087	0.16
B-2IR-278a	IR2-B-278a	BIASED	15-782	12/14/2007	2	2.5	pCi/g	0.48		0.18	0.27	0.12	U	0.32	0.55	0.032	U	0.043	0.071	-0.008	U	0.041	0.078	0.008	U	0.079	0.15
B-2IR-278b	IR2-B-278b	BIASED	15-783	12/14/2007	2.5	3	pCi/g	0.24	U	0.25	0.39	0.05	U	0.11	0.19	0.048	U	0.075	0.13	-0.024	U	0.094	0.17	0.02	U	0.15	0.28
B-2IR-11Ba	IR2-B-11Ba	BIASED	15-683	12/14/2007	2	2.5	pCi/g	0.35		0.20	0.28	-0.005	U	0.12	0.21	0.0	U	0.057	0.10	0.0	U	0.011	0.040	0.0	U	0.072	0.14
B-2IR-11Bb	IR2-B-11Bb	BIASED	15-684	12/14/2007	2.5	3	pCi/g	0.51		0.18	0.23	0.077	U	0.082	0.13	0.015	U	0.049	0.087	-0.023	U	0.068	0.12	0.0	U	0.12	0.22
2IR-11B-01a	IR2-11B-01a	RANDOM	15-685	12/14/2007	2	2.5	pCi/g	0.49		0.22	0.28	-0.0009	U	0.10	0.18	0.0	U	0.070	0.12	-0.014	U	0.064	0.12	0.05	U	0.13	0.23
2IR-11B-01b	IR2-11B-01b	RANDOM	15-686	12/14/2007	2.5	3	pCi/g	0.51		0.27	0.36	0.0	U	0.11	0.20	0.0	U	0.053	0.098	-0.021	U	0.064	0.11	0.02	U	0.12	0.21
B-2IR-190a	IR2-B-190a	BIASED	15-743	12/14/2007	2	2.5	pCi/g	0.55		0.13	0.13	-0.08	U	0.28	0.48	0.064	J	0.040	0.058	0.0	U	0.035	0.067	-0.021	U	0.085	0.15
B-2IR-190b	IR2-B-190b	BIASED	15-744	12/14/2007	2.5	3	pCi/g	0.36		0.21	0.28	0.053	U	0.097	0.16	0.070	U	0.061	0.094	0.002	U	0.059	0.11	-0.01	U	0.12	0.21
2IR-278-01a	IR2-278-01a	RANDOM	15-784	12/14/2007	0	0.5	pCi/g	0.43		0.19	0.25	0.0	U	0.11	0.18	0.033	U	0.042	0.070	0.0	U	0.049	0.091	-0.03	U	0.12	0.20
2IR-11B-02a	IR2-11B-02a	RANDOM	15-687	12/14/2007	2	2.5	pCi/g	0.54		0.18	0.26	-0.003	U	0.074	0.13	0.006	U	0.039	0.071	0.0	U	0.009	0.033	0.07	U	0.10	0.17
2IR-278-01b	IR2-278-01b	RANDOM	15-785	12/14/2007	0.5	1	pCi/g	0.58		0.18	0.27	0.004	U	0.10	0.18	0.200	J	0.052	0.024	0.0	U	0.009	0.034	-0.05	U	0.11	0.20

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
2IR-11B-02b	IR2-11B-02b	RANDOM	15-688	12/14/2007	0.5	1	pCi/g	0.23	U	0.17	0.24	0.01	U	0.11	0.19	-0.021	U	0.054	0.094	-0.001	U	0.029	0.065	-0.06	U	0.14	0.25
2IR-278-02a	IR2-278-02a	RANDOM	15-786	12/14/2007	0	0.5	pCi/g	0.86		0.29	0.40	-0.003	U	0.12	0.22	0.105	U	0.076	0.11	-0.0005	U	0.072	0.14	-0.03	U	0.15	0.28
B-2IR-200a	IR2-B-200a	BIASED	15-745	12/14/2007	2	2.5	pCi/g	0.64		0.24	0.22	-0.01	U	0.10	0.18	0.10	U	0.072	0.11	-0.026	U	0.076	0.14	-0.03	U	0.16	0.27
2IR-278-02b	IR2-278-02b	RANDOM	15-787	12/14/2007	0.5	1	pCi/g	0.50		0.19	0.34	0.0007	U	0.097	0.17	-0.01	U	0.12	0.13	0.039	U	0.070	0.12	-0.01	U	0.13	0.23
B-2IR-200b	IR2-B-200b	BIASED	15-746	12/14/2007	2.5	3	pCi/g	0.52		0.15	0.25	0.12	U	0.32	0.54	0.134	J	0.056	0.071	0.0	U	0.008	0.030	-0.001	U	0.081	0.15
2IR-200-01a	IR2-200-01a	RANDOM	15-747	12/14/2007	0	0.5	pCi/g	0.25	U	0.24	0.37	0.002	U	0.094	0.16	0.048	U	0.064	0.11	0.002	U	0.054	0.10	0.0	U	0.14	0.25
2IR-200-01b	IR2-200-01b	RANDOM	15-748	12/14/2007	0.5	1	pCi/g	0.60		0.28	0.36	0.03	U	0.12	0.21	0.037	U	0.055	0.092	-0.015	U	0.070	0.13	-0.04	U	0.14	0.25
B-2IR-12a	IR2-B-12a	BIASED	15-689	12/14/2007	2	2.5	pCi/g	0.34		0.17	0.23	0.003	U	0.085	0.15	0.016	U	0.039	0.068	0.017	U	0.045	0.080	0.0	U	0.086	0.16
2IR-278-03a	IR2-278-03a	RANDOM	15-788	12/14/2007	0	0.5	pCi/g	0.48		0.14	0.14	0.0	U	0.27	0.47	0.015	U	0.032	0.055	-0.007	U	0.031	0.057	-0.014	U	0.076	0.13
B-2IR-12b	IR2-B-12b	BIASED	15-690	12/14/2007	2.5	3	pCi/g	0.30		0.19	0.25	-0.008	U	0.090	0.16	0.0006	U	0.046	0.086	0.0	U	0.012	0.046	-0.006	U	0.10	0.19
2IR-278-03b	IR2-278-03b	RANDOM	15-789	12/14/2007	0.5	1	pCi/g	0.41		0.15	0.26	-0.036	U	0.091	0.15	0.01	U	0.038	0.069	0.0	U	0.009	0.036	0.019	U	0.086	0.15
2IR-12-01a	IR2-12-01a	RANDOM	15-691	12/14/2007	0	0.5	pCi/g	0.33		0.13	0.21	0.029	U	0.091	0.16	0.0	U	0.062	0.11	-0.002	U	0.044	0.083	0.026	U	0.093	0.16
2IR-278-04a	IR2-278-04a	RANDOM	15-790	12/14/2007	0	0.5	pCi/g	0.45		0.14	0.23	0.003	U	0.087	0.15	0.031	U	0.041	0.068	0.010	U	0.039	0.071	-0.03	U	0.11	0.18
2IR-12-01b	IR2-12-01b	RANDOM	15-692	12/14/2007	0.5	1	pCi/g	0.22	U	0.22	0.35	0.031	U	0.097	0.17	0.041	U	0.052	0.085	0.008	U	0.036	0.072	0.03	U	0.11	0.20
2IR-200-02a	IR2-200-02a	RANDOM	15-749	12/14/2007	0	0.5	pCi/g	0.52		0.26	0.30	0.06	U	0.11	0.18	0.022	U	0.069	0.13	0.035	U	0.064	0.11	-0.02	U	0.13	0.23
2IR-278-04b	IR2-278-04b	RANDOM	15-791	12/14/2007	0.5	1	pCi/g	0.48		0.16	0.25	0.020	U	0.090	0.16	-0.04	U	0.22	0.1	-0.016	U	0.059	0.11	-0.009	U	0.11	0.19
2IR-20-02a	IR2-200-02b	RANDOM	15-750	12/14/2007	2.5	3	pCi/g	0.53		0.27	0.34	0.0	U	0.12	0.22	0.040	U	0.061	0.10	0.031	U	0.061	0.11	-0.0008	U	0.11	0.21
2IR-278-05a	IR2-278-05a	RANDOM	15-792	12/14/2007	0	0.5	pCi/g	0.63		0.12	0.06	-0.11	U	0.30	0.51	0.075	J	0.036	0.047	0.0	U	0.066	0.12	0.040	U	0.072	0.12
2IR-12-02a	IR2-12-02a	RANDOM	15-693	12/14/2007	0	0.5	pCi/g	0.42		0.20	0.33	-0.004	U	0.099	0.17	0.003	U	0.057	0.12	-0.01	U	0.063	0.12	0.007	U	0.097	0.18
2IR-200-03a	IR2-200-03a	RANDOM	15-751	12/14/2007	0	0.5	pCi/g	0.34		0.23	0.33	-0.002	U	0.087	0.16	0.011	U	0.065	0.13	-0.005	U	0.056	0.11	-0.005	U	0.12	0.23
2IR-200-03b	IR2-200-03b	RANDOM	15-752	12/14/2007	0.5	1	pCi/g	0.83		0.25	0.20	0.05	U	0.14	0.23	0.069	U	0.076	0.12	-0.00005	U	0.055	0.11	-0.02	U	0.14	0.25
2IR-278-05b	IR2-278-05b	RANDOM	15-793	12/14/2007	0.5	1	pCi/g	0.65		0.19	0.24	-0.004	U	0.067	0.12	0.042	U	0.054	0.088	0.0	U	0.012	0.043	0.04	U	0.10	0.18
2IR-12-02b	IR2-12-02b	RANDOM	15-694	12/14/2007	0.5	1	pCi/g	0.24		0.11	0.18	0.13	U	0.29	0.50	0.130	J	0.044	0.035	0.006	U	0.032	0.060	-0.005	U	0.073	0.13
2IR-200-04a	IR2-200-04a	RANDOM	15-753	12/14/2007	0	0.5	pCi/g	0.48		0.17	0.26	0.05	U	0.11	0.19	0.048	U	0.048	0.077	0.011	U	0.049	0.090	-0.006	U	0.099	0.18
2IR-200-04b	IR2-200-04b	RANDOM	15-754	12/14/2007	0.5	1	pCi/g	0.30	U	0.23	0.33	0.03	U	0.10	0.17	0.074	U	0.065	0.10	0.0	U	0.015	0.056	0.006	U	0.12	0.23
2IR-12-03a	IR2-12-03a	RANDOM	15-695	12/14/2007	0	0.5	pCi/g	0.63		0.17	0.25	0.004	U	0.098	0.17	0.033	U	0.052	0.087	0.0	U	0.011	0.039	-0.04	U	0.12	0.20
2IR-12-03b	IR2-12-03b	RANDOM	15-696	12/14/2007	0.5	1	pCi/g	0.47		0.18	0.27	0.049	U	0.077	0.13	0.086	U	0.061	0.090	-0.017	U	0.059	0.11	0.03	U	0.12	0.21
2IR-278-06a	IR2-278-06a	RANDOM	15-794	12/14/2007	0	0.5	pCi/g	0.22	U	0.17	0.24	0.054	U	0.093	0.16	0.048	U	0.046	0.072	0.0008	U	0.043	0.086	0.018	U	0.095	0.17
2IR-12-04a	IR2-12-04a	RANDOM	15-697	12/14/2007	0	0.5	pCi/g	0.36		0.15	0.25	0.009	U	0.072	0.13	0.039	U	0.044	0.072	-0.002	U	0.048	0.089	-0.04	U	0.11	0.19
2IR-200-05a	IR2-200-05a	RANDOM	15-755	12/14/2007	0	0.5	pCi/g	0.43		0.18	0.31	0.060	U	0.098	0.16	0.029	U	0.058	0.11	0.006	U	0.053	0.10	-0.003	U	0.12	0.21
2IR-200-05b	IR2-200-05b	RANDOM	15-756	12/14/2007	0.5	1	pCi/g	0.37		0.12	0.19	0.1	U	0.27	0.46	0.058	U	0.040	0.060	-0.007	U	0.034	0.062	-0.046	U	0.091	0.16
2IR-278-06b	IR2-278-06b	RANDOM	15-795	12/14/2007	0.5	1	pCi/g	0.43		0.16	0.28	0.004	U	0.089	0.15	0.035	U	0.040	0.066	0.0004	U	0.034	0.066	0.045	U	0.089	0.15
2IR-12-04b	IR2-12-04b	RANDOM	15-698	12/14/2007	0.5	1	pCi/g	0.19	U	0.17	0.25	-0.018	U	0.078	0.14	-0.009	U	0.095	0.10	0.0	U	0.012	0.043	0.008	U	0.085	0.16
2IR-12-05a	IR2-12-05a	RANDOM	15-699	12/14/2007	0	0.5	pCi/g	0.46		0.20	0.24	0.045	U	0.081	0.14	0.022	U	0.039	0.066	-0.008	U	0.050	0.094	-0.0001	U	0.089	0.16
2IR-12-05b	IR2-12-05b	RANDOM	15-700	12/14/2007	0.5	1	pCi/g	0.39		0.14	0.21	0.021	U	0.093	0.16	0.013	U	0.037	0.065	0.0	U	0.007	0.028	-0.002	U	0.10	0.18
2IR-278-07a	IR2-278-07a	RANDOM	15-796	12/14/2007	0	0.5	pCi/g	0.52		0.15	0.21	-0.030	U	0.099	0.17	-0.004	U	0.038	0.068	-0.008	U	0.046	0.084	-0.03	U	0.11	0.18
2IR-278-07b	IR2-278-07b	RANDOM	15-797	12/14/2007	0.5	1	pCi/g	0.27	U	0.22	0.33	-0.01	U	0.10	0.17	0.010	U	0.049	0.090	0.0	U	0.076	0.14	0.03	U	0.11	0.20
2IR-278-08a	IR2-278-08a	RANDOM	15-798	12/14/2007	0	0.5	pCi/g	0.24	U	0.14	0.32	-0.004	U	0.089	0.15	0.015	U	0.049	0.095	0.0	U	0.13	0.23	0.036	U	0.089	0.16
B-2IR-13a	IR2-B-13a	BIASED	15-701	12/14/2007	2	2.5	pCi/g	0.39	U	0.26	0.39	0.004	U	0.12	0.21	-0.003	U	0.053	0.098	0.0	U	0.013	0.048	-0.02	U	0.12	0.22
B-2IR-13b	IR2-B-13b	BIASED	15-702	12/14/2007	2.5	3	pCi/g	0.33		0.17	0.21	0.079	U	0.082	0.13	-0.005	U	0.071	0.10	0.021	U	0.046	0.082	0.02	U	0.11	0.20
2IR-278-08b	IR2-278-08b	RANDOM	15-799	12/14/2007	0.5	1	pCi/g	0.55		0.15	0.16	0.02	U	0.29	0.51	0.088	J	0.037	0.038	0.017	U	0.029	0.050	0.0	U	0.085	0.15
2IR-13-01a	IR2-13-01a	RANDOM	15-704	12/14/2007	0	0.5	pCi/g	0.20	U	0.16	0.24	0.040	U	0.078	0.13	0.045	U	0.051	0.083	0.0	U	0.011	0.042	-0.05	U	0.13	0.22
B-2IR-230a	IR2-B-230a	BIASED	15-757	12/14/2007	2	2.5	pCi/g	0.27		0.16	0.23	-0.016	U	0.085	0.15	0.020	U	0.046	0.080	0.0	U	0.009	0.035	-0.03	U	0.10	0.18
2IR-13-01b	IR2-13-01b	RANDOM	15-705	12/14/2007	0.5	1	pCi/g	0.15	U	0.17	0.27	0.028	U	0.082	0.14	0.043	U	0.054	0.089	-0.001	U	0.043	0.082	-0.04	U	0.11	0.20
B-2IR-230b	IR2-B-230b	BIASED	15-758	12/14/2007	2.5	3	pCi/g	0.24		0.14	0.18	-0.06	U	0.10	0.17	-0.01	U	0.047	0.085	0.0	U	0.10	0.18	0.0	U	0.11	0.19
2IR-230-01a	IR2-230-01a	RANDOM	15-759	12/14/2007	0	0.5	pCi/g	0.18	U	0.17	0.26	0.0006	U	0.089	0.15	0.102	J	0.041	0.032	-0.006	U	0.042	0.077	-0.002	U	0.088	0.16
2IR-230-01b	IR2-230-01b	RANDOM	15-760	12/14/2007	0.5	1	pCi/g	0.179		0.098	0.13	0.009	U	0.24	0.42	0.012	U	0.028	0.049	0.016	U	0.023	0.038	-0.025	U	0.068	0.12
2IR-13-02a	IR2-13-02a	RANDOM	15-706	12/14/2007	2	2.5	pCi/g	0.15	U	0.14	0.21	0.031	U	0.085	0.14	-0.005	U	0.039	0.070	0.002	U	0.036	0.069	0.036	U	0.085	0.15
2IR-230-02a	IR2-230-02a	RANDOM	15-761	12/14/2007	0	0.5	pCi/g	0.22	U	0.17	0.25	0.031	U	0.083	0.14	0.053	U	0.054	0.085	-0.015	U	0.051	0.094	-0.03	U	0.12	0.22
2IR-13-02b	IR2-13-02b	RANDOM	15-707	12/14/2007	2.5	3	pCi/g	0.0	U	0.071	0.15	0.023	U	0.085	0.15	0.011	U	0.036	0.066	0.002	U	0.039	0.076	0.025	U	0.081	0.14
2IR-278-09a	IR2-278-09a	RANDOM	15-800	12/14/2007	0	0.5	pCi/g	0.37		0.14	0.19	0.012	U	0.088	0.15	0.009	U	0.038	0.069	0.0	U	0.011	0.040	-0.002	U	0.079	0.15
2IR-230-02b	IR2-230-02b	RANDOM	15-762	12/14/2007	0.5	1	pCi/g	0.06	U	0.14	0.24	-0.032	U	0.090	0.15	0.015	U	0.044	0.077	0.001	U	0.033	0.065	-0.01	U	0.090	0.16
2IR-278-09b	IR2-278-09b	RANDOM	15-801	12/14/2007	0.5	1	pCi/g	0.44		0.16	0.26	-0.05	U	0.10	0.17	0.045	U	0.049	0.079	0.011	U	0.051	0.096	-0.0004	U	0.11	0.20
2IR-230-03a	IR2-230-03a	RANDOM	15-763	12/14/2007	0	0.5	pCi/g	0.22	U	0.22	0.35	0.02	U	0.11	0.20	0.067	U	0.066	0.11	0.0	U	0.13	0.23	0.05	U	0.11	0.18
2IR-230-03b	IR2-230-03b	RANDOM	15-764	12/14/2007	0.5	1	pCi/g	0.19	U	0.20	0.33	0.025	U	0.081	0.14	0.026	U	0.049	0.092	-0.012	U	0.055	0.10	-0.007	U	0.10	0.19
2IR-278-10a	IR2-278-10a	RANDOM	15-802	12/14/2007	0	0.5	pCi/g	0.39		0.15	0.25	-0.023	U	0.089	0.15	0.039	U	0.047	0.076	0.013	U	0.045	0.083	-0.001	U	0.11	0.20
2IR-278-10b	IR2-278-10b	RANDOM	15-803	12/14/2007	0.5	1	pCi/g	0.46		0.17	0.30	0.035	U	0.096	0.16	-0.003	U	0.060	0.099	0.020	U	0.054	0.097	0.04	U	0.11	0.20
B-2IR-160a	IR2-B-160a	BIASED	15-708	12/14/2007	2	2.5	pCi/g	0.38		0.20	0.28	-0.017	U	0.096	0.17	0.043	U	0.043	0.068	-0.018	U	0.064	0.11	-0.03	U	0.11	0.20
2IR-230-04a	IR2-230-04a	RANDOM	15-765	12/14/2007	0	0.5	pCi/g	0.33		0.13	0.17	-0.04	U	0.23	0.39	0.01	U	0.027	0.047	0.006	U	0.022	0.041	-0.012	U	0.070	0.12
B-2IR-160b	IR2-B-160b	BIASED	15-709	12/14/2007	2.5	3	pCi/g	0.13	U	0.13	0.20	0.032	U	0.072	0.12	0.024	U	0.041	0.069	0.0	U	0.046	0.087	-0.014	U	0.060	0.11
2IR-230-04b	IR2-230-04b	RANDOM	15-766	12/14/2007	0.5	1	pCi/g	0.39		0.13	0.18	0.005	U	0.080	0.14	0.026	U	0.040	0.067	0.002	U	0.045	0.086	0.001	U	0.087	0.16
2IR-230-05a	IR2-230-05a	RANDOM	15-767	12/14/2007	0	0.5	pCi/g	0.23		0.16	0.23	0.0	U	0.088	0.15	0.035	U	0.046	0.076	-0.007	U	0.053	0.099	0.056	U	0.085	0.14
2IR-230-05b	IR2-230-05b	RANDOM	15-768	12/14/2007	0.5	1	pCi/g	0.18	U	0.14	0.21	-0.000006	U	0.080	0.14	0.027	U	0.040	0.068	0.010	U	0.037	0.067	-0.015	U	0.095	0.17
2IR-230-06a	IR2-230-06a	RANDOM	15-769	12/14/2007	0	0.5	pCi/g	0.20	U	0.18	0.27	0.012	U	0.078	0.14	0.037	U	0.038	0.060	0.005	U	0.036	0.073	-0.03	U	0.11	0.20
2IR-230-06b	IR2-230-06b	RANDOM	15-770	12/14/2007	0.5	1	pCi/g	0.38		0.18	0.24	0.030	U	0.086	0.15	-0.001	U	0.035	0.065	0.002	U	0.037	0.070	-0.009	U	0.094	0.17
B-2IR-171a	IR2-B-171a	BIASED	15-710	12/14/2007	2	2.5	pCi/g	0.14	U	0.17	0.27	-0.020	U	0.070	0.12	0.010	U	0.037	0.067	0.0	U	0.009	0.035	0.014	U	0.072	0.13
2IR-230-07a	IR2-230-07a	RANDOM	15-771	12/14/2007	0	0.5	pCi/g	0.26	U	0.18	0.26	0.026	U	0.089	0.15	0.038	U	0.054	0.090	0.0007	U	0.054	0.11	-0.003	U	0.088	0.17
B-2IR-171b	IR2-B-171b	BIASED	15-711	12/14/2007	2.5	3	pCi/g	0.37		0.17	0.18	-0.048	U	0.097	0.16	0.007	U	0.046	0.083	-0.013	U	0.050	0.093	0.058	U	0.089	0.15
2IR-230-07b	IR2-230-07b	RANDOM	15-772	12/14/2007	0.5	1	pCi/g	0.1	U	0.16	0.28	0.032	U	0.063	0.11	-0.03	U	0.64	0.09	0.008	U	0.056	0.11	-0.03	U	0.11	0.19
2IR-230-08a	IR2-230-08a	RANDOM	15-773	12/14/2007	0	0.5	pCi/g	0.37		0.12	0.16	-0.13	U	0.32	0.54	0.092	J	0.046	0.063	-0.003	U	0.035	0.066	-0.006	U	0.085	0.15

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-2IR-172a	IR2-B-172a	BIASED	15-712	12/14/2007	2	2.5	pCi/g	0.50		0.12	0.06	-0.001	U	0.23	0.40	0.0	U	0.029	0.054	-0.00006	U	0.015	0.033	0.0	U	0.081	0.15
2IR-230-08b	IR2-230-08b	RANDOM	15-774	12/14/2007	0.5	1	pCi/g	0.17	U	0.21	0.34	0.0002	U	0.10	0.18	0.0	U	0.038	0.074	0.0	U	0.013	0.047	0.05	U	0.10	0.17
B-2IR-172b	IR2-B-172b	BIASED	15-713	12/14/2007	2.5	3	pCi/g	0.24	U	0.13	0.24	-0.016	U	0.086	0.15	0.035	U	0.039	0.063	-0.0002	U	0.024	0.049	-0.002	U	0.079	0.14
2IR-230-09a	IR2-230-09a	RANDOM	15-775	12/14/2007	0	0.5	pCi/g	0.28		0.18	0.26	-0.006	U	0.088	0.15	0.0	U	0.026	0.053	0.0	U	0.056	0.11	0.0	U	0.093	0.17
2IR-230-09b	IR2-230-09b	RANDOM	15-776	12/14/2007	0.5	1	pCi/g	0.17	U	0.14	0.22	-0.034	U	0.087	0.15	0.023	U	0.037	0.062	-0.003	U	0.035	0.067	-0.016	U	0.091	0.16
2IR-230-10a	IR2-230-10a	RANDOM	15-777	12/14/2007	0	0.5	pCi/g	0.34		0.23	0.32	-0.030	U	0.095	0.16	-0.004	U	0.054	0.10	0.007	U	0.051	0.10	0.0003	U	0.082	0.16
2IR-230-10b	IR2-230-10b	RANDOM	15-778	12/14/2007	0.5	1	pCi/g	0.29		0.20	0.27	0.083	U	0.057	0.084	-0.001	U	0.055	0.10	0.0	U	0.065	0.12	0.008	U	0.094	0.17
B-2IR-182a	IR2-B-182a	BIASED	15-714	12/17/2007	2	2.5	pCi/g	0.42		0.18	0.22	0.033	U	0.096	0.16	0.021	U	0.041	0.071	-0.010	U	0.051	0.092	-0.03	U	0.11	0.19
B-2IR-182b	IR2-B-182b	BIASED	15-715	12/17/2007	2.5	3	pCi/g	0.39		0.20	0.22	-0.003	U	0.11	0.20	0.016	U	0.060	0.11	-0.013	U	0.078	0.15	-0.01	U	0.12	0.22
B-2IR-183a	IR2-B-183a	BIASED	15-716	12/17/2007	2	2.5	pCi/g	0.21	U	0.21	0.32	0.073	U	0.088	0.14	-0.004	U	0.059	0.098	0.0	U	0.10	0.18	0.0	U	0.094	0.18
B-2IR-183b	IR2-B-183b	BIASED	15-717	12/17/2007	2.5	3	pCi/g	0.38		0.12	0.20	0.16	U	0.25	0.42	0.017	U	0.031	0.053	0.020	U	0.034	0.058	-0.01	U	0.076	0.14
B-2IR-187a	IR2-B-187a	BIASED	15-718	12/17/2007	2	2.5	pCi/g	0.18	U	0.18	0.28	0.057	U	0.061	0.098	0.028	U	0.047	0.079	0.001	U	0.048	0.093	-0.012	U	0.081	0.15
B-2IR-187b	IR2-B-187b	BIASED	15-719	12/17/2007	2.5	3	pCi/g	0.36		0.18	0.23	0.052	U	0.082	0.14	0.056	U	0.045	0.067	0.019	U	0.041	0.073	-0.002	U	0.093	0.17
B-2IR-187-02a	IR2-B-187-02a	BIASED	15-722	12/17/2007	0	0.5	pCi/g	0.50		0.16	0.20	0.02	U	0.10	0.18	0.030	U	0.039	0.065	0.017	U	0.043	0.076	0.0004	U	0.096	0.17
B-2IR-187-02b	IR2-B-187-02b	BIASED	15-723	12/17/2007	0.5	1	pCi/g	0.43		0.15	0.19	-0.0005	U	0.090	0.16	0.051	U	0.048	0.075	-0.013	U	0.064	0.11	-0.01	U	0.11	0.19
2IR-187-03a	IR2-187-03a	RANDOM	15-724	12/17/2007	0	0.5	pCi/g	0.48		0.27	0.35	0.03	U	0.11	0.19	0.058	U	0.072	0.12	0.0	U	0.015	0.056	0.02	U	0.13	0.23
2IR-187-03b	IR2-187-03b	RANDOM	15-725	12/17/2007	0.5	1	pCi/g	0.51		0.19	0.35	-0.004	U	0.11	0.20	0.034	U	0.050	0.093	-0.004	U	0.054	0.11	0.003	U	0.080	0.15
2IR-187-04a	IR2-187-04a	RANDOM	15-726	12/17/2007	0	0.5	pCi/g	0.39		0.12	0.17	-0.02	U	0.25	0.43	0.018	U	0.031	0.052	0.0	U	0.042	0.077	-0.001	U	0.045	0.085
2IR-187-04b	IR2-187-04b	RANDOM	15-727	12/17/2007	0.5	1	pCi/g	0.35		0.15	0.25	-0.036	U	0.087	0.15	0.021	U	0.048	0.083	-0.018	U	0.054	0.096	-0.026	U	0.098	0.17
2IR-187-05a	IR2-187-05a	RANDOM	15-728	12/17/2007	0	0.5	pCi/g	0.51		0.19	0.29	0.03	U	0.11	0.18	0.028	U	0.045	0.076	-0.016	U	0.057	0.10	-0.003	U	0.10	0.19
2IR-187-05b	IR2-187-05b	RANDOM	15-729	12/17/2007	0.5	1	pCi/g	0.58		0.22	0.41	-0.02	U	0.13	0.22	0.008	U	0.051	0.094	-0.022	U	0.084	0.15	0.05	U	0.14	0.25
2IR-187-06a	IR2-187-06a	RANDOM	15-730	12/17/2007	0	0.5	pCi/g	0.22	U	0.22	0.35	0.0	U	0.10	0.18	0.029	U	0.056	0.11	-0.0003	U	0.037	0.080	0.0	U	0.12	0.22
2IR-187-06b	IR2-187-06b	RANDOM	15-731	12/17/2007	0.5	1	pCi/g	0.40		0.12	0.15	-0.01	U	0.27	0.47	0.037	U	0.033	0.051	0.0	U	0.047	0.086	-0.0001	U	0.067	0.12
2IR-187-07a	IR2-187-07a	RANDOM	15-732	12/17/2007	0	0.5	pCi/g	0.45		0.22	0.29	0.02	U	0.10	0.18	0.065	U	0.055	0.084	0.009	U	0.039	0.075	-0.04	U	0.13	0.22
2IR-187-07b	IR2-187-07b	RANDOM	15-733	12/17/2007	0.5	1	pCi/g	0.37		0.23	0.30	-0.014	U	0.099	0.17	0.117	J	0.075	0.11	0.015	U	0.057	0.11	0.014	U	0.093	0.17
2IR-187-08a	IR2-187-08a	RANDOM	15-734	12/17/2007	0	0.5	pCi/g	0.56		0.19	0.31	0.055	U	0.086	0.14	0.004	U	0.054	0.11	0.0	U	0.068	0.13	0.033	U	0.089	0.16
2IR-187-08b	IR2-187-08b	RANDOM	15-735	12/17/2007	0.5	1	pCi/g	0.34		0.13	0.18	-0.008	U	0.25	0.44	0.060	U	0.041	0.061	-0.007	U	0.035	0.065	0.026	U	0.081	0.14
2IR-187-09a	IR2-187-09a	RANDOM	15-736	12/17/2007	0	0.5	pCi/g	0.23	U	0.17	0.24	-0.013	U	0.077	0.13	0.016	U	0.040	0.071	0.0	U	0.009	0.036	-0.028	U	0.093	0.16
2ir-187-09B	IR2-187-09b	RANDOM	15-737	12/17/2007	0.5	1	pCi/g	0.34		0.19	0.25	-0.04	U	0.10	0.18	0.013	U	0.045	0.081	0.020	U	0.039	0.070	-0.009	U	0.098	0.18
2IR-187-10a	IR2-187-10a	RANDOM	15-738	12/17/2007	0	0.5	pCi/g	0.19	U	0.19	0.29	-0.028	U	0.097	0.17	0.029	U	0.042	0.071	0.0	U	0.013	0.049	-0.02	U	0.12	0.21
2IR-187-10b	IR2-187-10b	RANDOM	15-739	12/17/2007	0.5	1	pCi/g	0.25	U	0.19	0.27	0.084	U	0.088	0.14	0.017	U	0.055	0.11	0.031	U	0.059	0.10	0.047	U	0.090	0.16
B-2IR-341a	IR2-B-341a	BIASED	15-818	12/17/2007	1	1.5	pCi/g	0.25		0.16	0.24	0.0	U	0.11	0.18	0.0004	U	0.038	0.069	0.007	U	0.046	0.084	-0.04	U	0.11	0.19
B-2IR-341b	IR2-B-341b	BIASED	15-819	12/17/2007	1.5	2	pCi/g	0.44		0.24	0.32	0.0	U	0.11	0.18	0.014	U	0.058	0.10	0.0	U	0.012	0.044	0.003	U	0.096	0.18
1IR-18-ABC-04b	IR1-18ABC-04b	RANDOM	15-892	12/17/2007	2.5	3	pCi/g	0.44		0.23	0.31	0.026	U	0.087	0.15	-0.008	U	0.042	0.078	-0.013	U	0.056	0.10	0.012	U	0.098	0.18
B-2IR-342a	IR2-B-342a	BIASED	15-821	12/17/2007	1	1.5	pCi/g	0.31		0.18	0.23	-0.006	U	0.085	0.15	-0.005	U	0.072	0.10	0.0	U	0.012	0.045	-0.002	U	0.089	0.17
B-2IR-342b	IR2-B-342b	BIASED	15-822	12/17/2007	1.5	2	pCi/g	0.40		0.14	0.20	-0.05	U	0.27	0.46	0.039	U	0.033	0.050	-0.002	U	0.036	0.067	0.004	U	0.080	0.14
2IR-342-01a	IR2-342-01a	RANDOM	15-823	12/17/2007	0	0.5	pCi/g	0.33	U	0.24	0.36	0.046	U	0.093	0.16	0.0009	U	0.056	0.11	0.021	U	0.053	0.095	0.006	U	0.096	0.18
2IR-342-01b	IR2-342-01b	RANDOM	15-824	12/17/2007	0.5	1	pCi/g	0.29		0.13	0.21	0.038	U	0.076	0.13	0.0	U	0.038	0.073	-0.009	U	0.057	0.11	0.056	U	0.084	0.14
2IR-342-02a	IR2-342-02a	RANDOM	15-825	12/17/2007	0	0.5	pCi/g	0.42		0.16	0.29	0.007	U	0.099	0.17	0.032	U	0.052	0.096	0.006	U	0.057	0.11	0.0008	U	0.073	0.14
2IR-342-02b	IR2-342-02b	RANDOM	15-826	12/17/2007	0.5	1	pCi/g	0.54		0.12	0.17	0.002	U	0.26	0.45	0.050	J	0.033	0.047	-0.003	U	0.031	0.059	0.052	U	0.070	0.12
2IR-342-03a	IR2-342-03a	RANDOM	15-827	12/17/2007	0	0.5	pCi/g	0.47		0.16	0.29	0.027	U	0.077	0.13	0.027	U	0.039	0.066	0.0	U	0.052	0.099	-0.029	U	0.099	0.17
2IR-342-03b	IR2-342-03b	RANDOM	15-828	12/17/2007	0.5	1	pCi/g	0.69		0.21	0.11	0.02	U	0.11	0.19	0.040	U	0.048	0.078	0.0	U	0.061	0.12	0.02	U	0.11	0.20
2IR-342-04a	IR2-342-04a	RANDOM	15-829	12/17/2007	0	0.5	pCi/g	0.52		0.16	0.19	0.06	U	0.25	0.44	0.027	U	0.032	0.053	0.0	U	0.049	0.090	-0.016	U	0.077	0.14
2IR-342-04b	IR2-342-04b	RANDOM	15-830	12/17/2007	0.5	1	pCi/g	0.33		0.19	0.26	0.043	U	0.087	0.15	0.004	U	0.047	0.085	0.007	U	0.047	0.089	-0.02	U	0.11	0.19
2IR-342-05a	IR2-342-05a	RANDOM	15-831	12/17/2007	0	0.5	pCi/g	0.0	U	0.14	0.25	0.015	U	0.099	0.17	0.014	U	0.040	0.069	0.0	U	0.047	0.088	-0.03	U	0.10	0.18
2IR-342-05b	IR2-342-05b	RANDOM	15-832	12/17/2007	0.5	1	pCi/g	0.38		0.23	0.32	-0.01	U	0.11	0.19	0.024	U	0.055	0.096	0.002	U	0.049	0.098	0.01	U	0.11	0.20
2IR-342-06a	IR2-342-06a	RANDOM	15-833	12/17/2007	0	0.5	pCi/g	0.48		0.23	0.29	0.040	U	0.094	0.16	0.065	U	0.058	0.099	-0.008	U	0.075	0.14	0.01	U	0.11	0.20
2IR-342-06b	IR2-342-06b	RANDOM	15-834	12/17/2007	0.5	1	pCi/g	0.51		0.14	0.16	0.16	U	0.18	0.29	0.020	U	0.027	0.046	0.0003	U	0.034	0.063	-0.011	U	0.068	0.12
2IR-342-07a	IR2-342-07a	RANDOM	15-835	12/17/2007	0	0.5	pCi/g	0.40		0.22	0.30	0.055	U	0.075	0.12	0.026	U	0.038	0.063	-0.011	U	0.059	0.11	-0.02	U	0.10	0.18
2IR-342-07b	IR2-342-07b	RANDOM	15-836	12/17/2007	0.5	1	pCi/g	0.62		0.18	0.22	0.036	U	0.096	0.16	0.035	U	0.045	0.075	0.003	U	0.053	0.099	0.05	U	0.11	0.18
B-2IR-279a	IR2-B-279a	BIASED	15-804	12/17/2007	1.5	2	pCi/g	0.34	U	0.17	0.36	-0.07	U	0.11	0.18	0.047	U	0.067	0.12	0.019	U	0.055	0.10	-0.001	U	0.11	0.20
2IR-342-08a	IR2-342-08a	RANDOM	15-837	12/17/2007	0	0.5	pCi/g	0.79		0.23	0.19	-0.006	U	0.097	0.17	0.029	U	0.039	0.065	0.013	U	0.047	0.084	0.03	U	0.11	0.20
B-2IR-279b	IR2-B-279b	BIASED	15-805	12/17/2007	2	2.5	pCi/g	1.24		0.25	0.34	-0.01	U	0.32	0.57	0.058	U	0.058	0.091	0.0	U	0.012	0.045	-0.02	U	0.12	0.22
2IR-342-08b	IR2-342-08b	RANDOM	15-838	12/17/2007	0.5	1	pCi/g	0.45		0.15	0.21	0.0	U	0.097	0.17	-0.009	U	0.041	0.075	0.006	U	0.040	0.077	-0.017	U	0.089	0.16
2IR-342-09a	IR2-342-09a	RANDOM	15-839	12/17/2007	0	0.5	pCi/g	0.41		0.16	0.26	0.058	U	0.074	0.12	-0.05	U	0.22	0.10	0.0	U	0.046	0.092	0.003	U	0.10	0.19
2IR-342-09b	IR2-342-09b	RANDOM	15-840	12/17/2007	0.5	1	pCi/g	0.66		0.13	0.15	0.0	U	0.25	0.44	0.022	U	0.033	0.054	-0.012	U	0.035	0.062	0.008	U	0.071	0.13
2IR-342-10a	IR2-342-10a	RANDOM	15-841	12/17/2007	0	0.5	pCi/g	0.40		0.20	0.25	-0.001	U	0.097	0.17	0.029	U	0.050	0.085	0.022	U	0.048	0.085	0.028	U	0.098	0.17
2IR-342-10b	IR2-342-10b	RANDOM	15-842	12/17/2007	0.5	1	pCi/g	0.40		0.15	0.27	-0.013	U	0.085	0.15	0.007	U	0.037	0.068	-0.005	U	0.029	0.059	0.017	U	0.077	0.14
B-2IR-343a	IR2-B-343a	BIASED	15-843	12/17/2007	1.5	2	pCi/g	0.25	U	0.22	0.35	-0.03	U	0.10	0.17	0.014	U	0.057	0.11	-0.015	U	0.061	0.11	0.009	U	0.12	0.21
B-2IR-343b	IR2-B-343b	BIASED	15-844	12/17/2007	2	2.5	pCi/g	0.43		0.22	0.29	0.013	U	0.093	0.16	0.089	J	0.050	0.066	-0.019	U	0.063	0.11	0.071	U	0.092	0.15
B-2IR-282a	IR2-B-282a	BIASED	15-806	12/17/2007	1	1.5	pCi/g	0.28		0.17	0.22	-0.03	U	0.10	0.17	-0.0007	U	0.041	0.077	-0.01	U	0.041	0.079	-0.02	U	0.11	0.19
B-2IR-282b	IR2-B-282b	BIASED	15-807	12/17/2007	1.5	2	pCi/g	0.57		0.17	0.25	-0.03	U	0.10	0.18	-0.005	U	0.050	0.090	-0.0006	U	0.047	0.089	0.056	U	0.095	0.16
2IR-343-01a	IR2-343-01a	RANDOM	15-845	12/17/2007	0	0.5	pCi/g	0.39		0.15	0.26	0.034	U	0.087	0.15	0.040	U	0.046	0.075	0.016	U	0.029	0.050	-0.03	U	0.10	0.18
2IR-343-01b	IR2-343-01b	RANDOM	15-846	12/17/2007	0.5	1	pCi/g	0.42		0.21	0.39	0.05	U	0.13	0.22	0.061	U	0.069	0.11	0.0	U	0.016	0.058	0.04	U	0.11	0.19
2IR-282-01a	IR2-282-01a	RANDOM	15-808	12/17/2007	0	0.5	pCi/g	0.37		0.17	0.20	-0.025	U	0.097	0.17	0.029	U	0.041	0.068	0.0002	U	0.049	0.092	0.0	U	0.13	0.22
2IR-343-02a	IR2-343-02a	RANDOM	15-847	12/17/2007	0	0.5	pCi/g	0.33		0.21	0.29	0.072	U	0.067	0.11	0.051	U	0.059	0.10	0.0	U	0.013	0.049	-0.05	U	0.11	0.20
2IR-343-02b	IR2-343-02b	RANDOM	15-848	12/17/2007	0.5	1	pCi/g	0.29	U	0.22	0.32	0.021	U	0.098	0.17	0.043	U	0.062	0.10	-0.0004	U	0.054	0.11	0.02	U	0.13	0.23
2IR-282-01b	IR2-282-01b	RANDOM	15-809	12/17/2007	0.5	1	pCi/g	0.31		0.19	0.24	0.017	U	0.088	0.15	0.0	U	0.094	0.17	-0.011	U	0.054	0.10	-0.04	U	0.13	0.23
2IR-343-03a	IR2-343-03a	RANDOM	15-849	12/17/2007	0	0.5	pCi/g	0.37		0.16	0.31	0.013	U	0.086	0.15	0.035	U	0.056	0.10	0.009	U	0.047	0.090	-0.005	U	0.12	0.22
2IR-343-03b	IR2-343-03b	RANDOM	15-850	12/17/2007	0.5	1	pCi/g	0.50		0.15	0.21	0.07	U	0.28	0.48	0.087	J	0.040	0.039	0.004	U	0.037	0.068	-0.002	U	0.077	0.14

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
2IR-282-02a	IR2-282-02a	RANDOM	15-810	12/17/2007	0	0.5	pCi/g	0.33		0.20	0.27	0.085	U	0.092	0.15	0.030	U	0.056	0.10	0.0	U	0.074	0.14	0.03	U	0.12	0.21
2IR-282-02b	IR2-282-02b	RANDOM	15-811	12/17/2007	0.5	1	pCi/g	0.38		0.14	0.15	-0.01	U	0.25	0.44	0.007	U	0.028	0.050	-0.016	U	0.040	0.071	0.012	U	0.083	0.15
2IR-343-04a	IR2-343-04a	RANDOM	15-851	12/17/2007	0	0.5	pCi/g	0.45		0.24	0.33	-0.012	U	0.099	0.17	0.106	J	0.057	0.075	0.0	U	0.012	0.044	-0.01	U	0.11	0.19
2IR-282-03a	IR2-282-03a	RANDOM	15-812	12/17/2007	0	0.5	pCi/g	0.24	U	0.18	0.26	-0.04	U	0.11	0.19	0.044	U	0.038	0.056	-0.016	U	0.053	0.095	0.0	U	0.11	0.20
2IR-343-04b	IR2-343-04b	RANDOM	15-852	12/17/2007	0.5	1	pCi/g	0.57		0.25	0.29	0.076	U	0.098	0.16	0.040	U	0.047	0.076	0.0	U	0.014	0.051	-0.001	U	0.10	0.19
2IR-282-03b	IR2-282-03b	RANDOM	15-813	12/17/2007	0.5	1	pCi/g	0.43		0.19	0.25	0.01	U	0.10	0.18	0.018	U	0.043	0.074	0.0009	U	0.043	0.082	-0.03	U	0.10	0.18
2IR-282-04a	IR2-282-04a	RANDOM	15-814	12/17/2007	0	0.5	pCi/g	0.43		0.14	0.20	-0.09	U	0.33	0.56	0.018	U	0.034	0.059	-0.014	U	0.046	0.081	0.038	U	0.086	0.15
2IR-282-04b	IR2-282-04b	RANDOM	15-815	12/17/2007	0.5	1	pCi/g	0.35		0.20	0.26	0.005	U	0.10	0.18	0.00009	U	0.047	0.088	0.0	U	0.011	0.040	-0.008	U	0.097	0.17
2IR-282-05a	IR2-282-05a	RANDOM	15-816	12/17/2007	0	0.5	pCi/g	0.26	U	0.23	0.36	0.019	U	0.088	0.15	0.033	U	0.062	0.11	-0.009	U	0.048	0.095	0.02	U	0.12	0.21
2IR-282-05b	IR2-282-05b	RANDOM	15-817	12/17/2007	0.5	1	pCi/g	0.31		0.18	0.20	-0.001	U	0.079	0.14	-0.02	U	0.19	0.11	0.0	U	0.074	0.14	0.00004	U	0.10	0.19
2IR-343-05a	IR2-343-05a	RANDOM	15-853	12/19/2007	0	0.5	pCi/g	0.46		0.22	0.28	0.042	U	0.078	0.13	0.028	U	0.037	0.061	-0.002	U	0.034	0.068	0.005	U	0.090	0.16
2IR-343-05b	IR2-343-05b	RANDOM	15-854	12/19/2007	0.5	1	pCi/g	0.38		0.14	0.23	0.02	U	0.10	0.17	0.033	U	0.048	0.079	-0.002	U	0.042	0.085	0.017	U	0.091	0.16
B-2IR-344a	IR2-B-344a	BIASED	15-865	12/19/2007	2	2.5	pCi/g	0.42		0.16	0.26	0.05	U	0.10	0.17	-0.004	U	0.034	0.064	-0.007	U	0.048	0.089	-0.03	U	0.10	0.18
2IR-343-06a	IR2-343-06a	RANDOM	15-855	12/19/2007	0	0.5	pCi/g	0.47		0.17	0.29	0.071	U	0.099	0.16	0.061	U	0.057	0.091	-0.010	U	0.062	0.11	-0.0006	U	0.093	0.17
B-2IR-344b	IR2-B-344b	BIASED	15-866	12/19/2007	2.5	3	pCi/g	0.46		0.20	0.25	0.0208	U	0.099	0.17	0.034	U	0.038	0.061	-0.009	U	0.055	0.10	-0.03	U	0.12	0.21
2IR-343-06b	IR2-343-06b	RANDOM	15-856	12/19/2007	0.5	1	pCi/g	0.45		0.19	0.23	0.04	U	0.10	0.17	-0.002	U	0.054	0.096	0.001	U	0.053	0.098	0.03	U	0.11	0.19
2IR-343-07a	IR2-343-07a	RANDOM	15-857	12/19/2007	0	0.5	pCi/g	0.26	U	0.25	0.39	-0.003	U	0.11	0.19	0.089	U	0.075	0.12	0.023	U	0.060	0.11	-0.001	U	0.14	0.25
2IR-343-07b	IR2-343-07b	RANDOM	15-858	12/19/2007	0.5	1	pCi/g	0.57		0.20	0.30	0.077	U	0.091	0.15	0.044	U	0.052	0.095	-0.003	U	0.060	0.12	-0.0006	U	0.11	0.21
2IR-343-08a	IR2-343-08a	RANDOM	15-859	12/19/2007	0	0.5	pCi/g	0.67		0.14	0.06	0.14	U	0.22	0.36	0.026	U	0.031	0.051	-0.01	U	0.031	0.057	-0.006	U	0.076	0.14
2IR-343-08b	IR2-343-08b	RANDOM	15-860	12/19/2007	0.5	1	pCi/g	0.46		0.20	0.25	-0.022	U	0.099	0.17	0.017	U	0.046	0.081	-0.012	U	0.053	0.098	0.012	U	0.089	0.16
2IR-343-09a	IR2-343-09a	RANDOM	15-861	12/19/2007	0	0.5	pCi/g	0.41		0.25	0.35	0.04	U	0.10	0.18	0.046	U	0.053	0.085	0.020	U	0.064	0.12	-0.05	U	0.14	0.24
2IR-343-09b	IR2-343-09b	RANDOM	15-862	12/19/2007	0.5	1	pCi/g	0.61		0.25	0.32	-0.01	U	0.11	0.20	0.103	J	0.062	0.090	-0.0009	U	0.064	0.12	-0.02	U	0.11	0.20
2IR-343-10a	IR2-343-10a	RANDOM	15-863	12/19/2007	0	0.5	pCi/g	0.72		0.27	0.33	0.06	U	0.11	0.18	0.094	U	0.067	0.10	0.013	U	0.071	0.13	-0.05	U	0.16	0.27
2IR-343-10b	IR2-343-10b	RANDOM	15-864	12/19/2007	0.5	1	pCi/g	0.52		0.16	0.21	-0.07	U	0.29	0.51	0.121	J	0.041	0.029	0.004	U	0.038	0.072	0.037	U	0.095	0.16
B-2IR-348a	IR2-B-348a	BIASED	15-868	12/19/2007	2	2.5	pCi/g	0.29	U	0.21	0.29	0.029	U	0.075	0.13	0.019	U	0.038	0.066	-0.007	U	0.060	0.11	0.01	U	0.10	0.19
B-2IR-348b	IR2-B-348b	BIASED	15-869	12/19/2007	2.5	3	pCi/g	0.61		0.12	0.06	-0.01	U	0.21	0.38	0.039	U	0.031	0.047	-0.0001	U	0.030	0.057	-0.013	U	0.075	0.13
B-2IR-349a	IR2-B-349a	BIASED	15-870	12/19/2007	2	2.5	pCi/g	0.39		0.13	0.22	0.032	U	0.071	0.12	0.004	U	0.038	0.069	-0.01	U	0.046	0.085	0.0	U	0.089	0.16
B-2IR-349b	IR2-B-349b	BIASED	15-871	12/19/2007	2.5	3	pCi/g	0.36		0.15	0.25	0.030	U	0.077	0.13	0.013	U	0.040	0.070	0.0	U	0.050	0.094	0.008	U	0.087	0.16
2IR-349-01a	IR2-349-01a	RANDOM	15-872	12/19/2007	0	0.5	pCi/g	0.14	U	0.15	0.24	0.018	U	0.084	0.14	0.014	U	0.033	0.057	-0.005	U	0.047	0.086	0.001	U	0.083	0.15
2IR-349-01b	IR2-349-01b	RANDOM	15-873	12/19/2007	0.5	1	pCi/g	0.28	U	0.16	0.28	-0.040	U	0.081	0.14	0.013	U	0.051	0.092	0.01	U	0.044	0.085	-0.02	U	0.10	0.19
2IR-349-02a	IR2-349-02a	RANDOM	15-874	12/19/2007	0	0.5	pCi/g	0.09	U	0.16	0.28	0.001	U	0.083	0.15	0.035	U	0.048	0.088	0.009	U	0.048	0.091	0.061	U	0.098	0.17
2IR-349-02b	IR2-349-02b	RANDOM	15-875	12/19/2007	0.5	1	pCi/g	0.30		0.20	0.29	0.016	U	0.083	0.14	-0.0003	U	0.026	0.052	-0.012	U	0.060	0.11	0.046	U	0.082	0.14
2IR-349-03a	IR2-349-03a	RANDOM	15-876	12/19/2007	0	0.5	pCi/g	0.30		0.18	0.25	0.039	U	0.076	0.13	0.098	J	0.057	0.080	0.016	U	0.046	0.085	0.05	U	0.11	0.20
2IR-349-03b	IR2-349-03b	RANDOM	15-877	12/19/2007	0.5	1	pCi/g	0.30		0.15	0.19	-0.0006	U	0.070	0.12	0.049	U	0.040	0.061	0.0004	U	0.037	0.070	0.027	U	0.078	0.14
2IR-349-04a	IR2-349-04a	RANDOM	15-878	12/19/2007	0	0.5	pCi/g	0.30		0.21	0.29	0.007	U	0.094	0.16	0.125	J	0.071	0.099	0.0	U	0.075	0.14	-0.02	U	0.11	0.21
2IR-349-04b	IR2-349-04b	RANDOM	15-879	12/19/2007	0.5	1	pCi/g	0.23	U	0.20	0.30	0.004	U	0.092	0.16	0.011	U	0.044	0.087	0.0	U	0.062	0.12	0.004	U	0.10	0.19
2IR-349-05a	IR2-349-05a	RANDOM	15-880	12/19/2007	0	0.5	pCi/g	0.62		0.15	0.11	-0.05	U	0.24	0.41	0.081	J	0.036	0.044	0.013	U	0.029	0.051	0.033	U	0.069	0.12
2IR-349-05b	IR2-349-05b	RANDOM	15-881	12/19/2007	0.5	1	pCi/g	0.35		0.16	0.19	-0.048	U	0.098	0.16	0.071	U	0.051	0.077	0.0	U	0.009	0.036	0.023	U	0.066	0.12
2IR-349-06a	IR2-349-06a	RANDOM	15-882	12/19/2007	0	0.5	pCi/g	0.56		0.22	0.24	0.063	U	0.095	0.16	0.086	U	0.059	0.086	0.0	U	0.012	0.044	-0.005	U	0.094	0.17
2IR-349-06b	IR2-349-06b	RANDOM	15-883	12/19/2007	0.5	1	pCi/g	0.19	U	0.17	0.27	0.042	U	0.098	0.17	0.039	U	0.055	0.092	0.008	U	0.043	0.080	-0.03	U	0.12	0.21
2IR-349-07a	IR2-349-07a	RANDOM	15-884	12/19/2007	0	0.5	pCi/g	0.29		0.17	0.25	0.051	U	0.083	0.14	0.139	J	0.059	0.077	0.0	U	0.048	0.090	0.048	U	0.090	0.15
2IR-349-07b	IR2-349-07b	RANDOM	15-885	12/19/2007	0.5	1	pCi/g	0.35		0.10	0.15	0.13	U	0.21	0.36	0.070	J	0.033	0.034	0.014	U	0.023	0.039	0.0004	U	0.068	0.12
2IR-349-08a	IR2-349-08a	RANDOM	15-886	12/19/2007	0	0.5	pCi/g	0.28		0.17	0.25	-0.034	U	0.069	0.12	0.019	U	0.043	0.074	0.006	U	0.045	0.085	-0.025	U	0.090	0.16
2IR-349-08b	IR2-349-08b	RANDOM	15-887	12/19/2007	0.5	1	pCi/g	0.31		0.18	0.25	0.032	U	0.079	0.14	0.032	U	0.038	0.062	-0.020	U	0.057	0.10	-0.005	U	0.084	0.16
2IR-349-09a	IR2-349-09a	RANDOM	15-888	12/19/2007	0	0.5	pCi/g	0.23	U	0.17	0.25	0.001	U	0.10	0.18	0.004	U	0.033	0.061	0.0	U	0.083	0.15	-0.027	U	0.094	0.16
2IR-349-09b	IR2-349-09b	RANDOM	15-889	12/19/2007	0.5	1	pCi/g	0.11	U	0.14	0.23	0.027	U	0.075	0.13	0.010	U	0.053	0.096	-0.007	U	0.062	0.12	-0.02	U	0.11	0.20
2IR-349-10a	IR2-349-10a	RANDOM	15-890	12/19/2007	0	0.5	pCi/g	0.40		0.16	0.27	0.033	U	0.095	0.16	0.122	J	0.070	0.11	0.003	U	0.056	0.11	0.0	U	0.12	0.23
2IR-349-10b	IR2-349-10b	RANDOM	15-891	12/19/2007	0.5	1	pCi/g	0.39		0.15	0.17	0.01	U	0.28	0.49	0.102	J	0.042	0.053	0.0	U	0.006	0.024	0.012	U	0.065	0.12
1IR-AB1-01b	IR1-1AB-01b	RANDOM	15-902	12/20/2007	2.5	3	pCi/g	0.53		0.23	0.33	0.07	U	0.16	0.27	-0.023	U	0.067	0.12	-0.014	U	0.065	0.11	0.30	U	0.15	0.37
1IR-13B-01b	IR1-13B-01b	RANDOM	15-893	12/20/2007	2.5	3	pCi/g	0.26	U	0.21	0.31	0.067	U	0.071	0.11	-0.01	U	0.11	0.1	0.0	U	0.064	0.12	0.0	U	0.11	0.20
1IR-13A-01b	IR1-13A-01b	RANDOM	15-894	12/20/2007	2.5	3	pCi/g	0.217		0.089	0.14	0.12	U	0.24	0.40	0.0	U	0.037	0.067	-0.003	U	0.026	0.050	-0.017	U	0.073	0.13
1IR-15-01b	IR1-15-01b	RANDOM	15-895	12/20/2007	2.5	3	pCi/g	0.37		0.13	0.19	-0.034	U	0.087	0.15	-0.009	U	0.046	0.083	-0.002	U	0.044	0.085	0.018	U	0.083	0.15
1IR-17-01b	IR1-17-01b	RANDOM	15-896	12/20/2007	2.5	3	pCi/g	0.43		0.17	0.19	-0.015	U	0.098	0.17	-0.011	U	0.049	0.087	-0.027	U	0.068	0.12	0.03	U	0.10	0.18
1IR-21-01b	IR1-21-01b	RANDOM	15-897	12/20/2007	2.5	3	pCi/g	0.23	U	0.23	0.37	-0.0036	U	0.099	0.17	0.0	U	0.054	0.10	0.004	U	0.044	0.089	-0.01	U	0.12	0.22
1IR-22-01b	IR1-22-01b	RANDOM	15-898	12/20/2007	2.5	3	pCi/g	0.26	U	0.21	0.31	0.028	U	0.074	0.13	0.003	U	0.041	0.090	0.038	U	0.035	0.049	0.0093	U	0.099	0.18
1IR-23-01b	IR1-23-01b	RANDOM	15-899	12/20/2007	2.5	3	pCi/g	0.39		0.11	0.14	-0.04	U	0.25	0.44	0.0	U	0.046	0.082	0.0	U	0.035	0.066	0.032	U	0.077	0.13
1IR-24-01b	IR1-24-01b	RANDOM	15-900	12/20/2007	2.5	3	pCi/g	0.27		0.18	0.25	-0.0004	U	0.085	0.15	0.012	U	0.046	0.082	-0.012	U	0.053	0.097	0.005	U	0.080	0.15
1IR-25-01b	IR1-25-01b	RANDOM	15-901	12/20/2007	2.5	3	pCi/g	0.21	U	0.19	0.30	0.05	U	0.11	0.18	-0.018	U	0.062	0.11	0.018	U	0.046	0.085	0.022	U	0.090	0.16
B-1IR-B-3Aa	IR1-B-3Aa	BIASED	15-903	12/20/2007	2	2.5	pCi/g	0.46		0.16	0.22	-0.03	U	0.11	0.18	-0.006	U	0.046	0.083	-0.00002	U	0.045	0.085	-0.04	U	0.11	0.18
B-1IR-B-3Ab	IR1-B-3Ab	BIASED	15-904	12/20/2007	2.5	3	pCi/g	0.47		0.25	0.32	0.0	U	0.12	0.21	-0.014	U	0.067	0.12	0.0	U	0.015	0.055	0.0	U	0.15	0.27
B-1IR-3Ba	IR1-B-3Ba	BIASED	15-905	12/20/2007	2	2.5	pCi/g	0.39		0.24	0.32	0.042	U	0.075	0.13	0.006	U	0.057	0.11	-0.009	U	0.076	0.14	-0.001	U	0.084	0.16
B-1IR-3Bb	IR1-B-3Bb	BIASED	15-906	12/20/2007	2.5	3	pCi/g	0.39		0.12	0.17	-0.07	U	0.26	0.44	0.145	J	0.044	0.033	0.0	U	0.006	0.023	-0.012	U	0.087	0.15
1IR-19-01a	IR1-19-01a	RANDOM	15-907	12/20/2007	2	2.5	pCi/g	0.0	U	0.11	0.21	0.021	U	0.053	0.090	-0.0005	U	0.040	0.075	-0.001	U	0.021	0.047	-0.015	U	0.082	0.15
1IR-19-01b	IR1-19-01b	RANDOM	15-908	12/20/2007	2.5	3	pCi/g	0.38		0.21	0.28	-0.06	U	0.10	0.17	-0.016	U	0.048	0.086	-0.017	U	0.056	0.10	0.008	U	0.095	0.17
B-32IR-113a	IR32-B-111a	BIASED	15-909	1/22/2008	2	2.5	pCi/g	0.41		0.22	0.27	-0.05	U	0.11	0.18	-0.001	U	0.041	0.080	0.0003	U	0.041	0.086	0.020	U	0.089	0.16
B-32IR-113b	IR32-B-111b	BIASED	15-910	1/22/2008	2.5	3	pCi/g	0.36		0.20	0.29	0.039	U	0.094	0.16	0.0	U	0.025	0.049	0.0	U	0.072	0.13	-0.03	U	0.11	0.18
B-32IR-114a	IR32-B-112a	BIASED	15-912	1/22/2008	2	2.5	pCi/g	0.26	U	0.22	0.34	0.0	U	0.090	0.16	0.008	U	0.037	0.068	0.0	U	0.095	0.17	0.070	U	0.087	0.14
B-32IR-114b	IR32-B-112b	BIASED	15-913	1/22/2008	2.5	3	pCi/g	0.31		0.16	0.20	0.015	U	0.091	0.16	0.009	U	0.043	0.077	0.017	U	0.037	0.066	0.001	U	0.093	0.17
B-32IR-108a	IR32-B-108a	BIASED	15-914	1/22/2008	2	2.5	pCi/g	0.23	U	0.24	0.37	-0.013	U	0.089	0.16	0.016	U	0.061	0.11	0.008	U	0.063	0.12	0.06	U	0.11	0.19
B-32IR-108b	IR32-B-108b	BIASED	15-915	1/22/2008	2.5	3	pCi/g	0.36		0.19	0.23	-0.04	U	0.10	0.18	-0.011	U	0.091	0.094	0.022	U	0.054	0.098	-0.02	U	0.11	0.20

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-32IR-109a	IR32-B-109a	BIASED	15-916	1/22/2008	2	2.5	pCi/g	0.25		0.14	0.20	-0.08	U	0.29	0.51	0.0005	U	0.026	0.049	0.007	U	0.035	0.065	0.032	U	0.079	0.14
B-32IR-109b	IR32-B-109b	BIASED	15-917	1/22/2008	2.5	3	pCi/g	0.40		0.14	0.27	0.023	U	0.093	0.16	0.009	U	0.040	0.073	-0.001	U	0.038	0.076	-0.019	U	0.091	0.16
B-32IR-1a	IR32-B-1a	BIASED	15-918	1/22/2008	2	2.5	pCi/g	0.46		0.15	0.17	0.048	U	0.070	0.12	0.016	U	0.045	0.080	-0.006	U	0.048	0.092	-0.01	U	0.10	0.18
B-32IR-1b	IR32-B-1b	BIASED	15-919	1/22/2008	2.5	3	pCi/g	0.37		0.19	0.25	-0.04	U	0.11	0.19	0.008	U	0.038	0.070	0.0001	U	0.051	0.097	0.0	U	0.13	0.23
B-32IR-2a	IR32-B-2a	BIASED	15-920	1/22/2008	2	2.5	pCi/g	0.48		0.31	0.46	0.0107	U	0.099	0.17	-0.010	U	0.063	0.11	0.0	U	0.015	0.056	-0.01	U	0.11	0.21
B-32IR-2b	IR32-B-2b	BIASED	15-921	1/22/2008	2.5	3	pCi/g	0.49		0.20	0.36	-0.04	U	0.13	0.23	0.0007	U	0.059	0.11	0.0	U	0.011	0.039	-0.06	U	0.14	0.25
32IR-121a	IR32-121a	RANDOM	15-922	1/22/2008	2	2.5	pCi/g	0.24	U	0.24	0.37	-0.02	U	0.10	0.18	-0.004	U	0.058	0.11	0.0	U	0.015	0.054	0.021	U	0.086	0.16
BRA2-1	BRA2-1	RANDOM	15-934	1/30/2008	0	0.5	pCi/g	0.50		0.17	0.29	-0.030	U	0.096	0.16	0.132	J	0.058	0.057	0.007	U	0.055	0.10	-0.03	U	0.11	0.19
BRA2-2	BRA2-2	RANDOM	15-935	1/30/2008	0	0.5	pCi/g	0.37	U	0.26	0.38	0.04	U	0.10	0.17	0.083	U	0.064	0.095	0.002	U	0.027	0.065	-0.03	U	0.13	0.24
BRA2-3	BRA2-3	RANDOM	15-936	1/30/2008	0	0.5	pCi/g	0.48		0.16	0.27	-0.0009	U	0.11	0.19	0.108	J	0.057	0.078	0.006	U	0.048	0.091	0.006	U	0.098	0.18
BRA2-4	BRA2-4	RANDOM	15-937	1/30/2008	0	0.5	pCi/g	0.48		0.21	0.39	-0.02	U	0.11	0.19	0.078	U	0.072	0.11	0.0	U	0.13	0.24	0.02	U	0.13	0.24
BRA2-5	BRA2-5	RANDOM	15-938	1/30/2008	0	0.5	pCi/g	0.50		0.27	0.35	0.03	U	0.11	0.18	0.067	U	0.065	0.11	0.034	U	0.072	0.13	-0.04	U	0.15	0.27
BRA2-6	BRA2-6	RANDOM	15-939	1/30/2008	0	0.5	pCi/g	0.36		0.15	0.18	0.09	U	0.16	0.28	0.060	J	0.041	0.060	-0.008	U	0.040	0.074	-0.034	U	0.082	0.14
BRA2-7	BRA2-7	RANDOM	15-940	1/30/2008	0	0.5	pCi/g	0.49		0.17	0.29	0.0003	U	0.11	0.20	0.049	U	0.056	0.091	0.0	U	0.012	0.045	0.007	U	0.10	0.18
BRA2-8	BRA2-8	RANDOM	15-941	1/30/2008	0	0.5	pCi/g	0.50		0.26	0.32	-0.05	U	0.13	0.22	0.075	U	0.074	0.12	-0.002	U	0.051	0.10	0.04	U	0.12	0.21
BRA2-9	BRA2-9	RANDOM	15-942	1/30/2008	0	0.5	pCi/g	0.52		0.17	0.28	-0.04	U	0.10	0.18	0.050	U	0.046	0.073	0.000007	U	0.035	0.069	-0.02	U	0.10	0.18
BRA2-10	BRA2-10	RANDOM	15-943	1/30/2008	0	0.5	pCi/g	0.37		0.16	0.31	-0.025	U	0.092	0.16	0.017	U	0.053	0.093	0.029	U	0.047	0.079	-0.012	U	0.092	0.17
BRA3-1	BRA3-1	RANDOM	15-944	1/30/2008	0	0.5	pCi/g	0.59		0.22	0.35	-0.01	U	0.13	0.22	0.067	U	0.062	0.098	0.004	U	0.057	0.11	-0.03	U	0.16	0.28
BRA3-2	BRA3-2	RANDOM	15-945	1/30/2008	0	0.5	pCi/g	0.74		0.32	0.37	0.02	U	0.12	0.22	0.073	U	0.071	0.11	0.0	U	0.019	0.068	-0.008	U	0.15	0.27
BRA3-3	BRA3-3	RANDOM	15-946	1/30/2008	0	0.5	pCi/g	0.85		0.26	0.25	-0.01	U	0.12	0.22	0.169	J	0.051	0.028	0.0	U	0.010	0.038	-0.007	U	0.10	0.19
BRA3-4	BRA3-4	RANDOM	15-947	1/30/2008	0	0.5	pCi/g	0.40		0.25	0.34	0.08	U	0.11	0.18	0.091	J	0.059	0.081	-0.0006	U	0.056	0.11	-0.02	U	0.12	0.22
BRA3-5	BRA3-5	RANDOM	15-948	1/30/2008	0	0.5	pCi/g	0.48		0.17	0.28	0.015	U	0.080	0.14	0.084	J	0.056	0.082	0.004	U	0.056	0.10	-0.01	U	0.13	0.23
BRA3-6	BRA3-6	RANDOM	15-949	1/30/2008	0	0.5	pCi/g	0.48		0.22	0.41	0.03	U	0.12	0.20	0.053	U	0.069	0.11	0.007	U	0.064	0.12	-0.004	U	0.13	0.25
BRA3-7	BRA3-7	RANDOM	15-950	1/30/2008	0	0.5	pCi/g	0.57		0.18	0.32	0.02	U	0.11	0.19	0.075	U	0.056	0.084	0.004	U	0.053	0.10	-0.006	U	0.098	0.18
BRA3-8	BRA3-8	RANDOM	15-951	1/30/2008	0	0.5	pCi/g	0.49		0.17	0.23	-0.03	U	0.10	0.17	0.146	J	0.057	0.049	0.013	U	0.049	0.089	0.001	U	0.091	0.17
BRA3-9	BRA3-9	RANDOM	15-952	1/30/2008	0	0.5	pCi/g	0.62		0.23	0.37	-0.044	U	0.097	0.16	0.114	J	0.066	0.089	0.0	U	0.14	0.25	-0.01	U	0.16	0.29
BRA3-10	BRA3-10	RANDOM	15-953	1/30/2008	0	0.5	pCi/g	0.58		0.23	0.26	0.06	U	0.11	0.19	0.106	J	0.068	0.10	0.012	U	0.055	0.10	-0.05	U	0.14	0.24
BRA1-1	BRA1-1	RANDOM	15-924	1/30/2008	0	0.5	pCi/g	0.53		0.23	0.25	0.040	U	0.077	0.13	-0.03	U	1.1	0.1	0.017	U	0.035	0.063	-0.03	U	0.13	0.23
BRA1-2	BRA1-2	RANDOM	15-925	1/30/2008	0	0.5	pCi/g	0.45		0.13	0.18	0.07	U	0.27	0.46	0.023	U	0.032	0.054	-0.002	U	0.032	0.061	-0.027	U	0.084	0.15
BRA1-3	BRA1-3	RANDOM	15-926	1/30/2008	0	0.5	pCi/g	0.54		0.19	0.18	-0.004	U	0.088	0.15	0.018	U	0.039	0.067	0.0	U	0.078	0.14	0.019	U	0.082	0.15
BRA1-4	BRA1-4	RANDOM	15-927	1/30/2008	0	0.5	pCi/g	0.43		0.21	0.27	0.0	U	0.11	0.19	0.140	J	0.056	0.044	0.008	U	0.054	0.10	-0.022	U	0.099	0.18
BRA1-5	BRA1-5	RANDOM	15-928	1/30/2008	0	0.5	pCi/g	0.30		0.16	0.20	0.007	U	0.082	0.14	0.153	J	0.066	0.088	0.018	U	0.041	0.073	-0.02	U	0.10	0.18
BRA1-6	BRA1-6	RANDOM	15-929	1/30/2008	0	0.5	pCi/g	0.43		0.19	0.23	0.059	U	0.083	0.14	0.0	U	0.055	0.10	-0.021	U	0.059	0.11	0.014	U	0.080	0.14
BRA1-7	BRA1-7	RANDOM	15-930	1/30/2008	0	0.5	pCi/g	0.42		0.15	0.17	0.08	U	0.26	0.46	0.025	U	0.029	0.047	-0.01	U	0.038	0.069	-0.0007	U	0.081	0.15
BRA1-8	BRA1-8	RANDOM	15-931	1/30/2008	0	0.5	pCi/g	0.07	U	0.14	0.24	0.050	U	0.079	0.13	0.005	U	0.050	0.10	-0.019	U	0.065	0.12	0.013	U	0.096	0.18
BRA1-9	BRA1-9	RANDOM	15-932	1/30/2008	0	0.5	pCi/g	0.37	U	0.26	0.38	0.0128	U	0.099	0.17	0.025	U	0.054	0.10	0.023	U	0.055	0.099	0.059	U	0.089	0.15
BRA1-10	BRA1-10	RANDOM	15-933	1/30/2008	0	0.5	pCi/g	0.34		0.14	0.18	0.04	U	0.27	0.47	0.014	U	0.033	0.057	-0.005	U	0.039	0.073	-0.026	U	0.078	0.14
B-32IR-3a	IR32-B-3a	BIASED	15-954	3/27/2008	2	2.5	pCi/g	0.23		0.15	0.18	0.073	U	0.087	0.14	-0.007	U	0.076	0.10	0.0	U	0.070	0.13	0.0	U	0.10	0.19
B-32IR-3b	IR32-B-3b	BIASED	15-955	3/27/2008	2.5	3	pCi/g	0.42		0.16	0.25	-0.016	U	0.082	0.14	0.058	J	0.036	0.046	0.008	U	0.032	0.064	0.0	U	0.13	0.23
B-32IR-4Aa	IR32-B-4Aa	BIASED	15-957	3/27/2008	2	2.5	pCi/g	0.39		0.13	0.18	0.024	U	0.083	0.14	0.0007	U	0.030	0.057	0.0	U	0.007	0.029	-0.020	U	0.087	0.15
B-32IR-4Ab	IR32-B-4Ab	BIASED	15-958	3/27/2008	2.5	3	pCi/g	0.49		0.21	0.20	0.018	U	0.074	0.13	0.034	U	0.052	0.087	0.0	U	0.079	0.15	0.0003	U	0.12	0.22
B-32IR-4Ba	IR32-B-4Ba	BIASED	15-959	3/27/2008	2	2.5	pCi/g	0.29	U	0.15	0.29	-0.014	U	0.077	0.13	0.005	U	0.048	0.096	0.028	U	0.039	0.064	-0.002	U	0.068	0.13
B-32IR-4Bb	IR32-B-4Bb	BIASED	15-960	3/27/2008	2.5	3	pCi/g	0.46		0.11	0.17	-0.06	U	0.22	0.38	0.043	J	0.029	0.041	0.0	U	0.050	0.090	0.0	U	0.080	0.14
B-32IR-7a	IR32-B-7a	BIASED	15-961	3/27/2008	2	2.5	pCi/g	0.41		0.17	0.20	-0.009	U	0.097	0.17	0.005	U	0.035	0.064	-0.011	U	0.049	0.088	-0.036	U	0.099	0.17
B-32IR-7b	IR32-B-7b	BIASED	15-962	3/27/2008	2.5	3	pCi/g	0.13	U	0.15	0.25	0.002	U	0.095	0.16	0.0	U	0.068	0.12	0.001	U	0.039	0.074	-0.04	U	0.14	0.23
B-32IR-36a	IR32-B-36a	BIASED	15-963	3/27/2008	2	2.5	pCi/g	0.31		0.20	0.27	0.14	U	0.11	0.17	0.023	U	0.056	0.098	0.019	U	0.058	0.11	-0.07	U	0.16	0.27
B-32IR-36b	IR32-B-36b	BIASED	15-964	3/27/2008	2.5	3	pCi/g	0.49		0.22	0.24	0.039	U	0.094	0.16	-0.02	U	0.36	0.10	0.029	U	0.042	0.071	0.0	U	0.13	0.24
B-32IR-37a	IR32-B-37a	BIASED	15-965	3/27/2008	2	2.5	pCi/g	0.40		0.15	0.18	-0.01	U	0.36	0.62	-0.0009	U	0.033	0.061	-0.015	U	0.038	0.068	-0.020	U	0.078	0.14
B-32IR-37b	IR32-B-37b	BIASED	15-966	3/27/2008	2.5	3	pCi/g	0.29		0.19	0.28	0.0002	U	0.099	0.17	-0.001	U	0.049	0.090	0.0001	U	0.051	0.099	-0.03	U	0.13	0.22
B-32IR-41a	IR32-B-41a	BIASED	15-967	3/27/2008	2	2.5	pCi/g	0.16	U	0.18	0.30	0.035	U	0.094	0.16	0.014	U	0.044	0.080	0.0	U	0.095	0.17	0.032	U	0.083	0.15
B-32IR-41b	IR32-B-41b	BIASED	15-968	3/27/2008	2.5	3	pCi/g	0.38		0.20	0.27	-0.014	U	0.089	0.15	0.011	U	0.040	0.073	0.0	U	0.049	0.094	0.06	U	0.10	0.17
B-32IR-43a	IR32-B-43a	BIASED	15-969	3/27/2008	2	2.5	pCi/g	0.50		0.17	0.26	-0.006	U	0.088	0.15	0.035	U	0.050	0.084	0.016	U	0.040	0.075	0.0	U	0.13	0.24
B-32IR-43b	IR32-B-43b	BIASED	15-970	3/27/2008	2.5	3	pCi/g	0.43		0.20	0.25	-0.03	U	0.10	0.17	0.0	U	0.057	0.10	0.0	U	0.008	0.033	0.039	U	0.089	0.15
B-32IR-47a	IR32-B-47a	BIASED	15-971	3/27/2008	2	2.5	pCi/g	0.35		0.24	0.34	0.039	U	0.077	0.13	0.036	U	0.041	0.064	0.002	U	0.061	0.12	-0.006	U	0.11	0.20
B-32IR-47b	IR32-B-47b	BIASED	15-972	3/27/2008	2.5	3	pCi/g	0.38		0.22	0.30	0.001	U	0.083	0.15	-0.01	U	0.10	0.1	0.020	U	0.046	0.085	0.001	U	0.11	0.20
32IR-48	IR32-48	RANDOM	15-973	3/27/2008	2	2.5	pCi/g	0.29		0.11	0.14	-0.04	U	0.30	0.52	0.026	U	0.031	0.049	0.003	U	0.029	0.056	-0.017	U	0.083	0.15
32IR-50	IR32-50	RANDOM	15-974	3/27/2008	2	2.5	pCi/g	0.42		0.16	0.26	-0.015	U	0.080	0.14	-0.021	U	0.055	0.095	-0.005	U	0.047	0.090	0.0	U	0.11	0.19
32IR-51	IR32-51	RANDOM	15-975	3/27/2008	2	2.5	pCi/g	0.41		0.17	0.31	-0.0008	U	0.092	0.16	0.005	U	0.049	0.090	-0.008	U	0.052	0.10	-0.04	U	0.12	0.21
B-32IR-54a	IR32-B-54a	BIASED	15-976	3/27/2008	2	2.5	pCi/g	0.35		0.14	0.23	0.020	U	0.094	0.16	-0.001	U	0.030	0.056	0.0	U	0.046	0.086	-0.03	U	0.11	0.19
B-32IR-54b	IR32-B-54b	BIASED	15-977	3/27/2008	2.5	3	pCi/g	0.34		0.20	0.24	0.0	U	0.088	0.16	0.0004	U	0.048	0.092	0.0	U	0.015	0.054	0.01	U	0.11	0.21
B-32IR-56a	IR32-B-56a	BIASED	15-978	3/27/2008	2	2.5	pCi/g	0.25		0.18	0.25	0.087	U	0.081	0.13	-0.01	U	0.12	0.10	0.008	U	0.038	0.076	-0.001	U	0.10	0.19
B-32IR-56b	IR32-B-56b	BIASED	15-979	3/27/2008	2.5	3	pCi/g	0.33		0.12	0.20	-0.13	U	0.30	0.50	0.007	U	0.019	0.035	-0.008	U	0.031	0.057	-0.019	U	0.081	0.14
B-32IR-60a	IR32-B-60a	BIASED	15-980	3/27/2008	2	2.5	pCi/g	0.34		0.14	0.27	0.001	U	0.090	0.16	0.037	U	0.047	0.078	-0.021	U	0.054	0.096	0.057	U	0.086	0.14
B-32IR-60b	IR32-B-60b	BIASED	15-981	3/27/2008	2.5	3	pCi/g	0.31		0.19	0.27	-0.0007	U	0.088	0.16	0.0	U	0.061	0.11	-0.012	U	0.048	0.089	0.0	U	0.12	0.22
B-32IR-61a	IR32-B-61a	BIASED	15-982	3/27/2008	2	2.5	pCi/g	0.22	U	0.23	0.36	-0.03	U	0.11	0.19	0.026	U	0.056	0.097	0.001	U	0.054	0.11	0.075	U	0.098	0.16
B-32IR-61b	IR32-B-61b	BIASED	15-983	3/27/2008	2.5	3	pCi/g	0.24	U	0.14	0.32	-0.05	U	0.13	0.21	-0.003	U	0.054	0.096	-0.0002	U	0.048	0.090	-0.005	U	0.14	0.25
B-32IR-62a	IR32-B-62a	BIASED	15-984	3/27/2008	2	2.5	pCi/g	0.45		0.25	0.32	-0.002	U	0.087	0.16	0.009	U	0.053	0.098	0.0	U	0.11	0.20	-0.04	U	0.12	0.22
B-32IR-62b	IR32-B-62b	BIASED	15-985	3/27/2008	2.5	3	pCi/g	0.05	U	0.20	0.36	0.039	U	0.090	0.15	-0.02	U	0.23	0.1	-0.002	U	0.048	0.094	-0.002	U	0.11	0.20
B-32IR-63a	IR32-B-63a	BIASED	15-986	3/27/2008	2	2.5	pCi/g	0.54		0.13	0.09	0.05	U	0.25	0.44	0.003	U	0.031	0.057	-0.007	U	0.040	0.073	-0.011	U	0.075	0.13
B-32IR-63b	IR32-B-63b	BIASED	15-987	3/27/2008	2.5	3	pCi/g	0.33		0.14	0.25	0.042	U	0.094	0.16	-0.0007	U	0.041	0.077	0.0	U	0.056	0.11	0.007	U	0.069	0.13

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-32IR-65a	IR32-B-65a	BIASED	15-988	3/27/2008	2	2.5	pCi/g	0.31		0.20	0.29	0.003	U	0.073	0.13	0.0	U	0.068	0.12	0.010	U	0.048	0.090	-0.025	U	0.089	0.16
B-32IR-65b	IR32-B-65b	BIASED	15-989	3/27/2008	2.5	3	pCi/g	0.25	U	0.17	0.25	0.025	U	0.080	0.14	0.0003	U	0.040	0.074	0.005	U	0.039	0.074	0.030	U	0.079	0.14
32IR-66	IR32-66	RANDOM	15-990	3/27/2008	2	2.5	pCi/g	0.31		0.13	0.17	0.014	U	0.087	0.15	0.001	U	0.040	0.076	-0.011	U	0.052	0.098	0.056	U	0.091	0.15
B-32IR-67a	IR32-B-67a	BIASED	15-991	3/27/2008	2	2.5	pCi/g	0.38		0.19	0.26	-0.039	U	0.098	0.17	-0.009	U	0.046	0.082	0.004	U	0.049	0.090	0.016	U	0.093	0.17
B-32IR-67b	IR32-B-67b	BIASED	15-992	3/27/2008	2.5	3	pCi/g	0.44		0.24	0.32	0.06	U	0.12	0.20	-0.015	U	0.066	0.12	0.0	U	0.074	0.14	0.06	U	0.13	0.23
B-32IR-69a	IR32-B-69a	BIASED	15-993	3/31/2008	2	2.5	pCi/g	0.22		0.14	0.19	0.029	U	0.072	0.12	-0.010	U	0.038	0.069	0.0	U	0.070	0.13	0.009	U	0.073	0.13
B-32IR-69b	IR32-B-69b	BIASED	15-994	3/31/2008	2.5	3	pCi/g	0.19	U	0.19	0.30	0.0	U	0.14	0.24	0.0	U	0.075	0.13	-0.020	U	0.067	0.12	0.07	U	0.14	0.25
B-32IR-71a	IR32-B-71a	BIASED	15-996	3/31/2008	2	2.5	pCi/g	0.47		0.23	0.28	0.04	U	0.11	0.19	0.002	U	0.050	0.092	-0.004	U	0.052	0.10	-0.04	U	0.13	0.22
B-32IR-71b	IR32-B-71b	BIASED	15-997	3/31/2008	2.5	3	pCi/g	0.54		0.26	0.36	0.13	U	0.20	0.33	0.001	U	0.073	0.13	-0.003	U	0.074	0.13	-0.001	U	0.23	0.40
B-32IR-73a	IR32-B-73a	BIASED	15-998	3/31/2008	2	2.5	pCi/g	0.28	U	0.27	0.42	-0.09	U	0.17	0.28	0.011	U	0.073	0.13	0.0	U	0.014	0.051	-0.009	U	0.17	0.30
B-32IR-73b	IR32-B-73b	BIASED	15-999	3/31/2008	2.5	3	pCi/g	0.17	U	0.18	0.28	0.022	U	0.089	0.15	-0.02	U	0.13	0.1	0.004	U	0.054	0.11	0.01	U	0.10	0.19
B-32IR-75a	IR32-B-75a	BIASED	15-1000	3/31/2008	2	2.5	pCi/g	0.40		0.14	0.17	0.06	U	0.34	0.58	0.00009	U	0.028	0.052	-0.002	U	0.031	0.058	0.021	U	0.089	0.16
B-32IR-75b	IR32-B-75b	BIASED	15-1001	3/31/2008	2.5	3	pCi/g	0.39		0.13	0.18	-0.037	U	0.097	0.16	0.007	U	0.048	0.087	0.0	U	0.079	0.14	0.0515	U	0.099	0.17
B-32IR-76a	IR32-B-76a	BIASED	15-1002	3/31/2008	2	2.5	pCi/g	0.51		0.32	0.49	0.11	U	0.23	0.38	-0.041	U	0.091	0.15	-0.002	U	0.078	0.14	-0.08	U	0.28	0.48
B-32IR-76b	IR32-B-76b	BIASED	15-1003	3/31/2008	2.5	3	pCi/g	0.24		0.15	0.22	0.004	U	0.095	0.17	0.0003	U	0.042	0.077	0.0	U	0.045	0.085	-0.0003	U	0.088	0.16
B-32IR-79a	IR32-B-79a	BIASED	15-1004	3/31/2008	2	2.5	pCi/g	0.27	U	0.20	0.30	0.019	U	0.083	0.14	-0.007	U	0.046	0.084	0.0	U	0.089	0.16	-0.014	U	0.094	0.17
B-32IR-79b	IR32-B-79b	BIASED	15-1005	3/31/2008	2.5	3	pCi/g	0.30		0.13	0.24	-0.03	U	0.10	0.18	0.019	U	0.040	0.070	0.0	U	0.008	0.030	0.033	U	0.074	0.13
B-32IR-80a	IR32-B-80a	BIASED	15-1006	3/31/2008	2	2.5	pCi/g	0.30		0.19	0.24	-0.04	U	0.11	0.18	0.015	U	0.048	0.088	-0.014	U	0.057	0.11	-0.05	U	0.13	0.23
B-32IR-80b	IR32-B-80b	BIASED	15-1007	3/31/2008	2.5	3	pCi/g	0.44		0.18	0.33	0.068	U	0.092	0.15	0.029	U	0.045	0.088	0.002	U	0.045	0.093	0.04	U	0.10	0.18
B-32IR-81a	IR32-B-81a	BIASED	15-1008	3/31/2008	2	2.5	pCi/g	0.62		0.14	0.11	-0.02	U	0.32	0.56	0.015	U	0.032	0.056	-0.002	U	0.033	0.063	-0.001	U	0.076	0.14
B-32IR-81b	IR32-B-81b	BIASED	15-1009	3/31/2008	2.5	3	pCi/g	0.31		0.16	0.20	0.021	U	0.085	0.14	0.026	U	0.047	0.081	-0.013	U	0.048	0.088	-0.017	U	0.087	0.16
B-32IR-84a	IR32-B-84a	BIASED	15-1010	3/31/2008	2	2.5	pCi/g	0.30		0.18	0.24	-0.021	U	0.086	0.15	0.012	U	0.042	0.076	-0.014	U	0.051	0.095	0.0008	U	0.099	0.18
B-32IR-84b	IR32-B-84b	BIASED	15-1011	3/31/2008	2.5	3	pCi/g	0.41		0.16	0.19	0.053	U	0.073	0.12	0.002	U	0.038	0.071	0.014	U	0.035	0.063	0.003	U	0.080	0.15
B-32IR-6a	IR32-B-6a	BIASED	15-1012	3/31/2008	2	2.5	pCi/g	0.48		0.18	0.27	-0.090	U	0.085	0.14	0.011	U	0.030	0.055	-0.004	U	0.051	0.099	0.040	U	0.070	0.12
B-32IR-6b	IR32-B-6a	BIASED	15-1013	3/31/2008	2.5	3	pCi/g	0.36		0.17	0.21	-0.021	U	0.093	0.16	-0.007	U	0.043	0.078	0.0	U	0.043	0.082	0.008	U	0.082	0.15
B-32IR-5a	IR32-B-5a	BIASED	15-1014	3/31/2008	2	2.5	pCi/g	0.28		0.11	0.12	0.17	U	0.25	0.41	-0.007	U	0.027	0.048	0.002	U	0.026	0.049	0.011	U	0.061	0.11
B-32IR-5b	IR32-B-5b	BIASED	15-1015	3/31/2008	2.5	3	pCi/g	0.42		0.14	0.25	-0.027	U	0.082	0.14	-0.013	U	0.043	0.077	-0.0005	U	0.043	0.086	0.033	U	0.082	0.14
B-IR1-134a	IR1-B-134a	BIASED	15-1016	3/31/2008	2	2.5	pCi/g	0.37		0.15	0.27	0.005	U	0.096	0.17	0.006	U	0.034	0.062	0.022	U	0.030	0.049	-0.001	U	0.088	0.16
B-IR1-134b	IR1-B-134b	BIASED	15-1017	3/31/2008	2.5	3	pCi/g	0.29		0.17	0.23	-0.05	U	0.10	0.18	0.021	U	0.036	0.062	0.024	U	0.040	0.069	0.004	U	0.11	0.19
B-IR1-135a	IR1-B-135a	BIASED	15-1018	3/31/2008	2	2.5	pCi/g	0.42		0.15	0.25	-0.027	U	0.095	0.16	0.005	U	0.040	0.072	-0.01	U	0.049	0.089	-0.010	U	0.087	0.16
B-IR1-135b	IR1-B-135b	BIASED	15-1019	3/31/2008	2.5	3	pCi/g	0.46		0.26	0.35	0.04	U	0.11	0.19	0.019	U	0.053	0.095	-0.029	U	0.077	0.14	-0.06	U	0.15	0.26
B-32IR-85a	IR32-B-85a	BIASED	15-1020	4/1/2008	2	2.5	pCi/g	0.30	U	0.13	0.34	0.004	U	0.073	0.13	0.007	U	0.057	0.11	0.047	U	0.058	0.094	0.006	U	0.11	0.19
B-32IR-85b	IR32-B-85b	BIASED	15-1021	4/1/2008	2.5	3	pCi/g	0.45		0.12	0.17	0.11	U	0.27	0.46	-0.0008	U	0.028	0.053	0.0004	U	0.031	0.060	0.015	U	0.062	0.11
B-32IR-86a	IR32-B-86a	BIASED	15-1022	4/1/2008	2	2.5	pCi/g	0.40		0.15	0.26	0.088	U	0.084	0.13	0.028	U	0.048	0.081	-0.011	U	0.047	0.087	0.016	U	0.089	0.16
B-32IR-86b	IR32-B-86b	BIASED	15-1023	4/1/2008	2.5	3	pCi/g	0.21	U	0.19	0.28	-0.005	U	0.093	0.16	-0.008	U	0.046	0.084	-0.002	U	0.046	0.091	-0.003	U	0.10	0.19
B-32IR-87a	IR32-B-87a	BIASED	15-1024	4/1/2008	2	2.5	pCi/g	0.37		0.15	0.24	0.037	U	0.090	0.15	-0.004	U	0.032	0.060	0.0	U	0.008	0.032	-0.02	U	0.10	0.18
B-32IR-87b	IR32-B-87b	BIASED	15-1025	4/1/2008	2.5	3	pCi/g	0.36		0.15	0.30	0.0	U	0.087	0.15	0.020	U	0.042	0.073	0.009	U	0.041	0.080	0.0	U	0.098	0.18
B-32IR-88a	IR32-B-88a	BIASED	15-1026	4/1/2008	2	2.5	pCi/g	0.40		0.14	0.23	0.0	U	0.11	0.19	0.010	U	0.038	0.068	0.017	U	0.045	0.082	0.033	U	0.086	0.15
B-32IR-88b	IR32-B-88b	BIASED	15-1027	4/1/2008	2.5	3	pCi/g	0.30		0.13	0.22	0.002	U	0.083	0.14	-0.015	U	0.042	0.074	0.011	U	0.031	0.057	-0.011	U	0.097	0.17
B-32IR-89a	IR32-B-89a	BIASED	15-1028	4/1/2008	2	2.5	pCi/g	0.29	U	0.23	0.34	-0.02	U	0.10	0.18	0.004	U	0.033	0.065	0.0	U	0.10	0.19	-0.03	U	0.11	0.19
B-32IR-89b	IR32-B-89b	BIASED	15-1029	4/1/2008	2.5	3	pCi/g	0.32		0.16	0.32	-0.01	U	0.10	0.18	0.0004	U	0.037	0.072	0.0	U	0.063	0.12	0.014	U	0.089	0.16
B-32IR-90a	IR32-B-90a	BIASED	15-1031	4/1/2008	2	2.5	pCi/g	0.34		0.23	0.32	-0.004	U	0.090	0.16	-0.0007	U	0.034	0.067	0.0	U	0.068	0.13	0.0691	U	0.099	0.17
B-32IR-90b	IR32-B-90b	BIASED	15-1032	4/1/2008	2.5	3	pCi/g	0.35		0.13	0.22	-0.027	U	0.093	0.16	0.0	U	0.021	0.043	0.010	U	0.043	0.079	-0.0264	U	0.099	0.17
B-32IR-91a	IR32-B-91a	BIASED	15-1033	4/1/2008	2	2.5	pCi/g	0.29	U	0.21	0.29	0.048	U	0.091	0.15	0.011	U	0.061	0.11	-0.006	U	0.064	0.12	-0.02	U	0.12	0.22
B-32IR-91b	IR32-B-91b	BIASED	15-1034	4/1/2008	2.5	3	pCi/g	0.48		0.22	0.25	0.041	U	0.094	0.16	-0.02	U	0.24	0.11	0.027	U	0.060	0.11	0.08	U	0.11	0.18
B-32IR-92a	IR32-B-92a	BIASED	15-1035	4/1/2008	2	2.5	pCi/g	0.56		0.16	0.19	-0.12	U	0.33	0.56	0.020	U	0.030	0.051	-0.0001	U	0.027	0.053	0.014	U	0.079	0.14
B-32IR-92b	IR32-B-92b	BIASED	15-1036	4/1/2008	2.5	3	pCi/g	0.42		0.18	0.20	0.010	U	0.087	0.15	0.053	U	0.044	0.067	0.011	U	0.042	0.078	-0.018	U	0.093	0.16
B-32IR-93a	IR32-B-93a	BIASED	15-1037	4/1/2008	2	2.5	pCi/g	0.35		0.20	0.26	0.047	U	0.098	0.17	-0.017	U	0.054	0.096	0.0	U	0.012	0.043	-0.01	U	0.10	0.19
B-32IR-93b	IR32-B-93b	BIASED	15-1038	4/1/2008	2.5	3	pCi/g	0.47		0.20	0.26	-0.03	U	0.11	0.18	-0.008	U	0.042	0.076	-0.011	U	0.046	0.084	-0.03	U	0.10	0.18
B-32IR-94a	IR32-B-94a	BIASED	15-1039	4/1/2008	2	2.5	pCi/g	0.32		0.20	0.27	-0.01	U	0.088	0.15	0.017	U	0.036	0.063	-0.010	U	0.067	0.12	0.027	U	0.093	0.17
B-32IR-94b	IR32-B-94b	BIASED	15-1040	4/1/2008	2.5	3	pCi/g	0.47		0.16	0.22	-0.024	U	0.086	0.15	0.007	U	0.045	0.081	-0.021	U	0.056	0.098	-0.03	U	0.11	0.20
B-32IR-95a	IR32-B-95a	BIASED	15-1041	4/1/2008	2	2.5	pCi/g	0.14	U	0.27	0.45	-0.001	U	0.18	0.31	0.0001	U	0.072	0.13	0.00006	U	0.080	0.15	0.04	U	0.17	0.30
B-32IR-95b	IR32-B-95b	BIASED	15-1042	4/1/2008	2.5	3	pCi/g	0.41		0.20	0.21	0.030	U	0.089	0.15	-0.04	U	0.34	0.12	-0.0004	U	0.062	0.12	-0.01	U	0.10	0.19
B-32IR-96a	IR32-B-96a	BIASED	15-1043	4/1/2008	2	2.5	pCi/g	0.28		0.13	0.17	-0.006	U	0.31	0.54	0.009	U	0.023	0.041	-0.008	U	0.031	0.056	-0.031	U	0.088	0.15
B-32IR-96b	IR32-B-96b	BIASED	15-1044	4/1/2008	2.5	3	pCi/g	0.36		0.21	0.30	-0.009	U	0.093	0.16	-0.005	U	0.047	0.084	0.0	U	0.055	0.10	0.0015	U	0.099	0.18
B-32IR-97a	IR32-B-97a	BIASED	15-1045	4/1/2008	2	2.5	pCi/g	0.35		0.21	0.29	0.027	U	0.089	0.15	-0.006	U	0.039	0.073	0.003	U	0.049	0.095	0.024	U	0.094	0.17
B-32IR-97b	IR32-B-97b	BIASED	15-1046	4/1/2008	2.5	3	pCi/g	0.29		0.15	0.19	0.003	U	0.079	0.14	0.0002	U	0.017	0.035	-0.007	U	0.038	0.069	-0.015	U	0.082	0.15
B-32IR-98a	IR32-B-98a	BIASED	15-1047	4/1/2008	2	2.5	pCi/g	0.26	U	0.21	0.32	0.032	U	0.083	0.14	-0.020	U	0.052	0.091	-0.0005	U	0.061	0.12	0.01	U	0.11	0.19
B-32IR-98b	IR32-B-98b	BIASED	15-1048	4/1/2008	2.5	3	pCi/g	0.31		0.17	0.23	0.068	U	0.074	0.12	0.01	U	0.038	0.068	0.0	U	0.081	0.14	-0.02	U	0.12	0.21
B-32IR-99a	IR32-B-99a	BIASED	15-1049	4/1/2008	2	2.5	pCi/g	0.46		0.20	0.23	-0.024	U	0.095	0.16	0.016	U	0.044	0.078	-0.012	U	0.057	0.10	-0.022	U	0.081	0.14
B-32IR-99b	IR32-B-99b	BIASED	15-1050	4/1/2008	2.5	3	pCi/g	0.60		0.20	0.23	-0.008	U	0.060	0.10	0.021	U	0.037	0.064	-0.007	U	0.050	0.090	-0.016	U	0.078	0.14
B-32IR-100a	IR32-B-100a	BIASED	15-1051	4/1/2008	2	2.5	pCi/g	0.48		0.17	0.28	0.017	U	0.088	0.15	0.029	U	0.047	0.080	0.0	U	0.065	0.12	-0.001	U	0.088	0.16
B-32IR-100b	IR32-B-100b	BIASED	15-1052	4/1/2008	2.5	3	pCi/g	0.47		0.16	0.27	-0.002	U	0.065	0.12	0.019	U	0.053	0.098	0.025	U	0.060	0.11	-0.003	U	0.097	0.18
B-32IR-101a	IR32-B-101a	BIASED	15-1053	4/1/2008	2	2.5	pCi/g	0.67		0.14	0.05	-0.04	U	0.27	0.46	0.002	U	0.025	0.046	0.002	U	0.024	0.047	0.010	U	0.058	0.10
B-32IR-101b	IR32-B-101b	BIASED	15-1054	4/1/2008	2.5	3	pCi/g	0.35		0.14	0.24	0.008	U	0.090	0.15	0.011	U	0.032	0.056	0.006	U	0.053	0.098	0.023	U	0.091	0.16
B-32IR-102a	IR32-B-102a	BIASED	15-1055	4/2/2008	2	2.5	pCi/g	0.39		0.13	0.18	0.044	U	0.093	0.16	0.001	U	0.037	0.068	0.002	U	0.036	0.068	-0.020	U	0.093	0.16
B-32IR-102b	IR32-B-102b	BIASED	15-1056	4/2/2008	2.5	3	pCi/g	0.55		0.17	0.17	0.053	U	0.076	0.13	0.007	U	0.033	0.059	0.001	U	0.047	0.087	-0.03	U	0.10	0.18
B-32IR-103a	IR32-B-103a	BIASED	15-1057	4/2/2008	2	2.5	pCi/g	0.43		0.14	0.21	0.016	U	0.082	0.14	0.022	U	0.033	0.056	0.0	U	0.068	0.12	-0.027	U	0.088	0.15
B-32IR-103b	IR32-B-103b	BIASED	15-1058	4/2/2008	2.5	3	pCi/g	0.57		0.17	0.20	-0.040	U	0.093	0.16	0.031	U	0.043	0.071	-0.004	U	0.053	0.099	0.033	U	0.094	0.16
B-32IR-104a	IR32-B-104a	BIASED	15-1059	4/2/2008	2	2.5	pCi/g	0.50		0.16	0.23	0.004	U	0.092	0.16	0.022	U	0.040	0.067	0.00006	U	0.040	0.076	0.030	U	0.098	0.17

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-32IR-104b	IR32-B-104b	BIASED	15-1060	4/2/2008	2.5	3	pCi/g	0.57		0.16	0.21	0.0	U	0.12	0.20	0.009	U	0.058	0.10	0.004	U	0.063	0.12	0.002	U	0.11	0.20
B-32IR-105a	IR32-B-105a	BIASED	15-1061	4/2/2008	2	2.5	pCi/g	0.38		0.23	0.33	0.0009	U	0.087	0.15	0.002	U	0.052	0.10	0.0	U	0.012	0.044	-0.03	U	0.11	0.19
B-32IR-105b	IR32-B-105b	BIASED	15-1062	4/2/2008	2.5	3	pCi/g	0.59		0.16	0.20	-0.17	U	0.30	0.50	0.034	U	0.039	0.063	-0.005	U	0.034	0.063	-0.003	U	0.083	0.15
B-32IR-106a	IR32-B-106a	BIASED	15-1063	4/2/2008	2	2.5	pCi/g	0.41		0.13	0.20	-0.033	U	0.099	0.17	0.006	U	0.034	0.061	-0.005	U	0.037	0.071	-0.001	U	0.068	0.12
B-32IR-106b	IR32-B-106b	BIASED	15-1064	4/2/2008	2.5	3	pCi/g	0.53		0.17	0.25	0.020	U	0.098	0.17	-0.0004	U	0.050	0.091	-0.008	U	0.049	0.093	-0.04	U	0.12	0.21
B-32IR-107a	IR32-B-107a	BIASED	15-1065	4/2/2008	2	2.5	pCi/g	0.36		0.15	0.26	-0.003	U	0.088	0.15	0.021	U	0.044	0.077	-0.019	U	0.056	0.10	0.029	U	0.079	0.14
B-32IR-107b	IR32-B-107b	BIASED	15-1066	4/2/2008	2.5	3	pCi/g	0.41		0.14	0.22	-0.002	U	0.086	0.15	0.0	U	0.041	0.075	0.0	U	0.036	0.070	-0.05	U	0.12	0.20
B-32IR-113a	IR32-B-113a	BIASED	15-1067	4/2/2008	2	2.5	pCi/g	0.44		0.18	0.33	-0.005	U	0.064	0.12	0.056	U	0.065	0.10	-0.011	U	0.066	0.12	-0.01	U	0.11	0.19
B-32IR-113b	IR32-B-113b	BIASED	15-1068	4/2/2008	2.5	3	pCi/g	0.44		0.11	0.16	0.16	U	0.25	0.42	0.073	J	0.036	0.049	0.0	U	0.035	0.065	-0.0003	U	0.064	0.12
B-32IR-114a	IR32-B-114a	BIASED	15-1069	4/2/2008	2	2.5	pCi/g	0.38		0.14	0.22	0.017	U	0.074	0.13	0.032	U	0.040	0.066	-0.008	U	0.051	0.092	-0.03	U	0.11	0.18
B-32IR-114b	IR32-B-114b	BIASED	15-1070	4/2/2008	2.5	3	pCi/g	0.14	U	0.14	0.23	-0.037	U	0.084	0.14	0.081	J	0.046	0.063	-0.009	U	0.044	0.081	-0.026	U	0.096	0.17
B-32IR-115a	IR32-B-115a	BIASED	15-1071	4/2/2008	2	2.5	pCi/g	0.63		0.20	0.25	0.004	U	0.096	0.17	0.043	U	0.049	0.080	0.026	U	0.045	0.078	0.0	U	0.12	0.22
B-32IR-115b	IR32-B-115b	BIASED	15-1072	4/2/2008	2.5	3	pCi/g	0.61		0.19	0.27	-0.036	U	0.092	0.16	0.055	U	0.046	0.070	-0.009	U	0.043	0.080	-0.02	U	0.11	0.19
B-32IR-116a	IR32-B-116a	BIASED	15-1073	4/2/2008	2	2.5	pCi/g	0.51		0.16	0.24	0.042	U	0.084	0.14	0.038	U	0.041	0.066	0.012	U	0.037	0.070	0.023	U	0.081	0.14
B-32IR-116b	IR32-B-116b	BIASED	15-1074	4/2/2008	2.5	3	pCi/g	0.48		0.14	0.17	-0.015	U	0.083	0.14	0.014	U	0.031	0.053	-0.011	U	0.037	0.067	-0.015	U	0.083	0.15
B-32IR-118a	IR32-B-118a	BIASED	15-1075	4/2/2008	2	2.5	pCi/g	0.39		0.15	0.24	0.004	U	0.050	0.091	0.013	U	0.044	0.080	0.0	U	0.087	0.16	0.057	U	0.094	0.16
B-32IR-118b	IR32-B-118b	BIASED	15-1076	4/2/2008	2.5	3	pCi/g	0.29	U	0.20	0.30	-0.007	U	0.089	0.15	-0.007	U	0.048	0.087	-0.006	U	0.055	0.10	0.001	U	0.092	0.17
B-32IR-119a	IR32-B-119a	BIASED	15-1077	4/2/2008	2	2.5	pCi/g	0.46		0.20	0.23	-0.0007	U	0.090	0.16	-0.01	U	0.12	0.09	0.008	U	0.062	0.12	-0.012	U	0.093	0.17
B-32IR-119b	IR32-B-119b	BIASED	15-1078	4/2/2008	2.5	3	pCi/g	0.33		0.13	0.22	0.044	U	0.094	0.16	0.014	U	0.035	0.062	0.013	U	0.028	0.051	-0.0004	U	0.083	0.15
B-32IR-120a	IR32-B-120a	BIASED	15-1079	4/2/2008	2	2.5	pCi/g	0.47		0.16	0.28	-0.00005	U	0.092	0.16	0.005	U	0.046	0.085	0.0	U	0.060	0.11	-0.02	U	0.10	0.19
B-32IR-120b	IR32-B-120b	BIASED	15-1080	4/2/2008	2.5	3	pCi/g	0.48		0.13	0.13	-0.03	U	0.30	0.52	-0.0002	U	0.031	0.057	-0.001	U	0.027	0.051	0.018	U	0.070	0.12
B-32IR-126a	IR32-B-126a	BIASED	15-1082	4/2/2008	2	2.5	pCi/g	0.24	U	0.17	0.25	-0.017	U	0.075	0.13	0.017	U	0.040	0.070	0.0	U	0.010	0.037	-0.014	U	0.091	0.16
B-32IR-126b	IR32-B-126b	BIASED	15-1083	4/2/2008	2.5	3	pCi/g	0.24		0.11	0.15	0.09	U	0.25	0.42	-0.006	U	0.023	0.042	0.0	U	0.028	0.054	0.042	U	0.068	0.11
B-32IR-129a	IR32-B-129a	BIASED	15-1084	4/2/2008	2	2.5	pCi/g	0.157	U	0.079	0.43	0.024	U	0.082	0.14	0.003	U	0.030	0.057	-0.002	U	0.044	0.083	0.059	U	0.084	0.14
B-32IR-129b	IR32-B-129b	BIASED	15-1085	4/2/2008	2.5	3	pCi/g	0.34		0.20	0.27	0.021	U	0.076	0.13	0.006	U	0.042	0.076	0.0	U	0.011	0.041	0.00005	U	0.082	0.15
B-32IR-131a	IR32-B-131a	BIASED	15-1086	4/2/2008	2	2.5	pCi/g	0.21	U	0.19	0.29	-0.005	U	0.060	0.11	0.0	U	0.046	0.085	-0.007	U	0.042	0.081	-0.0003	U	0.089	0.16
B-32IR-131b	IR32-B-131b	BIASED	15-1087	4/2/2008	2.5	3	pCi/g	0.27		0.13	0.22	0.045	U	0.087	0.15	0.012	U	0.037	0.066	0.0	U	0.045	0.086	-0.020	U	0.091	0.16
B-32IR-133a	IR32-B-133a	BIASED	15-1088	4/2/2008	2	2.5	pCi/g	0.0	U	0.35	0.64	0.09	U	0.18	0.30	-0.012	U	0.087	0.15	0.0	U	0.13	0.24	-0.07	U	0.22	0.37
B-32IR-133b	IR32-B-133b	BIASED	15-1089	4/2/2008	2.5	3	pCi/g	0.31	U	0.22	0.33	0.009	U	0.10	0.18	-0.019	U	0.060	0.11	0.0	U	0.084	0.15	-0.01	U	0.12	0.22
B-32IR-134a	IR32-B-134a	BIASED	15-1090	4/2/2008	2	2.5	pCi/g	0.18		0.12	0.18	0.007	U	0.27	0.47	0.028	U	0.034	0.055	-0.012	U	0.035	0.062	-0.026	U	0.082	0.14
B-32IR-134b	IR32-B-134b	BIASED	15-1091	4/2/2008	2.5	3	pCi/g	0.23	U	0.17	0.26	0.036	U	0.080	0.14	-0.0004	U	0.044	0.081	-0.008	U	0.048	0.091	0.0152	U	0.099	0.18
B-32IR-135a	IR32-B-135a	BIASED	15-1092	4/2/2008	2	2.5	pCi/g	0.27	U	0.15	0.28	0.07	U	0.10	0.17	0.023	U	0.051	0.088	0.033	U	0.046	0.075	0.003	U	0.11	0.20
B-32IR-135b	IR32-B-135b	BIASED	15-1093	4/2/2008	2.5	3	pCi/g	0.20	U	0.17	0.25	-0.041	U	0.096	0.16	0.049	J	0.036	0.049	-0.005	U	0.061	0.11	0.012	U	0.088	0.16
B-32IR-136a	IR32-B-136a	BIASED	15-1094	4/2/2008	2	2.5	pCi/g	0.0	U	0.24	0.44	0.08	U	0.12	0.19	0.036	U	0.051	0.084	0.023	U	0.054	0.097	0.0	U	0.17	0.30
B-32IR-136b	IR32-B-136b	BIASED	15-1095	4/2/2008	2.5	3	pCi/g	0.36		0.22	0.31	-0.03	U	0.12	0.20	0.035	U	0.050	0.083	-0.016	U	0.052	0.094	-0.0005	U	0.11	0.20
B-32IR-137a	IR32-B-137a	BIASED	15-1096	4/2/2008	2	2.5	pCi/g	0.21	U	0.24	0.39	0.14	U	0.17	0.28	0.008	U	0.075	0.13	-0.0008	U	0.053	0.10	-0.0003	U	0.20	0.34
B-32IR-137b	IR32-B-137b	BIASED	15-1097	4/2/2008	2.5	3	pCi/g	0.39	U	0.29	0.45	0.11	U	0.23	0.38	0.0002	U	0.069	0.12	0.0	U	0.087	0.15	-0.004	U	0.27	0.46
B-32IR-138a	IR32-B-138a	BIASED	15-1098	4/2/2008	2	2.5	pCi/g	0.121	U	0.072	0.34	0.018	U	0.099	0.17	0.097	J	0.062	0.086	0.0	U	0.075	0.14	0.011	U	0.098	0.18
B-32IR-138b	IR32-B-138b	BIASED	15-1099	4/2/2008	2.5	3	pCi/g	0.22		0.15	0.20	0.047	U	0.064	0.11	-0.02	U	0.47	0.09	0.0	U	0.092	0.17	-0.002	U	0.068	0.13
B-32IR-139a	IR32-B-139a	BIASED	15-1100	4/2/2008	2	2.5	pCi/g	0.24		0.16	0.24	0.05	U	0.42	0.72	0.025	U	0.024	0.037	0.020	U	0.039	0.066	0.198	U	0.099	0.21
B-32IR-139b	IR32-B-139b	BIASED	15-1101	4/2/2008	2.5	3	pCi/g	0.26	U	0.26	0.41	-0.09	U	0.21	0.34	-0.057	U	0.093	0.15	0.022	U	0.067	0.12	0.0	U	0.20	0.35
B-32IR-140a	IR32-B-140a	BIASED	15-1102	4/2/2008	2	2.5	pCi/g	0.32		0.21	0.29	0.029	U	0.098	0.17	-0.006	U	0.051	0.095	-0.010	U	0.069	0.13	0.0	U	0.14	0.26
B-32IR-140b	IR32-B-140b	BIASED	15-1103	4/2/2008	2.5	3	pCi/g	0.20	U	0.12	0.31	0.034	U	0.090	0.15	0.004	U	0.049	0.089	-0.003	U	0.064	0.12	-0.001	U	0.10	0.19
B-32IR-141a	IR32-B-141a	BIASED	15-1104	4/3/2008	2	2.5	pCi/g	0.12	U	0.19	0.32	-0.003	U	0.11	0.19	0.008	U	0.058	0.11	0.032	U	0.064	0.11	0.007	U	0.11	0.21
B-32IR-141b	IR32-B-141b	BIASED	15-1105	4/3/2008	2.5	3	pCi/g	0.41		0.20	0.27	0.001	U	0.11	0.19	0.024	U	0.045	0.077	0.0	U	0.009	0.037	-0.03	U	0.10	0.18
32IR-142	IR32-142	RANDOM	15-1107	4/3/2008	2	2.5	pCi/g	0.183		0.098	0.12	0.008	U	0.22	0.39	0.006	U	0.023	0.041	-0.011	U	0.031	0.055	-0.025	U	0.069	0.12
B-32IR-143a	IR32-B-143a	BIASED	15-1108	4/3/2008	2	2.5	pCi/g	0.41		0.17	0.31	-0.038	U	0.098	0.17	0.037	U	0.043	0.069	-0.007	U	0.062	0.12	0.03	U	0.10	0.18
B-32IR-143b	IR32-B-143b	BIASED	15-1109	4/3/2008	2.5	3	pCi/g	0.21		0.14	0.19	0.004	U	0.067	0.12	0.021	U	0.038	0.066	-0.012	U	0.051	0.094	0.003	U	0.082	0.15
B-32IR-144a	IR32-B-144a	BIASED	15-1110	4/3/2008	2	2.5	pCi/g	0.32		0.16	0.30	0.018	U	0.092	0.16	0.026	U	0.050	0.086	0.0	U	0.014	0.050	-0.04	U	0.13	0.23
B-32IR-144b	IR32-B-144b	BIASED	15-1111	4/3/2008	2.5	3	pCi/g	0.22		0.15	0.20	-0.0005	U	0.089	0.16	0.026	U	0.043	0.074	-0.007	U	0.052	0.098	-0.00008	U	0.10	0.19
32IR-149	IR32-149	RANDOM	15-1112	4/3/2008	2	2.5	pCi/g	0.18	U	0.17	0.27	0.021	U	0.082	0.14	0.01	U	0.043	0.078	0.0002	U	0.040	0.083	-0.03	U	0.11	0.19
B-32IR-150Aa	IR32-B-150Aa	BIASED	15-1113	4/3/2008	2	2.5	pCi/g	0.41		0.14	0.16	-0.004	U	0.10	0.18	0.013	U	0.037	0.065	-0.012	U	0.047	0.085	0.028	U	0.085	0.15
B-32IR-150Ab	IR32-B-150Ab	BIASED	15-1114	4/3/2008	2.5	3	pCi/g	0.27		0.12	0.20	0.032	U	0.065	0.11	0.036	U	0.037	0.058	0.005	U	0.031	0.059	0.0	U	0.12	0.21
B-32IR-150-Ba	IR32-B-150Ba	BIASED	15-1115	4/3/2008	2	2.5	pCi/g	0.69		0.26	0.28	-0.002	U	0.098	0.17	0.0	U	0.047	0.090	0.020	U	0.060	0.11	-0.03	U	0.14	0.24
B-32IR-150-Bb	IR32-B-150Bb	BIASED	15-1116	4/3/2008	2.5	3	pCi/g	0.040	U	0.096	0.18	0.054	U	0.083	0.14	0.001	U	0.047	0.090	0.0	U	0.015	0.056	-0.02	U	0.12	0.22
B-32IR-151a	IR32-B-151a	BIASED	15-1117	4/3/2008	2	2.5	pCi/g	0.28	U	0.20	0.29	0.0003	U	0.072	0.13	-0.02	U	0.15	0.10	-0.011	U	0.067	0.13	-0.01	U	0.11	0.20
B-32IR-151b	IR32-B-151b	BIASED	15-1118	4/3/2008	2.5	3	pCi/g	0.39		0.13	0.16	-0.06	U	0.31	0.53	0.0003	U	0.031	0.057	0.003	U	0.027	0.051	-0.018	U	0.070	0.12
B-32IR-157a	IR32-B-157a	BIASED	15-1119	4/3/2008	3	3.5	pCi/g	0.38		0.21	0.29	-0.001	U	0.11	0.18	-0.002	U	0.044	0.080	0.0	U	0.079	0.14	0.055	U	0.093	0.16
B-32IR-157b	IR32-B-157b	BIASED	15-1120	4/3/2008	3.5	4	pCi/g	0.31		0.20	0.28	0.01	U	0.10	0.18	0.0	U	0.068	0.12	-0.012	U	0.045	0.083	0.017	U	0.085	0.15
B-32IR-158a	IR32-B-158a	BIASED	15-1121	4/3/2008	2	2.5	pCi/g	0.41		0.16	0.24	-0.003	U	0.12	0.20	-0.003	U	0.037	0.067	-0.020	U	0.057	0.10	0.008	U	0.091	0.16
B-32IR-158b	IR32-B-158b	BIASED	15-1122	4/3/2008	2.5	3	pCi/g	0.26	U	0.15	0.31	0.0	U	0.098	0.17	-0.017	U	0.052	0.093	0.0	U	0.070	0.13	-0.03	U	0.11	0.19
B-32IR-159a	IR32-B-159a	BIASED	15-1123	4/3/2008	2	2.5	pCi/g	0.43		0.22	0.31	0.06	U	0.13	0.22	0.018	U	0.053	0.092	-0.008	U	0.061	0.11	-0.04	U	0.18	0.30
B-32IR-159b	IR32-B-159b	BIASED	15-1124	4/3/2008	2.5	3	pCi/g	0.07	U	0.16	0.27	0.26	U	0.54	0.91	-0.026	U	0.057	0.096	-0.014	U	0.050	0.088	0.59		0.18	0.29
B-32IR-172a	IR32-B-172a	BIASED	15-1125	4/3/2008	2	2.5	pCi/g	0.37		0.15	0.28	-0.016	U	0.097	0.17	0.020	U	0.038	0.065	0.0	U	0.043	0.082	-0.03	U	0.12	0.20
B-32IR-172b	IR32-B-172b	BIASED	15-1126	4/3/2008	2.5	3	pCi/g	0.36		0.19	0.24	0.048	U	0.067	0.11	0.002	U	0.041	0.076	0.027	U	0.030	0.043	0.00006	U	0.078	0.14
B-32IR-32Xa	IR32-B-32Xa	BIASED	15-1127	4/3/2008	2	2.5	pCi/g	0.22	U	0.15	0.22	-0.0008	U	0.082	0.14	-0.001	U	0.037	0.068	-0.008	U	0.045	0.082	-0.023	U	0.097	0.17
B-32IR-32Xb	IR32-B-32Xb	BIASED	15-1128	4/3/2008	2.5	3	pCi/g	0.29		0.20	0.26	-0.02	U	0.11	0.19	-0.01	U	0.039	0.074	0.0	U	0.075	0.14	-0.004	U	0.11	0.20
B-32IR-G5a	IR32-B-G5a	BIASED	15-1129	4/3/2008	2	2.5	pCi/g	0.35		0.23	0.33	0.062	U	0.086	0.14	-0.03	U	0.73	0.11	-0.0007	U	0.052	0.10	0.004	U	0.11	0.21
B-32IR-G5b	IR32-B-G5b	BIASED	15-1130	4/3/2008	2.5	3	pCi/g	0.42		0.15	0.24	0.053	U	0.072	0.12	0.0007	U	0.042	0.077	0.016	U	0.043	0.078	0.021	U	0.092	0.16
B-32IR-G6a	IR32-B-G6a	BIASED	15-1131	4/3/2008	2	2.5	pCi/g	0.33		0.21	0.29	-0.002	U	0.067	0.12	0.014	U	0.030	0.054	-0.008	U	0.040	0.078	-0.01	U	0.10	0.18

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	ACTINIUM-228	Flag	Error	Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag	Error	Det Limit
B-32IR-G6b	IR32-B-G6b	BIASED	15-1132	4/3/2008	2.5	3	pCi/g	0.36		0.18	0.23	0.034	U	0.077	0.13	0.005	U	0.041	0.074	0.0	U	0.008	0.031	0.030	U	0.075	0.13
B-32IR-G7a	IR32-B-G7a	BIASED	15-1133	4/3/2008	2	2.5	pCi/g	0.32		0.17	0.19	0.035	U	0.086	0.15	0.009	U	0.047	0.086	0.0	U	0.067	0.13	0.045	U	0.087	0.15
B-32IR-G7b	IR32-B-G7b	BIASED	15-1134	4/3/2008	2.5	3	pCi/g	0.31		0.16	0.16	0.027	U	0.078	0.14	-0.01	U	0.11	0.11	0.0	U	0.071	0.14	-0.002	U	0.11	0.20
B-32IR-G8a	IR32-B-G8a	BIASED	15-1135	4/3/2008	2	2.5	pCi/g	0.39		0.12	0.14	0.09	U	0.30	0.52	-0.005	U	0.030	0.055	0.0	U	0.006	0.024	0.005	U	0.075	0.13
B-32IR-G8b	IR32-B-G8b	BIASED	15-1136	4/3/2008	2.5	3	pCi/g	0.27		0.19	0.27	0.040	U	0.097	0.17	0.006	U	0.039	0.073	0.0	U	0.011	0.042	-0.0003	U	0.071	0.14
B-32IR-G9a	IR32-B-G9a	BIASED	15-1137	4/3/2008	2	2.5	pCi/g	0.27	U	0.20	0.31	0.05	U	0.11	0.19	-0.013	U	0.046	0.081	0.010	U	0.045	0.083	-0.006	U	0.13	0.23
B-32IR-G9b	IR32-B-G9b	BIASED	15-1138	4/3/2008	2.5	3	pCi/g	0.21	U	0.17	0.26	-0.002	U	0.093	0.16	-0.014	U	0.053	0.093	-0.004	U	0.058	0.11	-0.0001	U	0.11	0.19
B-32IR-G10a	IR32-B-G10a	BIASED	15-1139	4/3/2008	2	2.5	pCi/g	0.17	U	0.17	0.27	-0.04	U	0.10	0.18	-0.014	U	0.047	0.084	-0.014	U	0.060	0.11	0.01	U	0.098	0.18
B-32IR-G10b	IR32-B-G10b	BIASED	15-1140	4/3/2008	2.5	3	pCi/g	0.23	U	0.23	0.37	-0.003	U	0.13	0.23	-0.014	U	0.059	0.10	-0.031	U	0.081	0.14	-0.06	U	0.16	0.27
B-32IR-G11a	IR32-B-G11a	BIASED	15-1141	4/3/2008	2	2.5	pCi/g	0.44		0.17	0.18	-0.039	U	0.095	0.16	0.004	U	0.037	0.068	-0.011	U	0.044	0.079	-0.00006	U	0.078	0.14
B-32IR-G11b	IR32-B-G11b	BIASED	15-1142	4/3/2008	2.5	3	pCi/g	0.25	U	0.18	0.25	-0.028	U	0.086	0.15	-0.013	U	0.050	0.090	0.0	U	0.097	0.18	-0.03	U	0.12	0.21
Analyte not analyzed.																											
Results were flagged due to percent relative standard deviations (RSDs), relative response factors (RRFs) of the initial calibration, or percent differences (%D) of the continuing calibration out of QC limits.																											
Results were flagged due to method blank contamination.																											
Results were flaggged due to tracer compound recoveries out of QC limits.																											
Results were flagged due to laboratory control samples out of QC limits.																											
Results were flagged due to the laboratory duplicate error ratios out of QC limits.																											

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
IR1-13A	IR1-13A	RANDOM	15-168	10/2/2007			pCi/g	0.09	U	0.28	0.52	6.9		1.4	0.6	0.29	J	0.10	0.13	0.17	U	0.44	0.73	0.29	J	0.11	0.07
IR1-13B	IR1-13B	RANDOM	15-169	10/2/2007			pCi/g	0.04	U	0.42	0.77	5.5		1.4	1.2	1.24		0.21	0.11					0.21	J	0.11	0.08
IR1-27B	IR1-27B	RANDOM	15-170	10/2/2007			pCi/g	0.08	U	0.32	0.58	9.3		1.5	0.5	0.28	J	0.12	0.18					0.30	J	0.12	0.08
IR1-27A	IR1-27A	RANDOM	15-171	10/2/2007			pCi/g	0.0	U	0.44	0.82	10.4		1.7	0.6	0.42	J	0.16	0.14					0.40	J	0.17	0.14
IR1-26A	IR1-26A	RANDOM	15-172	10/2/2007			pCi/g	0.04	U	0.23	0.43	11.4		1.5	0.8	0.25	J	0.13	0.20					0.65	J	0.19	0.07
IR1-21	IR1-21	RANDOM	15-173	10/2/2007			pCi/g	0.0	U	0.38	0.74	8.3		1.7	0.9	0.49	J	0.13	0.09					0.42	J	0.16	0.1
IR1-22-1	IR1-22-1	RANDOM	15-174	10/2/2007			pCi/g	-0.1	U	0.38	0.70	8.1		1.5	0.6	0.40	J	0.15	0.17					0.41	J	0.15	0.08
IR1-22-2	IR1-22-2	RANDOM	15-175	10/5/2007			pCi/g	-0.13	U	0.36	0.63	8.4		1.3	0.6	0.29	J	0.12	0.16					0.38	J	0.14	0.08
IR1-14	IR1-14	RANDOM	15-176	10/5/2007			pCi/g	0.0	U	0.31	0.61	8.1		1.5	0.7	0.49	J	0.13	0.09					0.36	J	0.13	0.07
IR1-15	IR1-15	RANDOM	15-177	10/5/2007			pCi/g	0.18	U	0.40	0.70	9.3		1.7	0.6	0.58	J	0.14	0.12					0.34	J	0.13	0.06
IR1-16	IR1-16	RANDOM	15-178	10/5/2007			pCi/g	0.005	U	0.24	0.47	8.1		1.4	0.7	0.37	J	0.11	0.12	0.46	U	0.47	0.76	0.32	J	0.15	0.12
IR1-17	IR1-17	RANDOM	15-179	10/5/2007			pCi/g	-0.16	U	0.47	0.83	9.0		1.6	0.6	0.51	J	0.13	0.12					0.82	J	0.20	0.07
IR1-18A	IR1-18A	RANDOM	15-180	10/5/2007			pCi/g	0.1	U	0.26	0.46	7.7		1.2	0.8	0.41	J	0.12	0.14					0.30	J	0.13	0.08
IR1-20	IR1-20	RANDOM	15-181	10/5/2007			pCi/g	0.03	U	0.39	0.75	7.5		1.6	0.8	0.53	J	0.16	0.15					0.36	J	0.14	0.08
IR1-23	IR1-23	RANDOM	15-182	10/5/2007			pCi/g	0.09	U	0.42	0.77	7.2		1.6	1.2	0.28	J	0.15	0.23					1.09		0.24	0.07
IR1-24	IR1-24	RANDOM	15-183	10/5/2007			pCi/g	0.08	U	0.24	0.45	7.3		1.4	0.9	0.28	J	0.11	0.15					0.71	J	0.19	0.06
IR1-25	IR1-25	RANDOM	15-184	10/8/2007			pCi/g	-0.001	U	0.37	0.72	8.4		1.7	0.7	0.33	J	0.13	0.18					0.25	J	0.11	0.08
IR1-AB-1	IR1-AB-1	RANDOM	15-185	10/8/2007			pCi/g	0.0	U	0.51	0.94	8.7		1.6	0.6	0.39	J	0.12	0.16					0.39	J	0.13	0.08
IR32-1	IR32-1	RANDOM	15-186	10/8/2007			pCi/g	0.1	U	0.30	0.54	4.7		1.2	1.2	0.31	J	0.13	0.18					0.40	J	0.13	0.07
IR32-2	IR32-2	RANDOM	15-187	10/8/2007			pCi/g	-0.13	U	0.48	0.85	10.6		1.8	0.7	0.72	J	0.17	0.14					0.45	J	0.15	0.1
IR32-3	IR32-3	RANDOM	15-188	10/8/2007			pCi/g	-0.02	U	0.34	0.64	8.1		1.5	0.6	0.47	J	0.11	0.07	0.36	U	0.46	0.75	0.45	J	0.14	0.09
IR32-4A	IR32-4A	RANDOM	15-189	10/8/2007			pCi/g	-0.02	U	0.30	0.56	8.9		1.4	0.4	0.35	J	0.12	0.16					0.41	J	0.14	0.08
IR32-4B	IR32-4B	RANDOM	15-190	10/8/2007			pCi/g	-0.08	U	0.34	0.62	9.3		1.5	0.6	0.34	J	0.11	0.15					0.43	J	0.15	0.07
IR1-2A-1a	IR1-2A-1a	RANDOM	15-191	10/17/2007	0	0.5	pCi/g	0.11	U	0.40	0.72	12.4		2.0	1.4	0.76	J	0.18	0.16					0.47	J	0.15	0.08
IR1-3A-1a	IR1-3A-1a	RANDOM	15-192	10/17/2007	0	0.5	pCi/g	-0.03	U	0.34	0.62	10.9		1.6	0.6	0.34	J	0.12	0.17					0.29	J	0.12	0.09
IR1-3COE-1a	IR1-3CDE-1a	RANDOM	15-193	10/17/2007	0	0.5	pCi/g	-0.1	U	0.44	0.81	10.3		1.9	0.7	0.84	J	0.18	0.11					0.55	J	0.17	0.06
IR1-4A-1a	IR1-4A-1a	RANDOM	15-194	10/17/2007	0	0.5	pCi/g	0.1	U	0.41	0.76	8.5		1.7	1	0.58	J	0.16	0.16					0.46	J	0.16	0.08
IR1-2A-1b	IR1-2A-1b	RANDOM	15-195	10/18/2007	2	2.5	pCi/g	0.01	U	0.36	0.67	8.4		1.5	0.9	0.22	J	0.10	0.14					0.45	J	0.15	0.08
IR1-3A-1b	IR1-3A-1b	RANDOM	15-196	10/18/2007	2	2.5	pCi/g	-0.02	U	0.35	0.65	9.1		1.4	0.7	0.47	J	0.14	0.18					0.45	J	0.15	0.08
IR1-3COE-1b	IR1-3CDE-1b	RANDOM	15-197	10/18/2007	2.5	3	pCi/g	-0.12	U	0.35	0.62	11.6		1.6	0.6	0.29	J	0.12	0.18					0.55	J	0.16	0.07
IR1-4A-1b	IR1-4A-1b	RANDOM	15-198	10/18/2007	2.5	3	pCi/g	-0.009	U	0.35	0.69	8.3		1.7	0.6	0.48	J	0.18	0.16	-0.07	U	0.27	0.48	0.48	J	0.15	0.09
IR1-5AB-1a	IR1-5AB-1a	RANDOM	15-199	10/18/2007	2	2.5	pCi/g	0.02	U	0.36	0.70	6.9		1.5	0.8	0.36	J	0.15	0.20					0.52	J	0.17	0.07
IR1-5AB-1b	IR1-5AB-1b	RANDOM	15-200	10/18/2007	2.5	3	pCi/g	0.0	U	0.39	0.72	9.8		1.5	0.9	0.23	J	0.12	0.18					0.45	J	0.14	0.08
IR1-6A-1a	IR1-6A-1a	RANDOM	15-201	10/18/2007	3	3.5	pCi/g	-0.07	U	0.39	0.70	10.2		1.5	0.6	0.35	J	0.14	0.21					0.45	J	0.13	0.06
IR1-6A-1b	IR1-6A-1b	RANDOM	15-202	10/18/2007	3.5	4	pCi/g	0.34	U	0.37	0.58	8.4		1.7	0.6	0.48	J	0.17	0.14					0.45	J	0.14	0.07
IR1-6B-1a	IR1-6B-1a	RANDOM	15-203	10/19/2007	2	2.5	pCi/g	0.002	U	0.29	0.56	10.4		1.7	0.4	0.33	J	0.12	0.14					0.35	J	0.13	0.08
IR1-6B-1b	IR1-6B-1b	RANDOM	15-204	10/19/2007	2.5	3	pCi/g	0.14	U	0.31	0.55	12.0		1.8	0.4	0.39	J	0.12	0.12					0.41	J	0.14	0.07
IR1-8-A-1a	IR1-8A-1a	RANDOM	15-205	10/19/2007	1	1.5	pCi/g	0.23	U	0.31	0.50	10.2		1.7	0.4	0.43	J	0.13	0.12					0.31	J	0.12	0.07
IR1-8A-1b	IR1-8A-1b	RANDOM	15-206	10/19/2007	1.5	2	pCi/g	0.0	U	0.074	0.27	8.3		1.6	0.8	0.44	J	0.14	0.13					0.36	J	0.12	0.06
IR1-8B-1a	IR1-8B-1a	RANDOM	15-207	10/19/2007	1	1.5	pCi/g	-0.04	U	0.37	0.71	9.3		1.7	0.5	0.41	J	0.15	0.16					0.46	J	0.13	0.07
IR1-8B-1b	IR1-8B-1b	RANDOM	15-208	10/19/2007	1.5	2	pCi/g	-0.008	U	0.33	0.62	7.8		1.4	0.6	0.43	J	0.14	0.11	0.12	U	0.17	0.29	0.47	J	0.14	0.06
IR1-8C-1a	IR1-8C-1a	RANDOM	15-209	10/19/2007	1	1.5	pCi/g	-0.01	U	0.41	0.77	10		1.6	0.4	0.32	J	0.13	0.17					0.38	J	0.12	0.05
IR1-8C-1b	IR1-8C-1b	RANDOM	15-210	10/19/2007	1.5	2	pCi/g	0.16	U	0.42	0.75	9.1		1.7	0.7	0.51	J	0.14	0.11					0.50	J	0.15	0.08
IR1-8D-1a	IR1-8D-1a	RANDOM	15-211	10/19/2007	1	1.5	pCi/g	0.0	U	0.32	0.62	9.6		1.7	0.5	0.34	J	0.14	0.16					0.33	J	0.15	0.10
IR1-8D-1b	IR1-8D-1b	RANDOM	15-212	10/19/2007	1.5	2	pCi/g	0.005	U	0.34	0.64	7.5		1.5	1.1	0.43	J	0.15	0.14					0.39	J	0.13	0.07
IR1-8E-1a	IR1-8E-1a	RANDOM	15-213	10/19/2007	1	1.5	pCi/g	0.09	U	0.32	0.58	9.0		1.6	0.9	0.43	J	0.14	0.16					0.60	J	0.17	0.06
IR1-8E-1b	IR1-8E-1b	RANDOM	15-214	10/19/2007	1.5	2	pCi/g	-0.04	U	0.37	0.68	9.5		1.5	0.8	0.34	J	0.13	0.18					0.62	J	0.17	0.07
IR1-8F-1a	IR1-8F-1a	RANDOM	15-215	10/19/2007	1	1.5	pCi/g	0.09	U	0.30	0.54	9.8		1.4	0.5	0.26	J	0.12	0.18					0.252	J	0.090	0.052
IR1-8F-1b	IR1-8F-1b	RANDOM	15-216	10/19/2007	1.5	2	pCi/g	0.04	U	0.26	0.51	9.0		1.7	0.7	0.41	J	0.12	0.11					0.35	J	0.13	0.07
IR1-8G-1a	IR1-8G-1a	RANDOM	15-217	10/19/2007	1	1.5	pCi/g	0.08	U	0.40	0.73	7.3		1.5	0.6	0.46	J	0.15	0.15					0.31	J	0.12	0.07
IR1-8G-1b	IR1-8G-1b	RANDOM	15-218	10/19/2007	1.5	2	pCi/g	0.0	U	0.33	0.64	9.6		1.6	0.4	0.34	J	0.12	0.13	-0.005	U	0.18	0.32	0.44	J	0.15	0.1
IR1-8H-1a	IR1-8H-1a	RANDOM	15-219	10/19/2007	1	1.5	pCi/g	-0.04	U	0.30	0.57	8.3		1.4	0.4	0.44	J	0.12	0.08					0.34	J	0.13	0.06
IR1-8H-1b	IR1-8H-1b	RANDOM	15-220	10/19/2007	1.5	2	pCi/g	0.0	U	0.65	1.1	8.6		1.4	0.7	0.78	J	0.17	0.15					0.55	J	0.16	0.08
IR1-8I-1a	IR1-8I-1a	RANDOM	15-221	10/19/2007	1	1.5	pCi/g	-0.11	U	0.39	0.69	10.1		1.5	0.6	0.35	J	0.13	0.19					0.43	J	0.14	0.07
IR1-8I-1b	IR1-8I-1b	RANDOM	15-222	10/19/2007	1.5	2	pCi/g	-0.07	U	0.39	0.72	7.8		1.6	1	0.43	J	0.12	0.11					0.35	J	0.12	0.07
IR1-8J-1a	IR1-8J-1a	RANDOM	15-223	10/19/2007	1	1.5	pCi/g	0.0009	U	0.44	0.83	8.5		1.6	0.5	0.34	J	0.14	0.19					0.45	J	0.14	0.08
IR1-8J-1b	IR1-8J-1b	RANDOM	15-224	10/19/2007	1	1.5	pCi/g	0.09	U	0.25	0.46	8.4		1.5	1	0.43	J	0.13	0.11					0.32	J	0.12	0.08
IR1-8K-1a	IR1-8K-1a	RANDOM	15-225	10/22/2007	1	1.5	pCi/g	0.04	U	0.27	0.50	9.2		1.4	0.8	0.39	J	0.13	0.18					0.53	J	0.14	0.05
IR1-8K-1b	IR1-8K-1b	RANDOM	15-226	10/22/2007	1.5	2	pCi/g	0.003	UJ	0.35	0.65	7.2	J	1.4	1.3	0.20	J	0.12	0.19					0.29	J	0.11	0.06
IR1-8L-1a	IR1-8L-1a	RANDOM	15-227	10/22/2007	1	1.5	pCi/g	-0.12	U	0.35	0.61	8.8		1.5	0.4	0.44	J	0.12	0.13					0.36	J	0.12	0.07
IR1-8L-1b	IR1-8L-1b	RANDOM	15-228	10/22/2007	1.5	2	pCi/g	0.07	U	0.31	0.57	9.2		1.4	0.8	0.37	J	0.13	0.17	-0.27	U	0.24	0.45	0.25	J	0.10	0.06
IR1-8M-1a	IR1-8M-1a	RANDOM	15-229	10/22/2007	1	1.5	pCi/g	0.0	U	0.52	0.97	8.0		1.7	1.2	0.29	J	0.13	0.18					0.35	J	0.12	0.06
IR1-8M-1b	IR1-8M-1b	RANDOM	15-230	10/22/2007	1.5	2	pCi/g	0.05	U	0.31	0.60	10.7		1.8	0.5	0.49	J	0.16	0.16					0.207	J	0.090	0.063
IR1-9-1a	IR1-9-1a	RANDOM	15-231	10/22/2007	1	1.5	pCi/g	0.15	U	0.28	0.48	9.9		1.5	0.4	0.48	J	0.13	0.1					0.41	J	0.13	0.07
IR1-9-1b	IR1-9-1b	RANDOM	15-232	10/22/2007	1.5	2	pCi/g	-0.11	U	0.40	0.71	7.9		1.5	0.8	0.27	J	0.12	0.16					0.274	J	0.098	0.054
IR1-1AB-1a	IR1-1AB-1a	RANDOM	15-233	10/22/2007	1	1.5	pCi/g	-0.08	U	0.61	1.1	9.0		1.6	1.6	13.9		1.0	0.3					0.59	J	0.17	0.09
IR1-1AB-1b	IR1-1AB-1b	RANDOM	15-234	10/22/2007	1.5	2	pCi/g	0.05	UJ	0.60	1.0	6.4	J	1.4	1.8	9.51	J	0.73	0.41					0.41	J	0.13	0.06
IR1-11-1a	IR1-11-1a	RANDOM	15-235	10/24/2007	2	2.5	pCi/g	0.03	U	0.38	0.68	7.4		1.2	0.7	2.56		0.30	0.14					0.30	J	0.12	0.1
IR1-11-1b	IR1-11-1b	RANDOM	15-236	10/24/2007	2.5	3	pCi/g	-0.14	U	0.39	0.68	8.0		1.4	1	0.61	J	0.15	0.17					0.45	J	0.14	0.07
IR1-12-1a	IR1-12-1a	RANDOM	15-237	10/24/2007	2	2.5	pCi/g	-0.0005	U	0.44	0.84	7.1		1.5	0.7	1.73		0.27	0.14					0.43	J	0.14	0.07

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
IR1-12-1b	IR1-12-1b	RANDOM	15-238	10/24/2007	2.5	3	pCi/g	0.18	U	0.42	0.75	11.3		2.1	1.3	0.55	J	0.19	0.24	0.07	U	0.32	0.55	0.33	J	0.12	0.08
IR2-160-1a	IR2-160-1a	RANDOM	15-239	10/24/2007	3	3.5	pCi/g	0.06	U	0.32	0.60	7.9		1.5	0.7	0.57	J	0.14	0.10					0.58	J	0.16	0.05
IR2-160-1b	IR2-160-1b	RANDOM	15-240	10/24/2007	3.5	4	pCi/g	0.0	U	0.44	0.82	9.4		1.6	1	0.33	J	0.14	0.20					0.37	J	0.13	0.06
IR2-171-1a	IR2-171-1a	RANDOM	15-241	10/24/2007	2	2.5	pCi/g	0.05	U	0.28	0.51	7.6		1.2	0.7	0.41	J	0.12	0.16					0.47	J	0.16	0.09
IR2-171-1b	IR2-171-1b	RANDOM	15-242	10/24/2007	2.5	3	pCi/g	0.0	U	0.089	0.33	7.0		1.6	0.7	0.31	J	0.13	0.17					0.34	J	0.13	0.06
IR2-172-1a	IR2-172-1a	RANDOM	15-243	10/24/2007	2	2.5	pCi/g	0.0	U	0.62	1.1	11.0		2.0	0.6	6.62		0.66	0.25					0.38	J	0.13	0.07
IR2-172-1b	IR2-172-1b	RANDOM	15-244	10/24/2007	2.5	3	pCi/g	-0.30	U	0.60	1.0	10.2		1.7	1	7.59		0.63	0.19					0.54	J	0.16	0.06
IR2-182-1a	IR2-182-1a	RANDOM	15-245	10/24/2007	2	2.5	pCi/g	-0.12	U	0.35	0.61	12.5		1.7	1.0	0.42	J	0.13	0.18					0.44	J	0.14	0.07
IR2-182-1b	IR2-182-1b	RANDOM	15-246	10/24/2007	2.5	3	pCi/g	0.0	U	0.41	0.80	10.5		2.0	0.7	0.55	J	0.15	0.12					0.61	J	0.17	0.07
IR2-183ABC-1a	IR2-183ABC-1a	RANDOM	15-247	10/25/2007	2	2.5	pCi/g	0.05	U	0.45	0.83	10.3		1.8	0.5	0.27	J	0.13	0.19					0.67	J	0.16	0.07
IR2-183ABC-1b	IR2-183ABC-1b	RANDOM	15-248	10/25/2007	2.5	3	pCi/g	-0.09	U	0.38	0.68	7.3		1.4	0.8	0.33	J	0.12	0.14	0.28	U	0.36	0.59	0.32	J	0.12	0.07
IR2-187-1a	IR2-187-1a	RANDOM	15-249	10/25/2007	2	2.5	pCi/g	0.0	U	0.46	0.84	11.0		1.6	0.8	0.31	J	0.13	0.19					0.47	J	0.14	0.06
IR2-187-1b	IR2-187-1b	RANDOM	15-250	10/25/2007	2.5	3	pCi/g	0.0	U	0.32	0.60	7.2		1.3	1.0	0.29	J	0.13	0.19					0.46	J	0.14	0.05
IR2-188AB-1a	IR2-188AB-1a	RANDOM	15-251	10/25/2007	2	2.5	pCi/g	0.0	U	0.79	1.4	9.0		1.8	0.6	0.51	J	0.15	0.12					0.39	J	0.14	0.09
IR2-188AB-Ab	IR2-188AB-1b	RANDOM	15-252	10/25/2007	2.5	3	pCi/g	0.005	U	0.29	0.59	8.3		1.7	1	0.44	J	0.13	0.12					0.196	J	0.089	0.065
IR2-190ABC-1a	IR2-190ABC-1a	RANDOM	15-253	10/25/2007	2	2.5	pCi/g	-0.001	U	0.29	0.57	9.5		1.6	0.4	0.49	J	0.12	0.06					0.47	J	0.15	0.08
IR2-190ABC-1b	IR2-190ABC-1b	RANDOM	15-254	10/25/2007	2.5	3	pCi/g	-0.12	U	0.40	0.71	9.1		1.5	0.9	0.34	J	0.15	0.22					0.38	J	0.12	0.05
32IR-G-01a	IR32-G-01a	RANDOM	15-274	12/4/2007	0	0.5	pCi/g	0.0	U	0.32	0.62	9.7		1.7	0.6	0.41	J	0.14	0.17					0.43	J	0.15	0.09
32IR-G-01b	IR32-G-01b	RANDOM	15-275	12/4/2007	0.5	1	pCi/g	0.11	U	0.29	0.53	7.6		1.6	0.9	0.51	J	0.14	0.12					0.50	J	0.14	0.07
32IR-G-02a	IR32-G-02a	RANDOM	15-276	12/4/2007	0	0.5	pCi/g	0.05	U	0.29	0.53	13.4		1.7	0.3	0.65	J	0.12	0.06					0.58	J	0.16	0.05
32IR-G-02b	IR32-G-02b	RANDOM	15-277	12/4/2007	0.5	1	pCi/g	-0.04	U	0.37	0.68	9.4		1.6	0.4	0.48	J	0.14	0.16					0.37	J	0.14	0.08
32IR-G-03a	IR32-G-03a	RANDOM	15-278	12/4/2007	0	0.5	pCi/g	0.06	U	0.37	0.67	20.4		2.2	0.7	0.72	J	0.16	0.18	-0.01	U	0.25	0.44	0.85	J	0.20	0.07
32IR-G-03b	IR32-G-03b	RANDOM	15-279	12/4/2007	0.5	1	pCi/g	0.0	UJ	0.28	0.52	8.4	J	1.2	0.5	0.058	UJ	0.086	0.15					0.29	J	0.12	0.08
32IR-G-04a	IR32-G-04a	RANDOM	15-280	12/4/2007	0	0.5	pCi/g	-0.12	U	0.44	0.79	15.5		2.2	0.6	0.82	J	0.18	0.13					0.96	J	0.22	0.07
32IR-G-04b	IR32-G-04b	RANDOM	15-281	12/4/2007	0.5	1	pCi/g	-0.01	U	0.30	0.60	10.1		1.8	0.5	0.41	J	0.13	0.14					0.99	J	0.20	0.07
32IR-G-05a	IR32-G-05a	RANDOM	15-282	12/5/2007	0	0.5	pCi/g	-0.01	U	0.26	0.47	12.9		1.6	0.6	0.56	J	0.13	0.14					0.57	J	0.15	0.06
32IR-G-05b	IR32-G-05b	RANDOM	15-283	12/5/2007	0.5	1	pCi/g	0.0	UJ	0.34	0.62	6.7	J	1.3	1.3	0.24	J	0.11	0.16					0.241	J	0.099	0.067
32IR-G-06a	IR32-G-06a	RANDOM	15-284	12/5/2007	0	0.5	pCi/g	-0.02	U	0.32	0.63	7.7		1.6	0.7	0.43	J	0.14	0.13					0.44	J	0.14	0.07
32IR-G-06b	IR32-G-06b	RANDOM	15-285	12/5/2007	0.5	1	pCi/g	-0.10	U	0.35	0.63	7.3		1.5	1.0	0.34	J	0.17	0.19					0.34	J	0.12	0.06
32IR-G-07a	IR32-G-07a	RANDOM	15-286	12/5/2007	0	0.5	pCi/g	0.12	U	0.29	0.50	14.5		1.7	0.6	0.70	J	0.14	0.15					0.76	J	0.19	0.09
32IR-G-07b	IR32-G-07b	RANDOM	15-287	12/5/2007	0.5	1	pCi/g	-0.13	U	0.43	0.77	6.6		1.4	0.6	0.43	J	0.13	0.11					0.68	J	0.18	0.1
32IR-G-08a	IR32-G-08a	RANDOM	15-288	12/5/2007	0	0.5	pCi/g	-0.18	U	0.55	0.96	17.1		2.3	0.5	0.87	J	0.20	0.16	0.14	U	0.28	0.47	1.18		0.26	0.08
32IR-G-08b	IR32-G-08b	RANDOM	15-289	12/5/2007	0.5	1	pCi/g	-0.05	U	0.32	0.61	9.4		1.6	0.5	0.28	J	0.12	0.16					0.65	J	0.18	0.09
32IR-G-09a	IR32-G-09a	RANDOM	15-290	12/5/2007	0	0.5	pCi/g	-0.05	UJ	0.34	0.61	17.8	J	1.9	0.4	0.56	J	0.14	0.18					0.82	J	0.21	0.07
32IR-G-09b	IR32-G-09b	RANDOM	15-291	12/5/2007	0.5	1	pCi/g	0.04	UJ	0.32	0.58	7.1	J	1.2	0.9	1.06	J	0.18	0.19					0.46	J	0.14	0.07
32IR-G-10a	IR32-G-10a	RANDOM	15-292	12/5/2007	0	0.5	pCi/g	0.04	U	0.44	0.81	15.9		2.2	0.6	0.85	J	0.20	0.15					0.93	J	0.22	0.09
32IR-G-10b	IR32-G-10b	RANDOM	15-293	12/5/2007	0.5	1	pCi/g	0.0	U	0.28	0.54	6.8		1.4	0.8	0.41	J	0.14	0.14					0.29	J	0.11	0.05
B-1IR-B-1ABa	IR1-B-1ABa	BIASED	15-294	12/6/2007	4	4.5	pCi/g	0.08	U	0.38	0.68	8.5		1.3	0.3	2.90		0.31	0.10					1.20		0.25	0.06
B-1IR-B-1ABb	IR1-B-1ABb	BIASED	15-295	12/6/2007	4.5	5	pCi/g	0.14	U	0.32	0.57	8.9		1.3	0.3	0.54	J	0.15	0.18					0.39	J	0.15	0.09
B-1IR-B-3CDa	IR1-B-3-CDa	BIASED	15-299	12/6/2007	3	3.5	pCi/g	-0.03	U	0.33	0.61	8.5		1.4	0.9	0.62	J	0.15	0.18					1.26		0.27	0.09
B-1IR-B-3CDb	IR1-B-3-CDb	BIASED	15-300	12/6/2007	3.5	4	pCi/g	0.0	U	0.64	1.2	9.4		1.7	0.5	0.64	J	0.17	0.10					0.52	J	0.20	0.13
1IR-3-02a	IR1-3-02a	RANDOM	15-301	12/6/2007	0	0.5	pCi/g	-0.10	U	0.38	0.70	9.8		1.8	0.5	0.56	J	0.15	0.12					0.89	J	0.22	0.10
1IR-3-02b	IR1-3-02b	RANDOM	15-302	12/6/2007	0.5	1	pCi/g	-0.12	U	0.46	0.83	9.5		1.7	0.5	0.56	J	0.14	0.10					0.46	J	0.15	0.08
1IR-3-03a	IR1-3-03a	RANDOM	15-303	12/6/2007	0	0.5	pCi/g	0.08	U	0.19	0.34	9.9		1.3	0.5	0.38	J	0.10	0.1					0.54	J	0.16	0.07
1IR-3-03b	IR1-3-03b	RANDOM	15-304	12/6/2007	0.5	1	pCi/g	-0.02	U	0.38	0.71	10.2		1.6	0.4	0.32	J	0.11	0.13					0.47	J	0.15	0.07
1IR-3-04a	IR1-3-04a	RANDOM	15-305	12/6/2007	0	0.5	pCi/g	-0.02	U	0.22	0.41	9.9		1.3	0.5	0.53	J	0.12	0.12					0.88	J	0.22	0.08
1IR-3-04b	IR1-3-04b	RANDOM	15-306	12/6/2007	0.5	1	pCi/g	0.06	U	0.34	0.62	8.0		1.4	0.7	0.64	J	0.14	0.07					0.50	J	0.16	0.09
1IR-3-05a	IR1-3-05a	RANDOM	15-307	12/6/2007	1	0.5	pCi/g	-0.08	U	0.41	0.72	10.2		1.4	0.3	0.71	J	0.13	0.09					0.42	U	0.13	0.07
1IR-3-05b	IR1-3-05b	RANDOM	15-308	12/6/2007	0.5	1	pCi/g	-0.08	U	0.46	0.84	7.8		1.6	0.6	0.42	J	0.15	0.18	-0.23	U	0.34	0.62	0.46	J	0.20	0.12
1IR-3-06a	IR1-3-06a	RANDOM	15-309	12/6/2007	0	0.5	pCi/g	-0.12	U	0.41	0.74	9.3		1.8	1	0.58	J	0.16	0.13					0.58	J	0.23	0.15
1IR-3-06b	IR1-3-06b	RANDOM	15-310	12/6/2007	0.5	1	pCi/g	-0.04	U	0.21	0.39	10.7		1.4	0.6	0.353	J	0.099	0.11					0.46	J	0.16	0.08
1IR-3-07a	IR1-3-07a	RANDOM	15-311	12/6/2007	0	0.5	pCi/g	-0.10	U	0.35	0.62	7.6		1.4	0.9	0.48	J	0.14	0.1					0.38	U	0.15	0.09
1IR-3-07b	IR1-3-07b	RANDOM	15-312	12/6/2007	0.5	1	pCi/g	0.1	U	0.38	0.69	9.6		1.7	0.5	0.21	J	0.12	0.18					0.68	J	0.28	0.23
1IR-3-08a	IR1-3-08a	RANDOM	15-313	12/6/2007	0	0.5	pCi/g	-0.19	U	0.41	0.71	8.8		1.3	0.3	0.51	J	0.14	0.17					0.62	J	0.22	0.12
1IR-3-08b	IR1-3-08b	RANDOM	15-314	12/6/2007	0.5	1	pCi/g	-0.05	U	0.35	0.63	9.4		1.4	0.3	0.28	J	0.11	0.16					0.88	J	0.33	0.20
1IR-3-09a	IR1-3-09a	RANDOM	15-315	12/6/2007	0	0.5	pCi/g	0.07	U	0.35	0.66	9.8		1.8	0.5	0.57	J	0.16	0.16					0.74	J	0.19	0.08
1IR-3-09b	IR1-3-09b	RANDOM	15-316	12/6/2007	0.5	1	pCi/g	-0.11	U	0.38	0.68	9.9		1.6	0.4	0.28	J	0.11	0.13					0.35	J	0.13	0.08
1IR-3-10a	IR1-3-10a	RANDOM	15-317	12/6/2007	0	0.5	pCi/g	0.07	U	0.31	0.58	7.7		1.5	0.9	0.48	J	0.12	0.09					0.32	J	0.13	0.11
1IR-3-10b	IR1-3-10b	RANDOM	15-318	12/6/2007	0.5	1	pCi/g	-0.03	U	0.44	0.83	8.1		1.7	0.9	0.38	J	0.12	0.10	0.04	U	0.29	0.50	0.53	J	0.18	0.08
B-1IR-4Aa	IR1-B-4Aa	BIASED	15-319	12/6/2007	2	2.5	pCi/g	0.0	U	0.35	0.63	9.8		1.3	0.5	0.56	J	0.12	0.09					0.36	J	0.14	0.09
B-1IR-4Ab	IR1-B-4Ab	BIASED	15-320	12/6/2007	2.5	3	pCi/g	0.06	U	0.31	0.57	9.6		1.6	0.4	0.43	J	0.11	0.06					0.45	J	0.15	0.09
B-1IR-4BCa	IR1-B-4BCa	BIASED	15-322	12/6/2007	2	2.5	pCi/g	0.0	U	0.081	0.30	9.7		1.8	0.5	0.61	J	0.19	0.16					0.53	J	0.18	0.12
B-1IR-4BCb	IR1-B-4BCb	BIASED	15-323	12/6/2007	2.5	3	pCi/g	0.0	U	0.30	0.54	9.2		1.3	0.6	0.49	J	0.11	0.08					0.40	J	0.14	0.08
1IR-4-02a	IR1-4-02a	RANDOM	15-324	12/6/2007	0	0.5	pCi/g	0.13	U	0.33	0.59	9.8		1.6	0.4	0.51	J	0.13	0.07					0.94	J	0.22	0.08
1IR-4-02b	IR1-4-02b	RANDOM	15-325	12/6/2007	0.5	1	pCi/g	-0.002	U	0.38	0.71	8.3		1.5	0.7	0.51	J	0.14	0.12					0.047	J	0.016	0.008
1IR-4-03a	IR1-4-03a	RANDOM	15-326	12/6/2007	0	0.5	pCi/g	-0.34	U	0.62	1.1	9.5		1.8	0.5	0.49	J	0.17	0.16					0.43	J	0.16	0.07
1IR-4-03b	IR1-4-03b	RANDOM	15-327	12/6/2007	0.5	1	pCi/g	0.02	U	0.36	0.69	6.9		1.5	0.6	0.46	J	0.13	0.1					0.52	J	0.16	0.08
1IR-4-04a	IR1-4-04a	RANDOM	15-328	12/7/2007	0	0.5	pCi/g	0.11	U	0.36	0.64	11.2		1.6	0.3	0.30	J	0.12	0.17	-0.01	U	0.25	0.45	0.27	J	0.16	0.16
1IR-4-04b	IR1-4-04b	RANDOM	15-329	12/7/2007	0.5	1	pCi/g	0.01	U	0.32	0.60	8.3		1.3	0.6	0.39	J	0.14	0.19					0.47	J	0.21	0.15
1IR-4-05a	IR1-4-05a	RANDOM	15-330	12/7/2007	0	0.5	pCi/g	0.0	U	0.39	0.75	9.6		1.8	0.6	0.42	J	0.12	0.06					0.30	J	0.16	0.11

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
1IR-4-05b	IR1-4-05b	RANDOM	15-331	12/7/2007	0.5	1	pCi/g	0.001	U	0.40	0.77	8.6		1.6	0.5	0.61	J	0.15	0.10					0.25	J	0.15	0.13
1IR-4-06a	IR1-4-06a	RANDOM	15-332	12/7/2007	0	0.5	pCi/g	-0.06	U	0.35	0.62	11.3		1.5	0.3	0.47	J	0.15	0.19					0.41	J	0.19	0.14
1IR-4-06b	IR1-4-06b	RANDOM	15-333	12/7/2007	0.5	1	pCi/g	0.0	U	0.059	0.22	8.8		1.5	0.7	0.45	J	0.11	0.04					0.47	J	0.21	0.15
1IR-4-07a	IR1-4-07a	RANDOM	15-334	12/7/2007	0	0.5	pCi/g	0.09	U	0.32	0.58	9.4		1.4	0.3	0.28	J	0.12	0.18					0.20	J	0.14	0.14
1IR-4-07b	IR1-4-07b	RANDOM	15-335	12/7/2007	0.5	1	pCi/g	0.11	U	0.31	0.55	9.7		1.4	0.3	0.20	J	0.11	0.17					0.30	J	0.18	0.20
1IR-4-08a	IR1-4-08a	RANDOM	15-336	12/7/2007	0	0.5	pCi/g	-0.11	U	0.46	0.83	9.6		1.8	0.6	0.33	J	0.12	0.13					0.46	J	0.23	0.15
1IR-4-08b	IR1-4-08b	RANDOM	15-337	12/7/2007	0.5	1	pCi/g	0.25	U	0.39	0.67	10.7		1.8	0.5	0.55	J	0.14	0.1					0.46	J	0.22	0.17
1IR-4-09a	IR1-4-09a	RANDOM	15-338	12/7/2007	0	0.5	pCi/g	0.12	U	0.39	0.71	9.2		1.7	0.5	0.23	J	0.12	0.16	0.03	U	0.31	0.54	0.40	J	0.14	0.09
1IR-4-09b	IR1-4-09b	RANDOM	15-339	12/7/2007	0.5	1	pCi/g	-0.03	U	0.20	0.37	10.5		1.3	0.5	0.50	J	0.11	0.1					0.75	J	0.19	0.08
1IR-4-10a	IR1-4-10a	RANDOM	15-340	12/7/2007	0	0.5	pCi/g	-0.06	U	0.31	0.57	10.0		1.6	0.4	0.44	J	0.12	0.07					0.38	J	0.14	0.07
1IR-4-10b	IR1-4-10b	RANDOM	15-341	12/7/2007	0.5	1	pCi/g	-0.0001	U	0.29	0.57	9.2		1.6	0.5	0.37	J	0.13	0.12					0.51	J	0.15	0.07
B-1IR-5ABa	IR1-B-5ABa	BIASED	15-342	12/7/2007	0	0.5	pCi/g	-0.08	U	0.51	0.89	11.6		1.6	0.3	5.63		0.52	0.20					0.25	U	0.11	0.06
B-1IR-5ABb	IR1-B-5ABb	BIASED	15-343	12/7/2007	0.5	1	pCi/g	-0.002	U	0.33	0.62	8.8		1.4	0.9	0.93	J	0.17	0.17					0.21	U	0.10	0.07
B-1IR-6Aa	IR1-B-6Aa	BIASED	15-345	12/7/2007	0	0.5	pCi/g	0.04	U	0.46	0.86	8.6		1.7	0.6	0.53	J	0.15	0.09					0.70	J	0.20	0.09
B-1IR-6Ab	IR1-B-6Ab	BIASED	15-346	12/7/2007	0.5	1	pCi/g	-0.06	U	0.37	0.69	8.8		1.6	0.5	0.57	J	0.15	0.12					0.31	U	0.13	0.09
1IR-6A-02a	IR1-6A-02a	RANDOM	15-347	12/7/2007	0	0.5	pCi/g	-0.04	U	0.29	0.52	10.4		1.3	0.5	0.310	J	0.091	0.096					0.28	U	0.12	0.08
1IR-6A-02b	IR1-6A-02b	RANDOM	15-348	12/7/2007	0.5	1	pCi/g	-0.06	U	0.25	0.45	9.8		1.3	0.6	0.37	J	0.11	0.12	0.30	U	0.30	0.49	0.63	J	0.26	0.18
1IR-6A-03a	IR1-6A-03a	RANDOM	15-349	12/7/2007	0	0.5	pCi/g	-0.13	U	0.44	0.80	10.7		1.9	0.5	0.34	J	0.13	0.14					0.37	J	0.24	0.24
1IR-6A-03b	IR1-6A-03b	RANDOM	15-350	12/7/2007	0.5	1	pCi/g	0.11	U	0.37	0.68	10.6		1.9	0.5	0.45	J	0.18	0.17					0.46	J	0.21	0.17
1IR-6A-04a	IR1-6A-04a	RANDOM	15-351	12/7/2007	0	0.5	pCi/g	-0.03	U	0.26	0.48	10.3		1.3	0.5	0.359	J	0.099	0.10					0.26	J	0.17	0.20
1IR-6A-04b	IR1-6A-04b	RANDOM	15-352	12/7/2007	0.5	1	pCi/g	-0.06	U	0.36	0.67	9.5		1.6	0.8	0.33	J	0.12	0.14					0.35	J	0.18	0.15
1IR-6A-05a	IR1-6A-05a	RANDOM	15-353	12/7/2007	0	0.5	pCi/g	-0.09	U	0.42	0.76	7.7		1.5	0.5	0.25	J	0.13	0.19					0.53	J	0.21	0.13
1IR-6A-05b	IR1-6A-05b	RANDOM	15-354	12/7/2007	0.5	1	pCi/g	0.08	U	0.29	0.52	10.1		1.5	0.3	0.19	J	0.12	0.18					0.28	J	0.16	0.13
B-1IR-6Ba	IR1-B-6B-a	BIASED	15-355	12/10/2007	0	0.5	pCi/g	0.04	U	0.39	0.73	10.7		1.8	0.9	0.44	J	0.12	0.1					0.40	J	0.14	0.06
B-1IR-6Bb	IR1-B-6B-b	BIASED	15-356	12/10/2007	0.5	1	pCi/g	0.01	U	0.31	0.56	12.8		1.6	0.6	0.57	J	0.12	0.12					0.53	J	0.16	0.08
1IR-6B-02a	IR1-6B-02a	RANDOM	15-359	12/10/2007	0	0.5	pCi/g	-0.07	U	0.39	0.71	9.7		1.5	0.4	0.41	J	0.12	0.12					0.37	J	0.14	0.08
1IR-6B-02b	IR1-6B-02b	RANDOM	15-360	12/10/2007	0.5	1	pCi/g	-0.05	U	0.33	0.63	9.5		1.6	0.5	0.37	J	0.12	0.11	0.26	U	0.54	0.91	0.53	J	0.17	0.10
1IR-6B-03a	IR1-6B-03a	RANDOM	15-361	12/10/2007	0	0.5	pCi/g	0.04	U	0.34	0.65	9.1		1.7	0.5	0.54	J	0.14	0.1					0.53	J	0.16	0.06
1IR-6B-03b	IR1-6B-03b	RANDOM	15-362	12/10/2007	0.5	1	pCi/g	-0.003	U	0.12	0.26	9.4		1.3	0.5	0.39	J	0.10	0.10					0.46	J	0.15	0.08
1IR-6B-04a	IR1-6B-04a	RANDOM	15-363	12/10/2007	0	0.5	pCi/g	-0.16	U	0.38	0.66	9.5		1.6	0.4	0.38	J	0.13	0.14	0.15	U	0.22	0.36	0.30	J	0.13	0.09
1IR-6B-04b	IR1-6B-04b	RANDOM	15-364	12/10/2007	0.5	1	pCi/g	-0.09	U	0.42	0.77	11.2		1.8	0.5	0.33	J	0.13	0.17					0.35	J	0.14	0.09
1IR-6B-05a	IR1-6B-05a	RANDOM	15-365	12/10/2007	0	0.5	pCi/g	0.0	U	0.31	0.59	9.2		1.4	0.3	0.36	J	0.12	0.17					0.35	U	0.18	0.12
1IR-6B-05b	IR1-6B-05b	RANDOM	15-366	12/10/2007	0.5	1	pCi/g	0.12	U	0.27	0.48	10.2		1.5	0.9	0.32	J	0.11	0.15					0.49	J	0.16	0.07
1IR-6B-06a	IR1-6B-06a	RANDOM	15-367	12/10/2007	0	0.5	pCi/g	0.008	U	0.36	0.70	9.0		1.8	1.0	0.30	J	0.13	0.15					0.80	J	0.20	0.08
1IR-6B-06b	IR1-6B-06b	RANDOM	15-368	12/10/2007	0.5	1	pCi/g	0.07	U	0.20	0.36	10.3		1.3	0.5	0.45	J	0.11	0.11	0.15	U	0.22	0.36	0.26	J	0.19	0.22
1IR-6B-07a	IR1-6B-07a	RANDOM	15-369	12/10/2007	0	0.5	pCi/g	-0.07	U	0.37	0.67	9.3		1.6	0.8	0.48	J	0.12	0.08					0.34	U	0.14	0.09
1IR-6B-07b	IR1-6B-07b	RANDOM	15-370	12/10/2007	0.5	1	pCi/g	0.0	U	0.28	0.56	10.8		1.7	0.4	0.26	J	0.12	0.17					0.50	J	0.17	0.09
1IR-6B-08a	IR1-6B-08a	RANDOM	15-371	12/10/2007	0	0.5	pCi/g	0.06	U	0.35	0.67	7.9		1.6	1.0	0.33	J	0.13	0.13					0.32	U	0.14	0.1
1IR-6B-08b	IR1-6B-08b	RANDOM	15-372	12/10/2007	0.5	1	pCi/g	-0.04	U	0.30	0.56	10.1		1.4	0.3	0.29	J	0.11	0.15					0.41	J	0.15	0.07
1IR-6B-09a	IR1-6B-09a	RANDOM	15-373	12/10/2007	0	0.5	pCi/g	-0.003	U	0.19	0.38	8.7		1.3	0.8	0.36	J	0.12	0.16					0.54	J	0.18	0.12
1IR-6B-09b	IR1-6B-09b	RANDOM	15-374	12/10/2007	0.5	1	pCi/g	0.0	U	0.76	1.4	7.4		1.6	0.7	0.50	J	0.15	0.10					0.63	J	0.20	0.09
1IR-6B-10a	IR1-6B-10a	RANDOM	15-375	12/10/2007	0	0.5	pCi/g	0.05	U	0.36	0.68	8.9		1.6	0.5	0.56	J	0.13	0.09					0.33	U	0.22	0.22
1IR-6B-10b	IR1-6B-10b	RANDOM	15-376	12/10/2007	0.5	1	pCi/g	0.0	U	0.36	0.64	11.1		1.4	0.5	0.343	J	0.098	0.11					0.34	U	0.13	0.08
B-1IR-7Aa	IR1-B-7Aa	BIASED	15-377	12/11/2007	3	3.5	pCi/g	-0.07	U	0.27	0.48	9.4		1.3	0.5	0.52	J	0.12	0.10					0.44	J	0.14	0.08
B-1IR-7Ab	IR1-B-7Ab	BIASED	15-378	12/11/2007	3.5	4	pCi/g	-0.02	U	0.34	0.64	9.3		1.6	0.8	0.54	J	0.13	0.08					0.63	J	0.18	0.08
B-1IR-7Ba	IR1-B-7Ba	BIASED	15-380	12/11/2007	3	3.5	pCi/g	0.06	U	0.30	0.56	8.6		1.5	0.4	0.72	J	0.18	0.15	0.24	U	0.29	0.48	0.48	J	0.15	0.07
B-1IR-7Bb	IR1-B-7Bb	BIASED	15-381	12/11/2007	3.5	4	pCi/g	-0.15	U	0.51	0.92	7.6		1.5	0.5	1.02		0.20	0.12	0.0	U	0.30	0.52	0.88	J	0.21	0.08
B-1IR-7Ca	IR1-B-7Ca	BIASED	15-382	12/11/2007	3	3.5	pCi/g	-0.06	U	0.42	0.77	9.1		1.7	0.5	0.75	J	0.16	0.10					0.44	J	0.15	0.09
B-1IR-7Cb	IR1-B-7Cb	BIASED	15-383	12/11/2007	3.5	4	pCi/g	0.13	U	0.22	0.38	9.8		1.3	0.5	0.68	J	0.12	0.05					0.43	J	0.16	0.12
B-1IR-7Da	IR1-B-7Da	BIASED	15-384	12/11/2007	3	3.5	pCi/g	-0.001	U	0.33	0.62	8.6		1.5	0.6	0.34	U	0.12	0.14					1.01		0.22	0.08
B-1IR-7Db	IR1-B-7Db	BIASED	15-385	12/11/2007	3.5	4	pCi/g	-0.03	U	0.31	0.58	8.7		1.6	0.9	0.61	J	0.15	0.11					0.63	J	0.18	0.09
B-1IR-8Aa	IR1-B-8Aa	BIASED	15-386	12/11/2007	2	2.5	pCi/g	-0.01	U	0.28	0.53	10.2		1.5	0.3	0.32	U	0.13	0.18					0.51	J	0.15	0.07
B-1IR-8Ab	IR1-B-8Ab	BIASED	15-387	12/11/2007	2.5	3	pCi/g	0.08	U	0.41	0.74	9.7		1.4	0.3	0.36	J	0.12	0.16					0.82	J	0.20	0.08
B-1IR-8Ba	IR1-B-8Ba	BIASED	15-388	12/11/2007	2	2.5	pCi/g	0.03	U	0.32	0.59	10		1.4	0.3	0.38	J	0.12	0.15					0.30	J	0.12	0.1
B-1IR-8Bb	IR1-B-8Bb	BIASED	15-389	12/11/2007	2.5	3	pCi/g	-0.06	U	0.35	0.67	10.5		1.9	0.6	0.21	J	0.14	0.20					0.51	J	0.17	0.08
1IR-8AB-02a	IR1-8AB-02a	RANDOM	15-390	12/11/2007	0	0.5	pCi/g	-0.09	U	0.39	0.72	5.8		1.4	1.0	0.44	J	0.12	0.09	0.14	U	0.22	0.36	0.26	J	0.11	0.08
1IR-8AB-02b	IR1-8AB-02b	RANDOM	15-391	12/11/2007	0.5	1	pCi/g	0.02	U	0.25	0.46	9.2		1.3	0.5	0.50	J	0.12	0.13					0.85	J	0.21	0.08
1IR-8AB-03a	IR1-8AB-03a	RANDOM	15-392	12/11/2007	0	0.5	pCi/g	0.0	U	0.34	0.64	7.3		1.4	0.9	0.41	J	0.11	0.06					0.39	J	0.14	0.09
1IR-8AB-03b	IR1-8AB-03b	RANDOM	15-393	12/11/2007	0.5	1	pCi/g	0.0	U	0.47	0.87	9.2		1.6	0.4	0.27	J	0.12	0.16					0.45	J	0.16	0.11
1IR-8AB-04a	IR1-8AB-04a	RANDOM	15-394	12/11/2007	0	0.5	pCi/g	-0.02	U	0.36	0.66	8.3		1.4	0.9	0.36	J	0.12	0.16					0.42	J	0.15	0.09
1IR-8AB-04b	IR1-8AB-04b	RANDOM	15-395	12/11/2007	0.5	1	pCi/g	-0.004	U	0.30	0.55	8.3		1.3	0.7	0.23	J	0.11	0.16					0.29	J	0.12	0.07
1IR-8AB-05a	IR1-8AB-05a	RANDOM	15-396	12/11/2007	0	0.5	pCi/g	-0.04	U	0.35	0.67	7.4		1.5	0.6	0.47	J	0.14	0.09					0.38	J	0.14	0.07
1IR-8AB-05b	IR1-8AB-05b	RANDOM	15-397	12/11/2007	0.5	1	pCi/g	0.0	U	0.078	0.29	7.3		1.5	0.5	0.53	J	0.15	0.13					0.38	J	0.14	0.06
B-1IR-8Ka	IR1-B-8Ka	BIASED	15-429	12/12/2007	0.5	1	pCi/g	-0.08	U	0.48	0.87	8.2		1.6	0.5	0.47	J	0.16	0.15					0.45	J	0.15	0.09
B-1IR-8Ca	IR1-B-8Ca	BIASED	15-398	12/12/2007	2	2.5	pCi/g	0.0	U	0.32	0.57	9.3		1.2	0.5	0.364	J	0.092	0.090					0.43	U	0.15	0.08
B-1IR-8Cb	IR1-B-8Cb	BIASED	15-399	12/12/2007	2.5	3	pCi/g	0.06	U	0.24	0.45	10.5		1.6	0.4	0.49	J	0.11	0.04					0.75	J	0.19	0.09
B-1IR-8Kb	IR1-B-8Kb	BIASED	15-430	12/12/2007	1	1.5	pCi/g	-0.02	U	0.22	0.40	9.2		1.3	0.5	0.34	J	0.10	0.1					0.41	J	0.15	0.09
B-1IR-8Da	IR1-B-8Da	BIASED	15-400	12/12/2007	2	2.5	pCi/g	-0.03	U	0.28	0.54	10.0		1.6	0.4	0.55	J	0.13	0.09	0.0	U	0.35	0.61	0.56	U	0.17	0.11
B-1IR-8Db	IR1-B-8Db	BIASED	15-401	12/12/2007	2.5	3	pCi/g	0.03	U	0.34	0.61	9.6		1.4	0.3	0.33	J	0.11	0.15					0.48	U	0.15	0.08
1IR-8K-02a	IR1-8K-02a	RANDOM	15-432	12/12/2007	0	0.5	pCi/g	-0.005	U	0.35	0.65	8.8		1.6	1.0	0.30	J	0.11	0.14					0.36	J	0.13	0.07

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
1IR-8D-02a	IR1-8D-02a	RANDOM	15-402	12/12/2007	0	0.5	pCi/g	0.0	U	0.046	0.17	7.7		1.3	0.9	0.30	J	0.11	0.15					0.43	U	0.14	0.07
1IR-8K-02b	IR1-8K-02b	RANDOM	15-433	12/12/2007	0.5	1	pCi/g	0.006	U	0.26	0.49	9.1		1.2	0.5	0.41	J	0.10	0.11					0.41	J	0.14	0.07
1IR-8D-02b	IR1-8D-02b	RANDOM	15-403	12/12/2007	0.5	1	pCi/g	0.02	U	0.37	0.71	10.6		1.8	0.5	0.37	J	0.13	0.13					0.38	U	0.13	0.07
B-1IR-8Ea	IR1-B-8Ea	BIASED	15-404	12/12/2007	2	2.5	pCi/g	-0.08	U	0.35	0.62	8.7		1.3	0.3	0.48	J	0.13	0.16					0.68	U	0.18	0.06
B-1IR-8La	IR1-B-8La	BIASED	15-434	12/12/2007	0.5	1	pCi/g	-0.06	U	0.38	0.69	9.6		1.5	0.4	0.50	J	0.11	0.04					0.44	J	0.14	0.07
B-1IR-8Eb	IR1-B-8Eb	BIASED	15-405	12/12/2007	2.5	3	pCi/g	-0.08	U	0.37	0.66	8.6		1.4	0.7	0.27	J	0.10	0.14					0.39	U	0.13	0.06
B-1IR-8Lb	IR1-B-8Lb	BIASED	15-435	12/12/2007	1	1.5	pCi/g	-0.02	U	0.31	0.61	10.4		1.7	0.5	0.43	J	0.16	0.15					0.44	J	0.14	0.07
1IR-8L-02a	IR1-8L-02a	RANDOM	15-436	12/12/2007	0	0.5	pCi/g	-0.08	U	0.27	0.47	9.8		1.3	0.5	0.39	J	0.11	0.11					0.46	J	0.15	0.08
1IR-8L-02b	IR1-8L-02b	RANDOM	15-437	12/12/2007	0.5	1	pCi/g	0.0	U	0.40	0.75	7.9		1.5	1.0	0.38	J	0.12	0.12					0.46	J	0.16	0.11
1IR-8E-02a	IR1-8E-02a	RANDOM	15-407	12/12/2007	0	0.5	pCi/g	-0.19	U	0.53	0.92	8.4		1.6	0.5	0.67	J	0.17	0.10					0.50	U	0.16	0.09
1IR-8E-02b	IR1-8E-02b	RANDOM	15-408	12/12/2007	0.5	1	pCi/g	0.06	U	0.29	0.54	6.3		1.3	0.9	0.39	J	0.11	0.09	0.16	U	0.35	0.60	0.39	U	0.12	0.05
B-1IR-8Fa	IR1-B-8Fa	BIASED	15-409	12/12/2007	2	2.5	pCi/g	-0.009	U	0.19	0.37	9.1		1.2	0.5	0.395	J	0.098	0.086					0.94	J	0.22	0.07
B-1IR-8Fb	IR1-B-8Fb	BIASED	15-410	12/12/2007	2.5	3	pCi/g	0.06	U	0.31	0.57	6.3		1.3	0.9	0.44	J	0.12	0.12					0.37	U	0.13	0.08
B-1IR-8Ma	IR1-B-8Ma	BIASED	15-438	12/12/2007	1	1.5	pCi/g	0.0	U	0.30	0.59	8.7		1.6	0.5	0.34	J	0.13	0.16	0.08	U	0.26	0.43	0.28	J	0.12	0.06
B-1IR-8Mb	IR1-B-8Mb	BIASED	15-439	12/12/2007	1.5	2	pCi/g	0.0	U	0.34	0.67	7.2		1.6	0.9	0.39	J	0.16	0.16					0.42	J	0.14	0.07
1IR-8F-02a	IR1-8F-02a	RANDOM	15-411	12/12/2007	0	0.5	pCi/g	0.0	U	0.22	0.46	9.3		1.6	0.4	0.41	J	0.14	0.14					0.58	J	0.17	0.07
1IR-8F-02b	IR1-8F-02b	RANDOM	15-412	12/12/2007	0.5	1	pCi/g	0.13	U	0.30	0.52	10		1.6	0.4	0.46	J	0.13	0.12					0.39	J	0.14	0.08
1IR-8M-02a	IR1-8M-02a	RANDOM	15-440	12/12/2007	0	0.5	pCi/g	0.08	U	0.22	0.40	10.1		1.3	0.5	0.55	J	0.12	0.10					0.37	J	0.14	0.09
1IR-8M-02b	IR1-8M-02b	RANDOM	15-441	12/12/2007	0.5	1	pCi/g	0.08	U	0.34	0.62	8.0		1.5	0.8	0.54	J	0.12	0.04					0.44	J	0.15	0.08
B-1IR-8Ga	IR1-B-8Ga	BIASED	15-413	12/12/2007	2	2.5	pCi/g	-0.10	U	0.38	0.68	8.7		1.5	0.4	0.47	J	0.12	0.09					0.39	J	0.14	0.06
B-1IR-8Gb	IR1-B-8Gb	BIASED	15-414	12/12/2007	2.5	3	pCi/g	-0.03	U	0.25	0.45	9.9		1.3	0.5	0.313	J	0.092	0.10					0.39	J	0.14	0.07
1IR-8G-02a	IR1-8G-02a	RANDOM	15-415	12/12/2007	0	0.5	pCi/g	-0.03	U	0.29	0.54	9.6		1.5	0.4	0.40	J	0.13	0.14					0.48	J	0.15	0.06
1IR-8G-02b	IR1-8G-02b	RANDOM	15-416	12/12/2007	0.5	1	pCi/g	0.05	U	0.25	0.49	7.5		1.5	0.7	0.33	J	0.13	0.14					0.36	U	0.13	0.07
B-1IR-9Aa	IR1-B-9Aa	BIASED	15-442	12/12/2007	2	2.5	pCi/g	0.0	U	0.068	0.25	7.8		1.4	0.4	0.45	J	0.12	0.09					0.59	J	0.17	0.09
B-1IR-8Ha	IR1-B-8Ha	BIASED	15-417	12/12/2007	2	2.5	pCi/g	-0.005	U	0.31	0.62	9.1		1.6	0.5	0.53	J	0.16	0.14					0.54	J	0.16	0.07
B-1IR-9Ab	IR1-B-9Ab	BIASED	15-443	12/12/2007	2.5	3	pCi/g	-0.14	U	0.44	0.79	8.0		1.6	0.5	0.33	J	0.13	0.17					0.41	J	0.15	0.11
B-1IR-8Hb	IR1-B-8Hb	BIASED	15-418	12/12/2007	2.5	3	pCi/g	0.0	U	0.30	0.55	9.3		1.2	0.5	0.48	J	0.10	0.08	-0.02	U	0.29	0.50	0.62	J	0.17	0.07
1IR-8H02a	IR1-8H-02a	RANDOM	15-419	12/12/2007	0	0.5	pCi/g	0.09	U	0.35	0.63	10.0		1.6	0.4	0.40	J	0.12	0.14					0.40	J	0.13	0.09
1IR-8H-02b	IR1-8H-02b	RANDOM	15-420	12/12/2007	0.5	1	pCi/g	0.07	U	0.32	0.59	7.9		1.5	0.8	0.35	J	0.14	0.18					0.76	J	0.19	0.06
1IR-9A-02a	IR1-9A-02a	RANDOM	15-444	12/12/2007	0	0.5	pCi/g	-0.003	U	0.18	0.35	9.6		1.2	0.5	0.461	J	0.095	0.045					0.46	J	0.15	0.08
1IR-9A-02b	IR1-9A-02b	RANDOM	15-445	12/12/2007	0.5	1	pCi/g	0.03	U	0.27	0.51	7.7		1.3	0.4	0.311	J	0.094	0.082					0.68	J	0.18	0.07
1IR-9A-03a	IR1-9A-03a	RANDOM	15-446	12/12/2007	0	0.5	pCi/g	-0.10	U	0.43	0.78	7.5		1.5	0.6	0.52	J	0.13	0.1					0.36	J	0.13	0.06
B-1IR-8Ia	IR1-B-8Ia	BIASED	15-421	12/12/2007	2	2.5	pCi/g	0.0	U	0.46	0.87	9.8		1.8	0.5	0.31	J	0.14	0.20					0.27	U	0.11	0.08
B-1IR-8Ib	IR1-B-8Ib	BIASED	15-422	12/12/2007	2.5	3	pCi/g	0.0	U	0.038	0.14	9.4		1.2	0.5	0.427	J	0.097	0.084					0.52	J	0.17	0.09
1IR-9A-03b	IR1-9A-03b	RANDOM	15-447	12/12/2007	0.5	1	pCi/g	-0.06	U	0.39	0.73	8.5		1.6	0.5	0.38	J	0.15	0.15					0.91	J	0.22	0.09
1IR-8I-02a	IR1-8I-02a	RANDOM	15-423	12/12/2007	0	0.5	pCi/g	-0.11	U	0.37	0.65	7.6		1.4	0.8	0.32	J	0.11	0.12					0.48	J	0.15	0.07
1IR-8I-02b	IR1-8I-02b	RANDOM	15-424	12/12/2007	0.5	1	pCi/g	-0.04	U	0.37	0.70	8.7		1.6	0.6	0.52	J	0.17	0.16					0.48	J	0.15	0.09
1IR-9A-04a	IR1-9A-04a	RANDOM	15-448	12/12/2007	0	0.5	pCi/g	-0.07	U	0.20	0.36	6.37		0.93	0.44	0.321	J	0.089	0.088	0.03	U	0.29	0.50	0.37	J	0.13	0.06
B-1IR-8Ja	IR1-B-8Ja	BIASED	15-425	12/12/2007	2	2.5	pCi/g	-0.14	U	0.42	0.76	9.4		1.7	0.5	0.44	J	0.15	0.14					0.23	U	0.11	0.1
1IR-9A-04 b	IR1-9A-04b	RANDOM	15-449	12/12/2007	0.5	1	pCi/g	0.0	U	0.64	1.2	7.4		1.5	0.8	0.33	J	0.13	0.17					0.49	J	0.15	0.1
B-1IR-8Jb	IR1-B-8Jb	BIASED	15-426	12/12/2007	2.5	3	pCi/g	0.09	U	0.24	0.42	9.3		1.3	0.5	0.405	J	0.099	0.092					0.30	U	0.11	0.08
1IR-8J-02a	IR1-8J-02a	RANDOM	15-427	12/12/2007	0	0.5	pCi/g	0.0	U	0.67	1.2	7.6		1.4	0.8	0.52	J	0.15	0.10					0.45	J	0.14	0.07
1IR-8J-02b	IR1-8J-02b	RANDOM	15-428	12/12/2007	0.5	1	pCi/g	-0.02	U	0.37	0.70	8.0		1.6	0.9	0.22	J	0.12	0.17	0.12	U	0.31	0.52	0.46	J	0.15	0.07
1IR-9A-05a	IR1-9A-05a	RANDOM	15-450	12/12/2007	0	0.5	pCi/g	-0.006	U	0.32	0.61	7.2		1.3	0.7	0.44	J	0.10	0.04					0.50	J	0.15	0.07
1IR-9A-05b	IR1-9A-05b	RANDOM	15-451	12/12/2007	0.5	1	pCi/g	-0.006	U	0.37	0.70	10.2		1.7	0.4	0.39	J	0.13	0.16					0.56	J	0.17	0.08
1IR-9A-06a	IR1-9A-06a	RANDOM	15-452	12/12/2007	0	0.5	pCi/g	0.01	U	0.35	0.64	9.6		1.4	0.3	0.32	J	0.12	0.17					0.42	J	0.14	0.09
1IR-9A-06b	IR1-9A-06b	RANDOM	15-453	12/12/2007	0.5	1	pCi/g	-0.01	U	0.37	0.72	8.9		1.7	0.6	0.63	J	0.15	0.06					0.42	J	0.16	0.12
B-1IR-11a	IR1-B-11a	BIASED	15-462	12/12/2007	2	2.5	pCi/g	-0.08	U	0.35	0.64	6.7		1.3	0.5	0.31	J	0.12	0.15					0.42	J	0.15	0.07
B-1IR-11b	IR1-B-11b	BIASED	15-463	12/12/2007	2.5	3	pCi/g	0.01	U	0.12	0.24	9.1		1.2	0.5	0.425	J	0.099	0.095					0.49	J	0.15	0.06
1IR-9A-07a	IR1-9A-07a	RANDOM	15-454	12/12/2007	0	0.5	pCi/g	-0.009	U	0.38	0.73	8.2		1.6	1.1	0.54	J	0.14	0.11					0.44	J	0.14	0.07
1IR-11-02a	IR1-11-02a	RANDOM	15-465	12/12/2007	0	0.5	pCi/g	0.23	U	0.23	0.36	8.0		1.3	0.3	0.33	J	0.10	0.12					0.48	J	0.15	0.07
1IR-11-02b	IR1-11-02b	RANDOM	15-466	12/12/2007	0.5	1	pCi/g	-0.00002	U	0.20	0.41	9.0		1.4	0.4	0.46	J	0.11	0.08					0.50	J	0.15	0.06
1IR-9A-07b	IR1-9A-07b	RANDOM	15-455	12/12/2007	0.5	1	pCi/g	-0.04	U	0.26	0.47	9.6		1.3	0.5	0.384	J	0.096	0.095					0.36	J	0.13	0.07
1IR-9A-08a	IR1-9A-08a	RANDOM	15-456	12/12/2007	0	0.5	pCi/g	0.005	U	0.30	0.57	9.6		1.5	0.4	0.22	J	0.10	0.13					0.39	J	0.13	0.06
1IR-9A-08b	IR1-9A-08b	RANDOM	15-457	12/12/2007	0.5	1	pCi/g	-0.06	U	0.35	0.65	9.5		1.6	0.5	0.45	J	0.13	0.11					0.33	J	0.13	0.09
1IR-9A-09a	IR1-9A-09a	RANDOM	15-458	12/12/2007	0	0.5	pCi/g	0.05	U	0.30	0.55	8.6		1.3	0.3	0.35	J	0.13	0.19	-0.03	U	0.33	0.57	0.42	J	0.14	0.06
B-1IR-12a	IR1-B-12a	BIASED	15-467	12/12/2007	2	2.5	pCi/g	0.12	U	0.44	0.77	10.6		1.4	0.3	6.07		0.51	0.22					0.41	J	0.14	0.07
B-1IR-12b	IR1-B-12b	BIASED	15-468	12/12/2007	2.5	3	pCi/g	0.01	U	1.0	1.8	9.8		2.1	1.5	22.9		1.6	0.4	0.04	U	0.31	0.53	0.50	J	0.15	0.07
1IR-9A-09b	IR1-9A-09b	RANDOM	15-459	12/12/2007	0.5	1	pCi/g	-0.01	U	0.30	0.56	7.4		1.1	0.3	0.27	J	0.10	0.15					0.63	J	0.18	0.07
1IR-9A-10a	IR1-9A-10a	RANDOM	15-460	12/12/2007	0	0.5	pCi/g	0.0	U	0.35	0.69	7.7		1.6	0.8	0.49	J	0.16	0.19					0.60	J	0.17	0.08
1IR-9A-10b	IR1-9A-10b	RANDOM	15-461	12/12/2007	0.5	1	pCi/g	-0.12	U	0.38	0.68	9.0		1.7	0.5	0.39	J	0.15	0.16					0.76	J	0.20	0.07
1IR-12-02a	IR1-12-02a	RANDOM	15-469	12/12/2007	0	0.5	pCi/g	0.006	U	0.29	0.57	8.5		1.6	0.5	0.52	J	0.17	0.15					0.39	J	0.13	0.07
1IR-12-02b	IR1-12-02b	RANDOM	15-470	12/12/2007	0.5	1	pCi/g	-0.02	U	0.24	0.44	6.36		0.996	0.65	0.401	J	0.092	0.083					0.53	U	0.16	0.07
1IR-12-03a	IR1-12-03a	RANDOM	15-471	12/12/2007	2	2.5	pCi/g	0.05	U	0.48	0.84	10.5		1.6	0.8	6.55		0.54	0.17					0.65	U	0.19	0.08
1IR-12-03b	IR1-12-03b	RANDOM	15-472	12/12/2007	2.5	3	pCi/g	-0.09	U	0.36	0.64	10.8		1.6	0.4	2.00		0.27	0.15					0.54	U	0.16	0.07
1IR-12-04a	IR1-12-04a	RANDOM	15-473	12/12/2007	2	2.5	pCi/g	-0.14	U	0.59	1.0	13.2		1.8	0.4	4.51		0.47	0.20					0.85	J	0.21	0.10
1IR-12-04b	IR1-12-04b	RANDOM	15-474	12/12/2007	2.5	3	pCi/g	0.15	U	0.47	0.84	13.7		2.0	0.5	2.72		0.35	0.16					0.69	J	0.19	0.07
1IR-12-05a	IR1-12-05a	RANDOM	15-475	12/12/2007	0	0.5	pCi/g	-0.06	U	0.36	0.67	8.7		1.6	0.5	0.57	J	0.13	0.05					0.59	U	0.16	0.07
1IR-12-05b	IR1-12-05b	RANDOM	15-476	12/12/2007	0.5	1	pCi/g	-0.05	U	0.35	0.65	8.9		1.5	0.4	0.87	J	0.16	0.08					0.32	U	0.12	0.08
B-1IR-13Ba	IR1-B-13Ba	BIASED	15-477	12/13/2007	2	2.5	pCi/g	-0.004	U	0.52	0.95	6.5		1.4	1.2	7.16		0.63	0.19					0.33	U	0.15	0.11

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-1IR-13Bb	IR1-B-13Bb	BIASED	15-478	12/13/2007	2.5	3	pCi/g	0.28	U	0.30	0.48	7.5		1.2	0.7	5.96		0.48	0.13	0.17	U	0.35	0.58	0.21	U	0.11	0.09
1IR-18ABC-01a	IR1-18ABC-01a	RANDOM	15-508	12/13/2007	0	0.5	pCi/g	0.07	U	0.30	0.55	7.8		1.3	0.7	0.39	J	0.13	0.17	0.45	U	0.34	0.54	0.33	J	0.14	0.11
1IR-13B-02a	IR1-13B-02a	RANDOM	15-479	12/13/2007	0	0.5	pCi/g	0.0	U	0.33	0.62	6.7		1.3	0.9	0.84	J	0.15	0.06					0.43	U	0.15	0.10
1IR-18ABC-01b	IR1-18ABC-01b	RANDOM	15-509	12/13/2007	0.5	1	pCi/g	-0.006	U	0.24	0.46	9.7		1.4	0.3	0.30	J	0.11	0.15					0.34	J	0.13	0.08
1IR-13B-02b	IR1-13B-02b	RANDOM	15-480	12/13/2007	0.5	1	pCi/g	0.06	U	0.22	0.40	5.9		1.0	0.6	0.61	J	0.14	0.16					0.42	U	0.14	0.06
1IR-13B-03a	IR1-13B-03a	RANDOM	15-481	12/13/2007	2	2.5	pCi/g	-0.003	U	0.22	0.43	4.97		0.96	0.31	1.14		0.18	0.15					0.26	U	0.17	0.17
1IR-13B-03b	IR1-13B-03b	RANDOM	15-482	12/13/2007	2.5	3	pCi/g	-0.09	U	0.42	0.77	6.3		1.3	0.5	1.62		0.24	0.05					0.26	U	0.12	0.09
1IR-13B-04a	IR1-13B-04a	RANDOM	15-483	12/13/2007	0	0.5	pCi/g	0.05	U	0.39	0.72	8.3		1.5	0.9	1.83		0.25	0.11					0.36	U	0.14	0.08
1IR-13B-04b	IR1-13B-04b	RANDOM	15-484	12/13/2007	0.5	1	pCi/g	-0.08	U	0.25	0.44	8.7		1.1	0.5	1.33		0.18	0.08					0.38	U	0.13	0.06
1IR-13B-05a	IR1-13B-05a	RANDOM	15-485	12/13/2007	2	2.5	pCi/g	-0.03	U	0.29	0.54	5.0		1.1	0.8	0.61	J	0.12	0.04					0.22	U	0.12	0.11
1IR-13B-05b	IR1-13B-05b	RANDOM	15-486	12/13/2007	2.5	3	pCi/g	0.0	U	0.059	0.22	7.6		1.3	0.4	0.40	J	0.11	0.12					0.34	U	0.13	0.08
1IR-18ABC-02a	IR1-18ABC-02a	RANDOM	15-511	12/13/2007	0	0.5	pCi/g	0.0	U	0.51	0.96	10.3		1.8	0.5	0.86	J	0.17	0.06					0.26	U	0.12	0.09
1IR-18ABC-02b	IR1-18ABC-02b	RANDOM	15-512	12/13/2007	0.5	1	pCi/g	-0.05	U	0.40	0.74	9.1		1.7	0.9	0.57	J	0.17	0.14					0.33	J	0.14	0.09
B-1IR-21a	IR1-B-21a	BIASED	15-550	12/13/2007	2	2.5	pCi/g	0.14	U	0.43	0.78	10.0		1.8	0.5	0.43	J	0.15	0.18					0.51	J	0.16	0.07
1IR-18ABC-03a	IR1-18ABC-03a	RANDOM	15-513	12/13/2007	0	0.5	pCi/g	0.08	U	0.17	0.30	10.2		1.3	0.5	0.60	J	0.12	0.11					0.61	J	0.18	0.09
B-1IR-21b	IR1-B-21b	BIASED	15-551	12/13/2007	2.5	3	pCi/g	0.1	U	0.27	0.48	10.3		1.4	0.6	0.68	J	0.14	0.1					0.63	J	0.19	0.09
1IR-18ABC-03b	IR1-18ABC-03b	RANDOM	15-514	12/13/2007	0.5	1	pCi/g	-0.08	U	0.37	0.66	8.4		1.4	0.5	0.29	J	0.11	0.14					0.35	J	0.14	0.11
B-1IR-15a	IR1-B-15a	BIASED	15-487	12/13/2007	2	2.5	pCi/g	-0.04	U	0.35	0.63	9.5		1.4	0.3	0.23	J	0.10	0.15					0.44	J	0.14	0.08
B-1IR-15b	IR1-B-15b	BIASED	15-488	12/13/2007	2.5	3	pCi/g	0.0	U	0.37	0.73	9.9		1.8	0.5	0.28	J	0.11	0.12	1.56	J	0.56	0.80	0.44	J	0.15	0.06
1IR-18ABC-04a	IR1-18ABC-04a	RANDOM	15-515	12/13/2007	2	2.6	pCi/g	0.09	U	0.25	0.46	9.7		1.7	0.5	0.49	J	0.13	0.1					0.45	J	0.20	0.15
1IR-21-02a	IR1-21-02a	RANDOM	15-553	12/13/2007	2	2.5	pCi/g	-0.09	U	0.39	0.71	8.7		1.6	0.8	0.57	J	0.13	0.07					0.38	J	0.13	0.08
1IR-15-02a	IR1-15-02a	RANDOM	15-490	12/13/2007	0	0.5	pCi/g	-0.09	U	0.41	0.74	9.2		1.6	0.5	0.30	J	0.12	0.15					0.34	J	0.12	0.06
1IR-18ABC-05a	IR1-18ABC-05a	RANDOM	15-516	12/13/2007	2	2.6	pCi/g	-0.02	U	0.26	0.49	9.8		1.4	0.3	0.45	J	0.13	0.16					0.31	J	0.12	0.07
1IR-15-02b	IR1-15-02b	RANDOM	15-491	12/13/2007	0.5	1	pCi/g	-0.04	U	0.19	0.35	8.0		1.1	0.5	0.373	J	0.092	0.088					0.48	J	0.16	0.08
1IR-21-02b	IR1-21-02b	RANDOM	15-554	12/13/2007	2.5	3	pCi/g	0.05	U	0.28	0.55	10		1.7	0.5	0.43	J	0.15	0.14					0.45	J	0.16	0.08
B-1IR-16a	IR1-B-16a	BIASED	15-492	12/13/2007	2	2.5	pCi/g	0.0007	U	0.32	0.59	8.3		1.4	0.4	0.42	J	0.10	0.06					0.49	J	0.16	0.08
1IR-18ABC-05b	IR1-18ABC-05b	RANDOM	15-517	12/13/2007	2.6	3	pCi/g	0.03	U	0.24	0.45	9.1		1.3	0.3	0.37	J	0.12	0.17					0.43	J	0.14	0.09
B-1IR-16b	IR1-B-16b	BIASED	15-493	12/13/2007	2.5	3	pCi/g	0.0	U	0.42	0.78	9.1		1.5	0.4	0.43	J	0.12	0.10					0.65	J	0.18	0.08
1IR-21-03a	IR1-21-03a	RANDOM	15-555	12/13/2007	2	2.5	pCi/g	-0.08	U	0.36	0.66	9.5		1.4	0.3	0.43	J	0.14	0.18					0.39	J	0.14	0.08
1IR-16-02a	IR1-16-02a	RANDOM	15-496	12/13/2007	2	2.5	pCi/g	0.08	U	0.28	0.50	10.6		1.5	0.5	0.38	J	0.12	0.15					0.49	J	0.16	0.08
1IR-21-03b	IR1-21-03b	RANDOM	15-556	12/13/2007	2.5	3	pCi/g	-0.008	U	0.30	0.56	11.3		1.6	0.3	0.39	J	0.13	0.17					0.43	J	0.16	0.08
1IR-16-02b	IR1-16-02b	RANDOM	15-497	12/13/2007	2.5	3	pCi/g	0.0	U	0.49	0.91	9.3		1.8	1.0	0.59	J	0.14	0.06					0.48	J	0.15	0.1
1IR-21-04a	IR1-21-04a	RANDOM	15-557	12/13/2007	2	2.5	pCi/g	0.0	U	0.091	0.33	8.2		1.7	0.6	0.76	J	0.18	0.07					0.62	J	0.20	0.09
1IR-18ABC-06a	IR1-18ABC-06a	RANDOM	15-518	12/13/2007	0	0.5	pCi/g	0.13	U	0.28	0.48	9.5		1.4	0.3	0.31	J	0.12	0.18	-0.21	U	0.30	0.54	0.34	UJ	0.22	0.22
1IR-21-04b	IR1-21-04b	RANDOM	15-558	12/13/2007	2.5	3	pCi/g	-0.09	U	0.39	0.73	8.4		1.8	1.3	0.60	J	0.16	0.13	-0.12	U	0.32	0.59	0.40	J	0.15	0.09
1IR-18ABC006b	IR1-18ABC-06b	RANDOM	15-519	12/13/2007	0.5	1	pCi/g	0.005	U	0.29	0.55	8.3		1.3	0.3	0.27	J	0.11	0.17					0.54	J	0.20	0.11
B-1IR-17a	IR1-B-17a	BIASED	15-498	12/13/2007	2	2.5	pCi/g	0.0	U	0.32	0.64	8.5		1.6	0.5	0.67	J	0.15	0.1	0.1	U	0.30	0.51	0.21	J	0.10	0.08
1IR-21-05a	IR1-21-05a	RANDOM	15-559	12/13/2007	0	0.5	pCi/g	0.03	U	0.26	0.47	9.2		1.3	0.6	0.47	J	0.12	0.13					0.75	J	0.21	0.09
B-1IR-17b	IR1-B-17b	BIASED	15-499	12/13/2007	2.5	3	pCi/g	-0.06	U	0.23	0.41	10.2		1.3	0.5	0.47	J	0.11	0.11					0.61	J	0.19	0.1
1IR-18ABC-07a	IR1-18ABC-07a	RANDOM	15-520	12/13/2007	2	2.6	pCi/g	0.19	U	0.31	0.53	8.1		1.6	1	0.49	J	0.12	0.05					1.02		0.30	0.10
1IR-17-02a	IR1-17-02a	RANDOM	15-500	12/13/2007	2	2.5	pCi/g	0.009	U	0.32	0.60	8.3		1.4	0.5	0.36	J	0.12	0.14					0.85	J	0.21	0.09
1IR-21095b	IR1-21-05b	RANDOM	15-560	12/13/2007	0.5	1	pCi/g	0.14	U	0.38	0.68	9.3		1.8	0.9	0.41	J	0.15	0.17					0.26	J	0.13	0.11
1IR-18ABC-07b	IR1-18ABC-07b	RANDOM	15-521	12/13/2007	2.6	3	pCi/g	-0.0006	U	0.46	0.86	8.9		1.6	0.5	0.26	J	0.12	0.16					0.65	J	0.19	0.07
1IR-17-02b	IR1-17-02b	RANDOM	15-501	12/13/2007	2.5	3	pCi/g	-0.08	U	0.41	0.75	8.6		1.6	0.7	0.55	J	0.14	0.12					0.40	J	0.14	0.09
1IR-18ABC-08a	IR1-18ABC-08a	RANDOM	15-522	12/13/2007	2	2.6	pCi/g	-0.0007	U	0.19	0.37	9.2		1.2	0.5	0.378	J	0.099	0.10					0.36	U	0.16	0.11
1IR-18ABC-08b	IR1-18ABC-08b	RANDOM	15-523	12/13/2007	2.6	3	pCi/g	0.02	U	0.35	0.66	8.3		1.5	0.9	0.37	J	0.11	0.08					0.26	U	0.13	0.10
B-1IR-22a	IR1-B-22a	BIASED	15-561	12/13/2007	2	2.5	pCi/g	0.06	U	0.35	0.67	8.7		1.7	0.5	0.44	J	0.13	0.10					0.56	J	0.19	0.10
1IR-18ABC-09a	IR1-18ABC-09a	RANDOM	15-524	12/13/2007	2	2.6	pCi/g	0.1	U	0.31	0.57	7.0		1.4	0.8	0.33	J	0.12	0.14					0.67	J	0.29	0.17
B-1IR-22b	IR1-B-22b	BIASED	15-562	12/13/2007	2.5	3	pCi/g	-0.08	U	0.23	0.42	9.0		1.3	0.6	0.41	J	0.11	0.12					0.34	J	0.13	0.08
B-1IR-18Aa	IR1-B-18Aa	BIASED	15-502	12/13/2007	2	2.5	pCi/g	0.06	U	0.27	0.48	6.8		1.1	0.3	0.36	J	0.11	0.14					0.40	J	0.14	0.09
1IR-18ABC-09b	IR1-18ABC-09b	RANDOM	15-525	12/13/2007	2.6	3	pCi/g	-0.08	U	0.32	0.57	9.3		1.4	0.3	0.36	J	0.12	0.15					0.43	U	0.15	0.08
B-1IR-18Ab	IR1-B-18Ab	BIASED	15-503	12/13/2007	2.5	3	pCi/g	0.11	U	0.28	0.49	8.6		1.2	0.3	0.48	J	0.11	0.10					0.39	J	0.15	0.11
B-1IR-18Ba	IR1-B-18Ba	BIASED	15-504	12/13/2007	2	2.5	pCi/g	0.002	U	0.31	0.62	7.9		1.5	0.5	0.64	J	0.16	0.09					0.42	J	0.15	0.09
B-1IR-18Bb	IR1-B-18Bb	BIASED	15-505	12/13/2007	2.5	3	pCi/g	0.01	U	0.32	0.62	8.3		1.6	0.9	0.48	J	0.12	0.09					0.58	J	0.17	0.07
1IR-18ABC-10a	IR1-18ABC-10a	RANDOM	15-526	12/13/2007	2	2.6	pCi/g	-0.03	U	0.31	0.57	9.7		1.3	0.3	0.62	J	0.14	0.11					0.68	J	0.20	0.11
1IR-22-02a	IR1-22-02a	RANDOM	15-563	12/13/2007	2	2.5	pCi/g	-0.11	U	0.40	0.72	9.8		1.6	0.4	0.27	J	0.11	0.14					0.52	J	0.16	0.09
1IR-18ABC-10b	IR1-18ABC-10b	RANDOM	15-527	12/13/2007	2.6	3	pCi/g	-0.006	U	0.40	0.76	9.1		1.7	0.5	0.47	J	0.14	0.1					0.39	U	0.14	0.08
B-1IR-18Ca	IR1-B-18Ca	BIASED	15-506	12/13/2007	2	2.5	pCi/g	0.0	U	0.22	0.41	8.1		1.1	0.4	0.405	J	0.092	0.065					0.39	J	0.13	0.07
1IR-22-02b	IR1-22-02b	RANDOM	15-564	12/13/2007	2.5	3	pCi/g	0.13	U	0.33	0.58	10.7		1.5	0.3	0.41	J	0.14	0.19					0.46	J	0.15	0.09
B-1IR-18Cb	IR1-B-18Cb	BIASED	15-507	12/13/2007	2.5	3	pCi/g	0.03	U	0.31	0.57	8.4		1.4	0.4	0.30	J	0.11	0.13					0.35	J	0.13	0.09
1IR-22-03a	IR1-22-03a	RANDOM	15-565	12/13/2007	0	0.5	pCi/g	-0.08	U	0.37	0.66	9.5		1.4	0.3	0.53	J	0.14	0.12					0.31	J	0.12	0.07
1IR-22-03b	IR1-22-03b	RANDOM	15-566	12/13/2007	0.5	1	pCi/g	-0.03	U	0.29	0.58	8.2		1.7	0.6	0.42	J	0.17	0.22					0.39	J	0.13	0.07
B-1IR-19a	IR1-B-19a	BIASED	15-528	12/13/2007	2	2.6	pCi/g	-0.13	U	0.39	0.70	8.0		1.5	0.7	0.76	J	0.15	0.07	-0.05	U	0.30	0.54	0.43	J	0.15	0.08
1IR-22-04a	IR1-22-04a	RANDOM	15-567	12/13/2007	0	0.5	pCi/g	-0.19	U	0.54	0.96	7.7		1.7	1.2	0.51	J	0.16	0.14					1.20		0.25	0.07
B-1IR-24a	IR1-B-24a	BIASED	15-581	12/13/2007	2	2.5	pCi/g	0.02	U	0.30	0.56	9.0		1.4	0.3	0.32	J	0.13	0.19					0.25	J	0.11	0.07
B-1IR-19b	IR1-B-19b	BIASED	15-529	12/13/2007	2.6	3	pCi/g	0.00007	U	0.36	0.69	8.7		1.6	0.5	0.50	J	0.14	0.12					0.38	J	0.16	0.11
B-1IR-24b	IR1-B-24b	BIASED	15-582	12/13/2007	2.5	3	pCi/g	0.04	U	0.35	0.64	8.7		1.4	0.9	0.23	J	0.10	0.15	-0.05	U	0.26	0.47	0.45	J	0.15	0.1
1IR-22-04b	IR1-22-04b	RANDOM	15-568	12/13/2007	0.5	1	pCi/g	-0.0008	U	0.22	0.42	8.6		1.2	0.5	0.274	J	0.091	0.11	-0.08	U	0.22	0.40	0.30	J	0.12	0.07
1IR-22-05a	IR1-22-05a	RANDOM	15-569	12/13/2007	0	0.5	pCi/g	-0.07	U	0.39	0.71	10.7		1.7	0.4	0.40	J	0.11	0.07					0.50	J	0.16	0.08

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
1IR-24-02a	IR1-24-02a	RANDOM	15-584	12/13/2007	0	0.5	pCi/g	0.14	U	0.42	0.76	7.2		1.7	1.2	0.35	J	0.14	0.14					0.29	J	0.13	0.09
1IR-24-02b	IR1-24-02b	RANDOM	15-585	12/13/2007	0.5	1	pCi/g	-0.02	U	0.48	0.91	9.6		1.8	0.6	0.40	J	0.15	0.15					0.50	J	0.15	0.08
1IR-19-02a	IR1-19-02a	RANDOM	15-532	12/13/2007	0	0.5	pCi/g	0.0	U	0.45	0.82	10.3		1.5	0.3	0.45	J	0.15	0.20					0.34	J	0.15	0.10
1IR-22-05b	IR1-22-05b	RANDOM	15-570	12/13/2007	0.5	1	pCi/g	0.0	U	0.45	0.84	10.1		1.7	0.5	0.38	J	0.16	0.16					0.38	J	0.14	0.08
1IR-19-02b	IR1-19-02b	RANDOM	15-533	12/13/2007	0.5	1	pCi/g	0.0	U	0.72	1.2	9.4		1.4	0.3	0.57	J	0.15	0.18					1.34		0.28	0.08
B-1IR-23a	IR1-B-23a	BIASED	15-571	12/13/2007	2	2.5	pCi/g	0.09	U	0.35	0.67	9.0		1.8	0.6	0.39	J	0.15	0.18					0.36	J	0.15	0.12
1IR-19-03a	IR1-19-03a	RANDOM	15-534	12/13/2007	0	0.5	pCi/g	0.0	U	0.60	1.1	9.3		1.8	0.6	0.90	J	0.19	0.07					0.31	J	0.16	0.16
B-1IR-23b	IR1-B-23b	BIASED	15-572	12/13/2007	2.5	3	pCi/g	0.0	U	0.079	0.29	7.8		1.5	0.5	0.55	J	0.16	0.14					0.81	J	0.22	0.1
1IR-19-03b	IR1-19-03b	RANDOM	15-535	12/13/2007	0.5	1	pCi/g	0.0	U	0.50	0.94	8.7		1.8	1.1	0.87	J	0.18	0.11					0.61	J	0.23	0.15
1IR-19-04a	IR1-19-04a	RANDOM	15-536	12/13/2007	2	2.5	pCi/g	0.08	U	0.37	0.68	9.1		1.6	0.5	0.40	J	0.14	0.14					0.37	J	0.18	0.15
1IR-23-02a	IR1-23-02a	RANDOM	15-573	12/13/2007	0	0.5	pCi/g	0.05	U	0.22	0.40	9.8		1.3	0.5	0.519	J	0.099	0.032					1.20		0.28	0.11
1IR-19-04b	IR1-19-04b	RANDOM	15-537	12/13/2007	2.6	3	pCi/g	-0.01	U	0.42	0.76	9.2		1.5	1	0.31	J	0.13	0.18					0.64	J	0.20	0.11
1IR-23-02b	IR1-23-02b	RANDOM	15-574	12/13/2007	0.5	1	pCi/g	-0.16	U	0.42	0.74	9.0		1.6	0.8	0.59	J	0.15	0.09					0.73	J	0.21	0.11
B-1IR-25a	IR1-B-25a	BIASED	15-586	12/13/2007	2	2.5	pCi/g	0.0	U	0.25	0.47	11.4		1.5	0.6	0.54	J	0.13	0.13					0.47	J	0.15	0.07
1IR-23-03a	IR1-23-03a	RANDOM	15-575	12/13/2007	2	2.5	pCi/g	0.0	U	0.34	0.67	11.3		1.9	0.5	0.27	J	0.13	0.17					0.24	J	0.12	0.10
B-1IR-25b	IR1-B-25b	BIASED	15-587	12/13/2007	2.5	3	pCi/g	0.0	U	0.084	0.31	13.8		2.2	0.6	0.75	J	0.18	0.10					0.54	J	0.16	0.07
1IR-19-05a	IR1-19-05a	RANDOM	15-538	12/13/2007	2	2.6	pCi/g	0.0	U	0.43	0.84	7.5		1.7	1	0.29	J	0.14	0.18	-0.18	U	0.24	0.45	0.43	J	0.20	0.14
1IR-23-03b	IR1-23-03b	RANDOM	15-576	12/13/2007	2.5	3	pCi/g	-0.07	U	0.40	0.73	9.7		1.5	0.4	0.35	J	0.14	0.20					0.30	J	0.11	0.08
1IR-23-04a	IR1-23-04a	RANDOM	15-577	12/13/2007	0	0.5	pCi/g	0.003	U	0.46	0.87	6.2		1.5	0.6	0.30	J	0.13	0.16					0.90	J	0.23	0.11
1IR-19-05b	IR1-19-05b	RANDOM	15-539	12/13/2007	2.6	3	pCi/g	0.0	U	0.37	0.73	10.1		1.9	0.6	0.18	U	0.13	0.21					0.29	J	0.12	0.08
1IR-23-04b	IR1-23-04b	RANDOM	15-578	12/13/2007	0.5	1	pCi/g	-0.03	U	0.40	0.76	8.6		1.7	0.5	0.45	J	0.14	0.13	0.16	U	0.26	0.43	0.52	J	0.18	0.09
1IR-25-02a	IR1-25-02a	RANDOM	15-588	12/13/2007	2	2.5	pCi/g	-0.07	U	0.35	0.64	8.6		1.5	0.5	0.33	J	0.12	0.12					0.50	J	0.16	0.08
1IR-23-05a	IR1-23-05a	RANDOM	15-579	12/13/2007	2	2.5	pCi/g	-0.12	U	0.27	0.48	9.2		1.3	0.5	0.44	J	0.10	0.1					0.43	J	0.15	0.11
1IR-25-02b	IR1-25-02b	RANDOM	15-589	12/13/2007	2.5	3	pCi/g	0.0	U	0.056	0.21	9.7		1.5	0.3	0.32	J	0.12	0.17					0.30	J	0.13	0.09
1IR-19-06a	IR1-19-06a	RANDOM	15-540	12/13/2007	0	0.5	pCi/g	-0.08	U	0.30	0.53	9.4		1.3	0.5	0.55	J	0.12	0.11					0.72	J	0.22	0.13
1IR-23-05b	IR1-23-05b	RANDOM	15-580	12/13/2007	2.5	3	pCi/g	0.001	U	0.22	0.43	10		1.3	0.5	0.42	J	0.10	0.10					0.48	J	0.15	0.08
1IR-25-03a	IR1-25-03a	RANDOM	15-590	12/13/2007	2	2.5	pCi/g	-0.12	U	0.38	0.67	8.4		1.3	0.3	0.33	J	0.11	0.15					0.39	J	0.14	0.09
1IR-19-06b	IR1-19-06b	RANDOM	15-541	12/13/2007	0.5	1	pCi/g	-0.008	U	0.34	0.64	7.6		1.4	0.8	0.42	J	0.13	0.14					0.25	J	0.16	0.16
1IR-25-03b	IR1-25-03b	RANDOM	15-591	12/13/2007	2.5	3	pCi/g	0.0	U	0.28	0.55	8.6		1.6	0.7	0.28	J	0.12	0.15					0.21	J	0.10	0.07
1IR-25-04a	IR1-25-04a	RANDOM	15-592	12/13/2007	2	2.5	pCi/g	0.0	U	0.54	1.0	11.6		1.9	0.5	0.35	J	0.13	0.14	-0.22	U	0.30	0.56	0.27	J	0.12	0.07
1IR-25-04b	IR1-25-04b	RANDOM	15-593	12/13/2007	2.5	3	pCi/g	-0.08	U	0.35	0.64	8.3		1.4	0.7	0.39	J	0.14	0.20					0.27	J	0.11	0.06
1IR-19-07a	IR1-19-07a	RANDOM	15-542	12/13/2007	2	2.6	pCi/g	-0.009	U	0.38	0.73	8.2		1.6	0.7	0.38	J	0.13	0.16					0.41	J	0.14	0.09
1IR-25-05a	IR1-25-05a	RANDOM	15-594	12/13/2007	2	2.5	pCi/g	-0.01	U	0.38	0.71	12.6		1.9	0.4	0.45	J	0.15	0.19					0.64	J	0.25	0.14
1IR-25-05b	IR1-25-05b	RANDOM	15-595	12/13/2007	2.5	3	pCi/g	0.30	U	0.60	1.1	12.5		2.7	0.9	0.95	J	0.24	0.10					0.59	J	0.18	0.08
B-1IR-26Ba	IR1-B-26-Ba	BIASED	15-596	12/13/2007	2	2.5	pCi/g	-0.08	U	0.35	0.65	8.4		1.6	0.5	0.47	J	0.13	0.1					0.28	J	0.12	0.09
B-1IR-26Bb	IR1-B-26-Bb	BIASED	15-597	12/13/2007	2.5	3	pCi/g	0.06	U	0.20	0.36	9.5		1.3	0.6	0.43	J	0.11	0.1					0.50	J	0.17	0.09
1IR-19-07b	IR1-19-07b	RANDOM	15-543	12/13/2007	2.6	3	pCi/g	0.02	U	0.31	0.58	10		1.5	0.3	0.50	J	0.14	0.16					0.34	J	0.12	0.08
1IR-26B-01a	IR1-26B-01a	RANDOM	15-598	12/13/2007	0	0.5	pCi/g	0.04	U	0.31	0.57	9.6		1.5	0.4	0.60	J	0.12	0.04	0.02	U	0.35	0.61	0.26	J	0.12	0.09
1IR-26B-01b	IR1-26B-01b	RANDOM	15-599	12/13/2007	0.5	1	pCi/g	-0.10	U	0.48	0.87	9.0		1.6	0.5	0.45	J	0.14	0.14					0.50	J	0.16	0.09
1IR-19-08a	IR1-19-08a	RANDOM	15-544	12/13/2007	2	2.6	pCi/g	0.02	U	0.28	0.52	10.4		1.5	0.3	0.30	J	0.12	0.18					0.53	J	0.16	0.09
1IR-26B-02a	IR1-26B-02a	RANDOM	15-600	12/13/2007	0	0.5	pCi/g	-0.08	U	0.40	0.73	11.3		1.7	0.4	0.34	J	0.13	0.19					0.32	J	0.13	0.08
1IR-19-08b	IR1-19-08b	RANDOM	15-545	12/13/2007	2.6	3	pCi/g	-0.001	U	0.39	0.77	7.8		1.8	1.3	0.71	J	0.16	0.07					0.35	J	0.13	0.07
1IR-26B-02b	IR1-26B-02b	RANDOM	15-601	12/13/2007	0.5	1	pCi/g	-0.02	U	0.30	0.56	10.1		1.5	0.3	0.31	J	0.12	0.18					0.22	J	0.11	0.11
B-1IR-A28a	IR1-B-A28a	BIASED	15-602	12/13/2007	2	2.5	pCi/g	-0.01	U	0.38	0.72	9.8		1.6	0.4	0.50	J	0.13	0.08					0.46	J	0.16	0.08
B-1IR-A28b	IR1-B-A28b	BIASED	15-603	12/13/2007	2.5	3	pCi/g	-0.16	U	0.45	0.80	13.0		2.0	0.5	0.38	J	0.14	0.18					0.69	J	0.19	0.08
1IR-19-09a	IR1-19-09a	RANDOM	15-546	12/13/2007	2	2.6	pCi/g	-0.09	U	0.38	0.70	6.6		1.6	1.4	0.66	J	0.15	0.1					0.42	J	0.15	0.09
1IR-19-09b	IR1-19-09b	RANDOM	15-547	12/13/2007	2.6	3	pCi/g	0.004	U	0.23	0.44	8.4		1.2	0.6	0.359	J	0.098	0.099					0.55	J	0.19	0.11
1IR-A28-01a	IR1-28A-01a	RANDOM	15-605	12/13/2007	0	0.5	pCi/g	-0.04	U	0.32	0.59	9.6		1.4	0.3	0.34	J	0.12	0.16					0.38	J	0.14	0.08
1IR-19-10a	IR1-19-10a	RANDOM	15-548	12/13/2007	2	2.6	pCi/g	0.22	U	0.25	0.39	8.1		1.4	0.4	0.49	J	0.14	0.1	0.15	U	0.23	0.38	0.62	J	0.25	0.20
1IR-A28-01b	IR1-28A-01b	RANDOM	15-606	12/13/2007	0.5	1	pCi/g	0.0	U	0.061	0.23	6.6		1.3	0.4	0.303	J	0.087	0.044					0.39	J	0.13	0.08
1IR-19-10b	IR1-19-10b	RANDOM	15-549	12/13/2007	2.6	3	pCi/g	-0.18	U	0.53	0.93	9.9		1.8	0.9	0.48	J	0.14	0.12					0.41	J	0.16	0.10
1IR-A28-02a	IR1-28A-02a	RANDOM	15-607	12/13/2007	0	0.5	pCi/g	0.05	U	0.35	0.63	8.2		1.3	0.3	0.14	U	0.11	0.18					0.38	J	0.14	0.08
1IR-A28-02b	IR1-28A-02b	RANDOM	15-608	12/13/2007	0.5	1	pCi/g	-0.07	U	0.43	0.79	7.7		1.5	0.5	0.29	J	0.12	0.13	-0.12	U	0.24	0.44	0.29	J	0.12	0.1
1IR-A28-03a	IR1-28A-03a	RANDOM	15-609	12/13/2007	0	0.5	pCi/g	0.13	U	0.26	0.46	8.6		1.6	0.5	0.57	J	0.14	0.09					0.42	J	0.14	0.06
1IR-A28-03b	IR1-28A-03b	RANDOM	15-610	12/13/2007	0.5	1	pCi/g	0.10	U	0.20	0.35	9.0		1.2	0.5	0.33	J	0.10	0.08					0.31	J	0.12	0.08
1IR-A28-04a	IR1-28A-04a	RANDOM	15-611	12/13/2007	0	0.5	pCi/g	-0.08	U	0.26	0.46	7.2		1.3	0.7	0.46	J	0.10	0.04					0.33	J	0.14	0.11
1IR-A28-04b	IR1-28A-04b	RANDOM	15-612	12/13/2007	0.5	1	pCi/g	0.0	U	0.24	0.44	7.2		1.0	0.5	0.381	J	0.095	0.096					0.44	J	0.17	0.11
1IR-A28-05a	IR1-28A-05a	RANDOM	15-613	12/13/2007	0	0.5	pCi/g	-0.006	U	0.33	0.63	8.5		1.5	0.4	0.187	J	0.097	0.13					0.45	J	0.17	0.11
1IR-A28-05b	IR1-28A-05b	RANDOM	15-614	12/13/2007	0.5	1	pCi/g	0.0	U	0.39	0.73	8.4		1.5	0.4	0.18	J	0.11	0.16					0.37	J	0.14	0.09
B-2IR-1a	IR2-B-1a	BIASED	15-648	12/13/2007	2	2.5	pCi/g	0.13	U	0.33	0.59	10.5		1.7	0.5	0.57	J	0.15	0.11	0.02	U	0.21	0.37	0.41	J	0.14	0.08
B-2IR-1b	IR2-B-1b	BIASED	15-649	12/13/2007	2.5	3	pCi/g	-0.12	U	0.39	0.71	9.6		1.7	0.5	0.27	J	0.12	0.16					0.42	J	0.16	0.10
B-2IR-2a	IR2-B-2a	BIASED	15-650	12/13/2007	2	2.5	pCi/g	0.14	U	0.33	0.58	8.1		1.4	0.4	0.41	J	0.11	0.06					0.46	J	0.15	0.09
B-2IR-2b	IR2-B-2b	BIASED	15-651	12/13/2007	2.5	3	pCi/g	0.18	U	0.36	0.63	8.9		1.6	0.5	0.26	J	0.12	0.17					0.56	J	0.17	0.09
B-2IR-3a	IR2-B-3a	BIASED	15-652	12/13/2007	2	2.5	pCi/g	0.11	U	0.37	0.67	8.9		1.6	0.5	3.48		0.38	0.11					0.75	J	0.19	0.08
B-2IR-3b	IR2-B-3b	BIASED	15-653	12/13/2007	2.5	3	pCi/g	0.05	U	0.36	0.65	10.6		1.5	0.3	2.70		0.30	0.19					0.60	J	0.20	0.11
B-1IR-93a	IR1-B-93a	BIASED	15-637	12/13/2007	3.5	4	pCi/g	-0.004	U	0.31	0.59	12.0		1.7	0.3	0.46	J	0.15	0.19					0.74	J	0.21	0.08
B-1IR-93b	IR1-B-93b	BIASED	15-638	12/13/2007	4	4.5	pCi/g	-0.05	U	0.37	0.67	9.3		1.5	0.8	0.40	J	0.13	0.18	-0.14	U	0.29	0.54	0.37	J	0.16	0.12
B-2IR-4a	IR2-B-4a	BIASED	15-654	12/13/2007	2	2.5	pCi/g	0.0	U	0.38	0.74	10.2		1.8	0.6	0.48	J	0.13	0.06					0.47	J	0.18	0.09
B-1IR-92a	IR1-B-92a	BIASED	15-615	12/13/2007	2	2.5	pCi/g	0.04	U	0.39	0.71	11.4		1.6	0.3	0.37	J	0.13	0.18					0.56	J	0.17	0.09
B-1IR-92b	IR1-B-92b	BIASED	15-616	12/13/2007	2.5	3	pCi/g	-0.06	U	0.53	0.99	11.2		2.1	0.6	0.66	J	0.16	0.07					0.73	J	0.24	0.13

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-2IR-4b	IR2-B-4b	BIASED	15-655	12/13/2007	2.5	3	pCi/g	-0.14	U	0.46	0.83	7.5		1.5	0.5	0.38	J	0.14	0.16					0.29	J	0.11	0.07
B-2IR-5a	IR2-B-5a	BIASED	15-656	12/13/2007	2	2.5	pCi/g	0.03	U	0.21	0.39	8.0		1.1	0.6	0.364	J	0.089	0.084					0.27	J	0.12	0.08
B-2IR-5b	IR2-B-5b	BIASED	15-657	12/13/2007	2.5	3	pCi/g	-0.1	U	0.43	0.77	7.4		1.4	1	0.84	J	0.15	0.07					0.80	J	0.22	0.09
B-1IR-97a	IR1-B-97a	BIASED	15-639	12/14/2007	2	2.5	pCi/g	0.10	U	0.28	0.50	11.0		1.4	0.3	0.44	J	0.12	0.14					0.78	J	0.21	0.09
B-2IR-6a	IR2-B-6a	BIASED	15-658	12/14/2007	2	2.5	pCi/g	-0.08	U	0.30	0.55	8.7		1.6	1	0.47	J	0.12	0.09	0.55	U	0.54	0.87	0.58	J	0.17	0.08
B-1IR-97b	IR1-B-97b	BIASED	15-640	12/14/2007	2.5	3	pCi/g	0.0	U	0.48	0.89	10.0		1.7	0.5	0.62	J	0.14	0.05					0.59	J	0.18	0.08
B-2IR-6b	IR2-B-6b	BIASED	15-659	12/14/2007	2.5	3	pCi/g	-0.13	U	0.37	0.67	10.2		1.7	0.5	0.22	J	0.13	0.19					0.38	J	0.13	0.08
B-2IR-7a	IR2-B-7a	BIASED	15-660	12/14/2007	2	2.5	pCi/g	0.0	U	0.54	0.97	8.9		1.5	0.4	0.93	J	0.18	0.08					0.91	J	0.23	0.09
B-2IR-7b	IR2-B-7b	BIASED	15-661	12/14/2007	2.5	3	pCi/g	0.07	U	0.34	0.60	9.3		1.3	0.3	0.52	J	0.13	0.15					0.33	J	0.13	0.08
B-2IR-8a	IR2-B-8a	BIASED	15-662	12/14/2007	2	2.5	pCi/g	0.04	U	0.40	0.75	9.8		1.7	0.5	0.78	J	0.17	0.09					0.57	J	0.17	0.07
B-2IR-8b	IR2-B-8b	BIASED	15-663	12/14/2007	2.5	3	pCi/g	-0.1	U	0.41	0.74	11.4		1.8	0.5	0.65	J	0.15	0.09					0.52	J	0.17	0.09
B-1IR-114a	IR1-B-114a	BIASED	15-641	12/14/2007	2	2.5	pCi/g	0.0	U	0.87	1.5	8.2		1.6	1.7	23.8		1.6	0.3					0.55	J	0.16	0.1
B-2IR-10a	IR2-B-B-10a	BIASED	15-664	12/14/2007	2	2.5	pCi/g	0.006	U	0.21	0.40	8.3		1.2	0.5	0.390	J	0.097	0.095					0.40	J	0.14	0.09
B-2IR-10b	IR2-B-10b	BIASED	15-665	12/14/2007	2.5	3	pCi/g	0.0	U	0.062	0.23	8.4		1.5	0.5	0.30	J	0.11	0.12					0.29	J	0.12	0.08
B-1IR-114b	IR1-B-114b	BIASED	15-642	12/14/2007	2.5	3	pCi/g	0.07	U	0.43	0.77	7.0		1.3	1.2	5.30		0.51	0.20					0.27	J	0.11	0.07
B-1IR-AB1a	IR1-B-AB1a	BIASED	15-643	12/14/2007	1	1.5	pCi/g	0.12	U	0.33	0.61	9.7		1.8	0.5	0.42	J	0.13	0.08					0.55	J	0.17	0.12
B-1IR-AB1b	IR1-B-AB1b	BIASED	15-644	12/14/2007	1.5	2	pCi/g	0.03	U	0.37	0.70	10.7		1.8	0.5	0.51	J	0.14	0.11					0.58	J	0.17	0.09
1IR-92-01a	IR1-92-01a	RANDOM	15-617	12/14/2007	0	0.5	pCi/g	0.10	U	0.35	0.64	9.0	J	1.6	0.4	0.46	J	0.14	0.16					0.59	J	0.20	0.14
1IR-AB1-02a	IR1-1AB-02a	RANDOM	15-645	12/14/2007	0	0.5	pCi/g	-0.05	U	0.22	0.40	10.2		1.3	0.5	0.38	J	0.10	0.1					0.58	J	0.17	0.07
1IR-92-01b	IR1-92-01b	RANDOM	15-618	12/14/2007	0.5	1	pCi/g	0.06	U	0.17	0.31	7.7	J	1.1	0.5	0.43	J	0.10	0.10	0.03	U	0.32	0.55	0.42	J	0.14	0.08
1IR-AB1-02b	IR1-1AB-02b	RANDOM	15-646	12/14/2007	0.5	1	pCi/g	0.09	U	0.25	0.45	7.5		1.3	0.4	0.193	J	0.090	0.12					0.33	J	0.13	0.09
1IR-92-02a	IR1-92-02a	RANDOM	15-619	12/14/2007	0	0.5	pCi/g	0.01	U	0.25	0.48	6.7	J	1.2	0.7	0.30	J	0.11	0.13					0.43	J	0.15	0.1
1IR-92-02b	IR1-92-02b	RANDOM	15-620	12/14/2007	0.5	1	pCi/g	-0.06	U	0.29	0.53	9.5	J	1.5	0.4	0.48	J	0.14	0.12					0.33	J	0.14	0.11
2IR-10-01a	IR2-10-01a	RANDOM	15-666	12/14/2007	0	0.5	pCi/g	0.004	U	0.27	0.52	5.3		1.2	0.7	0.183	J	0.097	0.14					0.34	J	0.13	0.09
2IR-10-01b	IR2-10-01b	RANDOM	15-667	12/14/2007	0.5	1	pCi/g	0.04	U	0.31	0.57	10.5		1.5	0.3	0.44	J	0.14	0.18					0.37	J	0.13	0.08
1IR-92-03a	IR1-92-03a	RANDOM	15-621	12/14/2007	0	0.5	pCi/g	-0.03	U	0.32	0.59	11.2	J	1.7	1	0.56	J	0.15	0.12					0.60	J	0.18	0.09
1IR-92-03b	IR1-92-03b	RANDOM	15-622	12/14/2007	0.5	1	pCi/g	0.01	U	0.28	0.51	10.8	J	1.4	0.3	0.44	J	0.12	0.15					0.64	J	0.18	0.09
2IR-10-2a	IR2-10-02a	RANDOM	15-668	12/14/2007	0	0.5	pCi/g	0.0	U	0.092	0.34	19.2		2.8	0.6	1.35		0.23	0.07	0.39	U	0.48	0.79	0.74	J	0.20	0.09
1IR-92-04a	IR1-92-04a	RANDOM	15-623	12/14/2007	0	0.5	pCi/g	0.03	U	0.34	0.66	9.8	J	1.8	1.1	0.36	J	0.15	0.20					0.62	J	0.17	0.09
2IR-10-2b	IR2-10-02b	RANDOM	15-669	12/14/2007	0.5	1	pCi/g	-0.05	U	0.44	0.81	19.6		2.4	0.4	0.86	J	0.20	0.23					0.85	J	0.20	0.07
1IR-92-04b	IR1-92-04b	RANDOM	15-624	12/14/2007	0.5	1	pCi/g	0.0	U	0.034	0.068	1.01	J	0.18	0.05	0.058	J	0.016	0.014					0.71	J	0.19	0.08
1IR-92-05a	IR1-92-05a	RANDOM	15-625	12/14/2007	0	0.5	pCi/g	-0.02	U	0.18	0.33	10.9	J	1.2	0.4	0.464	J	0.097	0.084					0.54	J	0.16	0.08
1IR-92-05b	IR1-92-05b	RANDOM	15-626	12/14/2007	0.5	1	pCi/g	-0.08	U	0.33	0.60	11.4	J	1.6	0.3	0.70	J	0.12	0.04					0.45	J	0.16	0.11
2IR-10-3a	IR2-10-03a	RANDOM	15-670	12/14/2007	0	0.5	pCi/g	0.05	U	0.45	0.83	7.7		1.5	0.5	0.42	J	0.12	0.06					0.47	J	0.15	0.08
1IR-92-06A	IR1-92-06a	RANDOM	15-627	12/14/2007	0	0.5	pCi/g	0.004	U	0.21	0.39	11.2		1.3	0.4	0.505	J	0.099	0.072					0.44	J	0.14	0.06
2IR-10-3b	IR2-10-03b	RANDOM	15-671	12/14/2007	0.5	1	pCi/g	0.009	U	0.41	0.78	10.1		1.7	0.5	0.51	J	0.14	0.12					0.39	J	0.13	0.06
1IR-92-06B	IR1-92-06b	RANDOM	15-628	12/14/2007	0.5	1	pCi/g	0.13	U	0.22	0.38	8.9		1.4	0.6	0.262	J	0.095	0.12	0.06	U	0.34	0.59	0.78	J	0.20	0.08
2IR-10-4a	IR2-10-04a	RANDOM	15-672	12/14/2007	0	0.5	pCi/g	0.1	U	0.24	0.43	10.6		1.4	0.7	0.50	J	0.12	0.11					0.43	J	0.14	0.07
B-2IR-232a	IR2-B-232a	BIASED	15-779	12/14/2007	2.5	3	pCi/g	0.18	U	0.33	0.57	10.8		1.5	0.3	0.32	J	0.12	0.17					0.36	J	0.14	0.09
1IR-92-07A	IR1-92-07a	RANDOM	15-629	12/14/2007	0	0.5	pCi/g	-0.08	U	0.33	0.61	7.7		1.3	0.4	0.41	J	0.12	0.10					0.33	U	0.12	0.07
2IR-10-4b	IR2-10-04b	RANDOM	15-673	12/14/2007	0.5	1	pCi/g	0.0	U	0.056	0.20	7.9		1.4	0.7	0.32	J	0.10	0.10					0.47	J	0.15	0.08
B-2IR-232b	IR2-B-232b	BIASED	15-780	12/14/2007	3	3.5	pCi/g	-0.07	U	0.33	0.62	7.5		1.4	0.5	0.51	J	0.15	0.11					0.47	J	0.16	0.10
1IR-92-07B	IR1-92-07b	RANDOM	15-630	12/14/2007	0.5	1	pCi/g	-0.06	U	0.27	0.49	7.6		1.2	0.7	0.256	J	0.097	0.13					0.66	J	0.18	0.08
2IR-10-5a	IR2-10-05a	RANDOM	15-674	12/14/2007	0	0.5	pCi/g	-0.03	U	0.36	0.67	8.5		1.5	0.4	0.27	J	0.11	0.16					0.44	J	0.14	0.08
2IR-10-5b	IR2-10-05b	RANDOM	15-675	12/14/2007	0.5	1	pCi/g	0.03	U	0.27	0.50	11.1		1.5	0.3	0.51	J	0.14	0.17					0.40	J	0.14	0.08
1IR-92-08A	IR1-92-08a	RANDOM	15-631	12/14/2007	0	0.5	pCi/g	0.04	U	0.29	0.56	6.9		1.4	0.6	0.58	J	0.13	0.05					0.58	J	0.17	0.09
1IR-92-08B	IR1-92-08b	RANDOM	15-632	12/14/2007	0.5	1	pCi/g	0.0	U	0.068	0.25	8.0		1.5	0.4	0.39	J	0.12	0.11					0.62	J	0.16	0.08
1IR-92-09A	IR1-92-09a	RANDOM	15-633	12/14/2007	0	0.5	pCi/g	0.05	U	0.20	0.36	8.0		1.1	0.4	0.356	J	0.084	0.080					0.39	U	0.14	0.07
1IR-92-09B	IR1-92-09b	RANDOM	15-634	12/14/2007	0.5	1	pCi/g	0.18	U	0.31	0.52	7.9		1.3	0.7	0.46	J	0.12	0.08					0.62	J	0.17	0.07
B-2IR-11Aa	IR2-B-11Aa	BIASED	15-676	12/14/2007	2	2.5	pCi/g	-0.09	U	0.40	0.72	11.3		1.6	0.9	0.35	J	0.13	0.18					0.47	J	0.15	0.07
1IR-92-10A	IR1-92-10a	RANDOM	15-635	12/14/2007	0	0.5	pCi/g	-0.0007	U	0.30	0.57	10.6		1.6	0.4	0.35	J	0.11	0.13					0.79	J	0.20	0.08
B-2IR-11Ab	IR2-B-11Ab	BIASED	15-677	12/14/2007	2.5	3	pCi/g	-0.04	U	0.33	0.62	9.3		1.6	0.5	0.37	J	0.12	0.13	0.63	U	0.47	0.74	0.77	J	0.19	0.08
1IR-92-10B	IR1-92-10b	RANDOM	15-636	12/14/2007	0.5	1	pCi/g	-0.004	U	0.30	0.56	12.0		1.5	0.3	0.50	J	0.13	0.16					0.68	J	0.18	0.07
2IR-11A-01a	IR2-11A-01a	RANDOM	15-679	12/14/2007	2	2.5	pCi/g	0.0	U	0.053	0.19	11.0		1.5	0.3	0.42	J	0.14	0.19					0.74	J	0.19	0.10
2IR-11A-01b	IR2-11A-01b	RANDOM	15-680	12/14/2007	2.5	3	pCi/g	-0.005	U	0.40	0.78	10.1		1.8	0.6	0.36	J	0.14	0.17					0.38	J	0.14	0.09
B-2IR-188a	IR2-B-188a	BIASED	15-740	12/14/2007	2	2.5	pCi/g	0.15	U	0.31	0.56	6.5		1.6	1.2	0.50	J	0.16	0.17					0.45	J	0.15	0.07
B-2IR-188b	IR2-B-188b	BIASED	15-741	12/14/2007	2.5	3	pCi/g	0.11	U	0.30	0.56	9.0		1.7	0.6	0.50	J	0.16	0.14					0.58	J	0.16	0.08
2IR-11A-02a	IR2-11A-02a	RANDOM	15-681	12/14/2007	2	2.5	pCi/g	0.0	U	0.51	0.96	12.1		2.1	0.6	0.66	J	0.19	0.16					0.42	J	0.14	0.09
2IR-11A-02b	IR2-11A-02b	RANDOM	15-682	12/14/2007	2.5	3	pCi/g	0.13	U	0.26	0.45	11.7		1.5	0.7	0.69	J	0.14	0.12					0.39	J	0.13	0.07
B-2IR-278a	IR2-B-278a	BIASED	15-782	12/14/2007	2	2.5	pCi/g	-0.08	U	0.34	0.61	7.6		1.4	0.9	0.37	J	0.13	0.15					0.40	J	0.15	0.1
B-2IR-278b	IR2-B-278b	BIASED	15-783	12/14/2007	2.5	3	pCi/g	0.0	U	0.55	1.1	7.2		1.8	0.8	0.30	J	0.15	0.18					0.40	J	0.15	0.1
B-2IR-11Ba	IR2-B-11Ba	BIASED	15-683	12/14/2007	2	2.5	pCi/g	0.003	U	0.35	0.66	10.4		1.7	0.8	0.77	J	0.16	0.08					0.28	J	0.13	0.11
B-2IR-11Bb	IR2-B-11Bb	BIASED	15-684	12/14/2007	2.5	3	pCi/g	-0.04	U	0.41	0.76	11.3		1.8	0.5	0.50	J	0.15	0.14					0.50	J	0.15	0.09
2IR-11B-01a	IR2-11B-01a	RANDOM	15-685	12/14/2007	2	2.5	pCi/g	0.03	U	0.34	0.63	12.0		1.7	0.3	0.62	J	0.16	0.20					0.85	J	0.21	0.08
2IR-11B-01b	IR2-11B-01b	RANDOM	15-686	12/14/2007	2.5	3	pCi/g	0.0	U	0.32	0.63	10.7		1.8	0.5	0.61	J	0.13	0.05					0.59	J	0.17	0.08
B-2IR-190a	IR2-B-190a	BIASED	15-743	12/14/2007	2	2.5	pCi/g	-0.06	U	0.25	0.44	9.3		1.3	0.5	0.43	J	0.10	0.1					0.51	J	0.16	0.08
B-2IR-190b	IR2-B-190b	BIASED	15-744	12/14/2007	2.5	3	pCi/g	-0.15	U	0.48	0.84	9.4		1.6	0.5	0.65	J	0.14	0.05					0.59	J	0.17	0.07
2IR-278-01a	IR2-278-01a	RANDOM	15-784	12/14/2007	0	0.5	pCi/g	0.0	U	0.43	0.77	10.3		1.4	0.3	0.36	J	0.12	0.16					0.45	J	0.14	0.08
2IR-11B-02a	IR2-11B-02a	RANDOM	15-687	12/14/2007	2	2.5	pCi/g	0.09	U	0.27	0.48	11.7		1.6	0.3	0.43	J	0.14	0.19					0.92	J	0.21	0.06
2IR-278-01b	IR2-278-01b	RANDOM	15-785	12/14/2007	0.5	1	pCi/g	0.05	U	0.36	0.66	13.2		1.7	0.3	0.29	J	0.12	0.18					0.62	J	0.18	0.08

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
2IR-11B-02b	IR2-11B-02b	RANDOM	15-688	12/14/2007	0.5	1	pCi/g	0.06	U	0.38	0.70	10.7	J	1.8	0.5	0.62	J	0.16	0.12	-0.14	U	0.38	0.66	0.52	J	0.18	0.09
2IR-278-02a	IR2-278-02a	RANDOM	15-786	12/14/2007	0	0.5	pCi/g	0.0	U	0.63	1.2	13.5		2.3	0.7	0.81	J	0.21	0.13					0.60	J	0.17	0.07
B-2IR-200a	IR2-B-200a	BIASED	15-745	12/14/2007	2	2.5	pCi/g	0.15	U	0.43	0.77	14.3		2.2	0.5	0.62	J	0.18	0.16					0.48	J	0.24	0.20
2IR-278-02b	IR2-278-02b	RANDOM	15-787	12/14/2007	0.5	1	pCi/g	-0.10	U	0.46	0.83	12.2		2.0	0.6	0.27	J	0.13	0.18					0.56	J	0.17	0.09
B-2IR-200b	IR2-B-200b	BIASED	15-746	12/14/2007	2.5	3	pCi/g	0.08	U	0.25	0.45	12.2		1.6	0.6	0.57	J	0.13	0.13					0.57	J	0.17	0.08
2IR-200-01a	IR2-200-01a	RANDOM	15-747	12/14/2007	0	0.5	pCi/g	-0.003	U	0.40	0.76	12.5		2.0	0.5	0.53	J	0.14	0.08					0.41	J	0.15	0.11
2IR-200-01b	IR2-200-01b	RANDOM	15-748	12/14/2007	0.5	1	pCi/g	-0.03	U	0.34	0.66	12.5		2.1	0.6	0.43	J	0.14	0.13	0.51	U	0.35	0.55	0.66	J	0.19	0.07
B-2IR-12a	IR2-B-12a	BIASED	15-689	12/14/2007	2	2.5	pCi/g	0.005	U	0.32	0.59	9.6	J	1.4	0.3	0.31	J	0.11	0.15					0.53	J	0.18	0.10
2IR-278-03a	IR2-278-03a	RANDOM	15-788	12/14/2007	0	0.5	pCi/g	-0.004	U	0.23	0.42	10		1.2	0.5	0.478	J	0.099	0.085	-0.003	U	0.34	0.60	0.36	J	0.14	0.09
B-2IR-12b	IR2-B-12b	BIASED	15-690	12/14/2007	2.5	3	pCi/g	0.03	U	0.30	0.58	8.0	J	1.5	0.8	0.63	J	0.16	0.09					0.38	J	0.13	0.08
2IR-278-03b	IR2-278-03b	RANDOM	15-789	12/14/2007	0.5	1	pCi/g	-0.1	U	0.38	0.67	8.2		1.4	0.8	0.57	J	0.12	0.04					0.62	J	0.20	0.1
2IR-12-01a	IR2-12-01a	RANDOM	15-691	12/14/2007	0	0.5	pCi/g	0.1	U	0.32	0.56	10.4	J	1.4	0.3	0.35	J	0.11	0.14					0.46	J	0.15	0.08
2IR-278-04a	IR2-278-04a	RANDOM	15-790	12/14/2007	0	0.5	pCi/g	0.08	U	0.28	0.51	11.5		1.5	0.3	0.33	J	0.11	0.15					0.62	J	0.18	0.07
2IR-12-01b	IR2-12-01b	RANDOM	15-692	12/14/2007	0.5	1	pCi/g	0.09	U	0.35	0.65	9.4	J	1.7	0.5	0.30	J	0.13	0.16					0.59	J	0.18	0.08
2IR-200-02a	IR2-200-02a	RANDOM	15-749	12/14/2007	0	0.5	pCi/g	-0.1	U	0.45	0.83	10.4		2.2	1.6	0.34	J	0.16	0.21					0.65	J	0.19	0.09
2IR-278-04b	IR2-278-04b	RANDOM	15-791	12/14/2007	0.5	1	pCi/g	-0.003	U	0.26	0.52	11.3		1.8	1.0	0.58	J	0.14	0.10					0.53	J	0.16	0.09
2IR-20-02a	IR2-200-02b	RANDOM	15-750	12/14/2007	2.5	3	pCi/g	0.0	U	0.40	0.79	10.3		1.9	0.6	0.64	J	0.18	0.11					0.35	J	0.13	0.07
2IR-278-05a	IR2-278-05a	RANDOM	15-792	12/14/2007	0	0.5	pCi/g	-0.07	U	0.22	0.40	10.3		1.3	0.5	0.53	J	0.11	0.1					0.65	J	0.20	0.11
2IR-12-02a	IR2-12-02a	RANDOM	15-693	12/14/2007	0	0.5	pCi/g	0.0	U	0.082	0.30	11.9	J	2.0	0.5	0.64	J	0.19	0.17					0.48	J	0.17	0.09
2IR-200-03a	IR2-200-03a	RANDOM	15-751	12/14/2007	0	0.5	pCi/g	-0.004	U	0.28	0.58	12.9		2.1	0.6	0.55	J	0.16	0.13					0.47	J	0.15	0.08
2IR-200-03b	IR2-200-03b	RANDOM	15-752	12/14/2007	0.5	1	pCi/g	-0.08	U	0.48	0.86	14.0		1.9	0.4	0.56	J	0.18	0.23					0.58	J	0.17	0.08
2IR-278-05b	IR2-278-05b	RANDOM	15-793	12/14/2007	0.5	1	pCi/g	-0.04	U	0.32	0.61	12.0		1.8	0.4	0.51	J	0.13	0.09					0.66	J	0.20	0.11
2IR-12-02b	IR2-12-02b	RANDOM	15-694	12/14/2007	0.5	1	pCi/g	-0.08	U	0.25	0.44	9.1	J	1.2	0.5	0.51	J	0.12	0.11					0.35	J	0.15	0.09
2IR-200-04a	IR2-200-04a	RANDOM	15-753	12/14/2007	0	0.5	pCi/g	0.0	U	0.47	0.85	12.2		1.6	0.3	0.29	J	0.13	0.19					0.51	J	0.16	0.1
2IR-200-04b	IR2-200-04b	RANDOM	15-754	12/14/2007	0.5	1	pCi/g	-0.02	U	0.46	0.86	9.6		1.8	0.6	0.47	J	0.13	0.06					0.54	J	0.16	0.06
2IR-12-03a	IR2-12-03a	RANDOM	15-695	12/14/2007	0	0.5	pCi/g	-0.19	U	0.43	0.74	10.8	J	1.7	0.6	0.59	J	0.15	0.15					0.39	J	0.15	0.11
2IR-12-03b	IR2-12-03b	RANDOM	15-696	12/14/2007	0.5	1	pCi/g	-0.06	U	0.42	0.78	10.5	J	1.7	0.5	0.37	J	0.14	0.17					0.57	J	0.17	0.07
2IR-278-06a	IR2-278-06a	RANDOM	15-794	12/14/2007	0	0.5	pCi/g	-0.01	U	0.30	0.59	7.1		1.3	0.4	0.42	J	0.11	0.09					0.24	J	0.11	0.09
2IR-12-04a	IR2-12-04a	RANDOM	15-697	12/14/2007	0	0.5	pCi/g	-0.05	U	0.36	0.65	10.4	J	1.4	0.3	0.32	J	0.11	0.16					0.40	J	0.14	0.09
2IR-200-05a	IR2-200-05a	RANDOM	15-755	12/14/2007	0	0.5	pCi/g	-0.009	U	0.34	0.66	12.6		2.0	0.5	0.45	J	0.16	0.17					0.51	J	0.16	0.08
2IR-200-05b	IR2-200-05b	RANDOM	15-756	12/14/2007	0.5	1	pCi/g	0.05	U	0.24	0.43	12.4		1.5	0.5	0.45	J	0.11	0.11					0.45	J	0.15	0.09
2IR-278-06b	IR2-278-06b	RANDOM	15-795	12/14/2007	0.5	1	pCi/g	0.05	U	0.27	0.49	8.9		1.3	0.5	0.39	J	0.13	0.16					0.40	J	0.14	0.09
2IR-12-04b	IR2-12-04b	RANDOM	15-698	12/14/2007	0.5	1	pCi/g	0.05	U	0.30	0.56	7.1		1.4	0.4	0.29	J	0.12	0.16	0.21	U	0.28	0.47	0.41	J	0.14	0.06
2IR-12-05a	IR2-12-05a	RANDOM	15-699	12/14/2007	0	0.5	pCi/g	0.03	U	0.32	0.60	9.6		1.6	0.4	0.59	J	0.15	0.12					0.40	J	0.13	0.07
2IR-12-05b	IR2-12-05b	RANDOM	15-700	12/14/2007	0.5	1	pCi/g	0.12	U	0.24	0.42	11.4		1.5	0.3	0.64	J	0.14	0.15					0.56	J	0.16	0.06
2IR-278-07a	IR2-278-07a	RANDOM	15-796	12/14/2007	0	0.5	pCi/g	-0.007	U	0.24	0.46	9.5		1.3	0.3	0.44	J	0.12	0.15					0.33	J	0.14	0.11
2IR-278-07b	IR2-278-07b	RANDOM	15-797	12/14/2007	0.5	1	pCi/g	0.003	U	0.37	0.71	9.7		1.7	0.5	0.41	J	0.13	0.13					0.50	J	0.19	0.14
2IR-278-08a	IR2-278-08a	RANDOM	15-798	12/14/2007	0	0.5	pCi/g	-0.16	U	0.44	0.77	9.4		1.7	1.0	0.60	J	0.15	0.11	-0.24	U	0.56	0.99	0.41	J	0.14	0.07
B-2IR-13a	IR2-B-13a	BIASED	15-701	12/14/2007	2	2.5	pCi/g	0.0	U	0.67	1.2	7.5		1.5	0.9	1.66		0.24	0.05					0.49	J	0.15	0.07
B-2IR-13b	IR2-B-13b	BIASED	15-702	12/14/2007	2.5	3	pCi/g	-0.002	U	0.32	0.62	7.5		1.5	0.7	0.97	J	0.18	0.11					0.47	J	0.15	0.08
2IR-278-08b	IR2-278-08b	RANDOM	15-799	12/14/2007	0.5	1	pCi/g	0.0	U	0.19	0.37	10.2		1.3	0.5	0.50	J	0.12	0.12					0.90	J	0.22	0.09
2IR-13-01a	IR2-13-01a	RANDOM	15-704	12/14/2007	0	0.5	pCi/g	0.007	U	0.26	0.51	7.3		1.4	0.9	0.70	J	0.14	0.09					0.49	J	0.16	0.09
B-2IR-230a	IR2-B-230a	BIASED	15-757	12/14/2007	2	2.5	pCi/g	0.0	U	0.055	0.20	8.7		1.5	0.9	0.47	J	0.12	0.07					0.58	J	0.16	0.08
2IR-13-01b	IR2-13-01b	RANDOM	15-705	12/14/2007	0.5	1	pCi/g	-0.09	U	0.35	0.62	8.9		1.3	0.3	0.71	J	0.16	0.18					0.41	J	0.14	0.07
B-2IR-230b	IR2-B-230b	BIASED	15-758	12/14/2007	2.5	3	pCi/g	-0.03	U	0.33	0.62	10.8		1.7	0.4	0.47	J	0.13	0.11	0.31	U	0.29	0.47	0.58	J	0.17	0.09
2IR-230-01a	IR2-230-01a	RANDOM	15-759	12/14/2007	0	0.5	pCi/g	0.0	U	0.21	0.41	7.4		1.1	0.3	1.00		0.16	0.14					0.34	J	0.12	0.08
2IR-230-01b	IR2-230-01b	RANDOM	15-760	12/14/2007	0.5	1	pCi/g	0.02	U	0.18	0.33	8.4		1.1	0.4	0.512	J	0.096	0.075					0.40	U	0.14	0.07
2IR-13-02a	IR2-13-02a	RANDOM	15-706	12/14/2007	2	2.5	pCi/g	0.0	U	0.38	0.68	7.0		1.1	0.7	0.74	J	0.13	0.09					0.62	J	0.17	0.07
2IR-230-02a	IR2-230-02a	RANDOM	15-761	12/14/2007	0	0.5	pCi/g	0.007	U	0.37	0.70	9.4		1.6	0.6	0.94	J	0.18	0.12					0.44	J	0.15	0.08
2IR-13-02b	IR2-13-02b	RANDOM	15-707	12/14/2007	2.5	3	pCi/g	0.03	U	0.32	0.60	8.9		1.5	0.6	0.82	J	0.16	0.11					0.51	J	0.16	0.08
2IR-278-09a	IR2-278-09a	RANDOM	15-800	12/14/2007	0	0.5	pCi/g	-0.01	U	0.35	0.66	9.0		1.6	1	0.371	J	0.097	0.045					0.33	J	0.13	0.09
2IR-230-02b	IR2-230-02b	RANDOM	15-762	12/14/2007	0.5	1	pCi/g	-0.12	U	0.34	0.59	7.6		1.2	0.8	0.54	J	0.13	0.14					0.47	J	0.15	0.07
2IR-278-09b	IR2-278-09b	RANDOM	15-801	12/14/2007	0.5	1	pCi/g	0.0	U	0.41	0.78	10.2		1.7	0.6	0.47	J	0.12	0.09					0.46	J	0.15	0.08
2IR-230-03a	IR2-230-03a	RANDOM	15-763	12/14/2007	0	0.5	pCi/g	-0.16	U	0.54	0.96	10.6		1.8	0.5	1.26		0.22	0.12					0.41	J	0.14	0.08
2IR-230-03b	IR2-230-03b	RANDOM	15-764	12/14/2007	0.5	1	pCi/g	0.0	U	0.22	0.45	8.7		1.5	0.4	0.90	J	0.18	0.12					0.20	J	0.10	0.08
2IR-278-10a	IR2-278-10a	RANDOM	15-802	12/14/2007	0	0.5	pCi/g	0.0	U	0.52	0.95	8.3		1.5	0.4	0.37	J	0.13	0.16					0.84	J	0.20	0.08
2IR-278-10b	IR2-278-10b	RANDOM	15-803	12/14/2007	0.5	1	pCi/g	0.05	U	0.36	0.66	16.0		2.2	0.4	0.51	J	0.15	0.17					0.55	J	0.17	0.08
B-2IR-160a	IR2-B-160a	BIASED	15-708	12/14/2007	2	2.5	pCi/g	0.0	U	0.26	0.51	7.9		1.3	0.3	0.44	J	0.13	0.16	0.14	U	0.35	0.60	0.42	J	0.14	0.07
2IR-230-04a	IR2-230-04a	RANDOM	15-765	12/14/2007	0	0.5	pCi/g	0.06	U	0.22	0.39	6.92		0.97	0.43	0.56	J	0.11	0.08					0.54	J	0.18	0.09
B-2IR-160b	IR2-B-160b	BIASED	15-709	12/14/2007	2.5	3	pCi/g	0.0	U	0.046	0.17	6.9		1.1	0.3	0.25	J	0.11	0.15					0.52	J	0.16	0.10
2IR-230-04b	IR2-230-04b	RANDOM	15-766	12/14/2007	0.5	1	pCi/g	0.0	U	0.23	0.44	7.4		1.3	0.6	0.52	J	0.12	0.12					0.38	J	0.14	0.09
2IR-230-05a	IR2-230-05a	RANDOM	15-767	12/14/2007	0	0.5	pCi/g	-0.08	U	0.37	0.68	8.3		1.4	0.4	0.68	J	0.15	0.11					0.46	J	0.15	0.08
2IR-230-05b	IR2-230-05b	RANDOM	15-768	12/14/2007	0.5	1	pCi/g	-0.05	U	0.36	0.65	6.8		1.1	0.3	0.40	J	0.11	0.14	0.1	U	0.34	0.59	0.35	J	0.14	0.12
2IR-230-06a	IR2-230-06a	RANDOM	15-769	12/14/2007	0	0.5	pCi/g	-0.008	U	0.15	0.34	8.4		1.5	0.5	0.63	J	0.14	0.05					0.35	J	0.13	0.07
2IR-230-06b	IR2-230-06b	RANDOM	15-770	12/14/2007	0.5	1	pCi/g	-0.06	U	0.30	0.54	8.8		1.2	0.3	0.44	J	0.12	0.14					0.58	J	0.17	0.07
B-2IR-171a	IR2-B-171a	BIASED	15-710	12/14/2007	2	2.5	pCi/g	0.0	U	0.32	0.60	6.6		1.2	0.6	0.130	J	0.083	0.12					0.34	J	0.13	0.07
2IR-230-07a	IR2-230-07a	RANDOM	15-771	12/14/2007	0	0.5	pCi/g	0.01	U	0.32	0.63	7.7		1.6	0.9	0.43	J	0.11	0.05					0.34	U	0.13	0.07
B-2IR-171b	IR2-B-171b	BIASED	15-711	12/14/2007	2.5	3	pCi/g	0.11	U	0.29	0.52	9.1		1.5	0.4	0.36	J	0.13	0.12					0.46	J	0.15	0.08
2IR-230-07b	IR2-230-07b	RANDOM	15-772	12/14/2007	0.5	1	pCi/g	-0.05	U	0.34	0.63	8.6		1.5	0.5	0.44	J	0.12	0.09					0.53	J	0.16	0.08
2IR-230-08a	IR2-230-08a	RANDOM	15-773	12/14/2007	0	0.5	pCi/g	-0.02	U	0.27	0.50	10.5		1.4	0.5	0.75	J	0.14	0.11					0.24	U	0.10	0.07

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-2IR-172a	IR2-B-172a	BIASED	15-712	12/14/2007	2	2.5	pCi/g	-0.05	U	0.20	0.36	8.8		1.1	0.5	0.437	J	0.093	0.054					0.32	J	0.13	0.09
2IR-230-08b	IR2-230-08b	RANDOM	15-774	12/14/2007	0.5	1	pCi/g	-0.07	U	0.35	0.65	9.9		1.7	0.5	0.59	J	0.15	0.13					1.03		0.23	0.08
B-2IR-172b	IR2-B-172b	BIASED	15-713	12/14/2007	2.5	3	pCi/g	0.01	U	0.23	0.43	7.6		1.2	0.3	0.34	J	0.11	0.15					0.38	J	0.13	0.08
2IR-230-09a	IR2-230-09a	RANDOM	15-775	12/14/2007	0	0.5	pCi/g	0.0	U	0.062	0.23	8.4		1.4	0.4	0.22	J	0.11	0.15					0.34	U	0.12	0.06
2IR-230-09b	IR2-230-09b	RANDOM	15-776	12/14/2007	0.5	1	pCi/g	0.0	U	0.29	0.53	8.0		1.2	0.3	0.55	J	0.12	0.1					0.39	U	0.13	0.07
2IR-230-10a	IR2-230-10a	RANDOM	15-777	12/14/2007	0	0.5	pCi/g	0.0	U	0.079	0.29	10		1.8	0.9	0.29	J	0.11	0.12					0.36	U	0.13	0.07
2IR-230-10b	IR2-230-10b	RANDOM	15-778	12/14/2007	0.5	1	pCi/g	0.05	U	0.33	0.63	7.9		1.5	0.5	0.51	J	0.14	0.15	-0.16	U	0.28	0.53	0.45	J	0.15	0.10
B-2IR-182a	IR2-B-182a	BIASED	15-714	12/17/2007	2	2.5	pCi/g	0.0	U	0.21	0.41	12.4		1.6	0.3	0.31	U	0.11	0.14					0.96	J	0.23	0.1
B-2IR-182b	IR2-B-182b	BIASED	15-715	12/17/2007	2.5	3	pCi/g	0.0	U	0.086	0.32	8.0		1.6	0.6	0.46	J	0.15	0.10					0.33	J	0.13	0.08
B-2IR-183a	IR2-B-183a	BIASED	15-716	12/17/2007	2	2.5	pCi/g	0.11	U	0.34	0.63	10.6		1.8	0.5	0.50	J	0.16	0.19					0.70	J	0.19	0.08
B-2IR-183b	IR2-B-183b	BIASED	15-717	12/17/2007	2.5	3	pCi/g	0.0	U	0.19	0.37	10.6		1.3	0.5	0.397	J	0.097	0.093					0.24	J	0.12	0.1
B-2IR-187a	IR2-B-187a	BIASED	15-718	12/17/2007	2	2.5	pCi/g	0.0	U	0.056	0.21	8.8		1.4	0.4	0.280	U	0.099	0.11	-0.17	U	0.29	0.52	0.42	J	0.15	0.10
B-2IR-187b	IR2-B-187b	BIASED	15-719	12/17/2007	2.5	3	pCi/g	0.07	U	0.27	0.51	8.4		1.4	0.4	0.46	J	0.14	0.12					0.95	J	0.23	0.08
B-2IR-187-02a	IR2-B-187-02a	BIASED	15-722	12/17/2007	0	0.5	pCi/g	-0.006	U	0.37	0.67	11.0		1.5	0.3	0.26	U	0.12	0.17					0.40	J	0.13	0.07
B-2IR-187-02b	IR2-B-187-02b	BIASED	15-723	12/17/2007	0.5	1	pCi/g	-0.01	U	0.32	0.59	12.6		1.6	0.3	0.38	J	0.12	0.16					0.56	J	0.16	0.07
2IR-187-03a	IR2-187-03a	RANDOM	15-724	12/17/2007	0	0.5	pCi/g	-0.12	U	0.47	0.85	9.5		1.9	1.1	0.60	J	0.15	0.06					0.64	J	0.19	0.08
2IR-187-03b	IR2-187-03b	RANDOM	15-725	12/17/2007	0.5	1	pCi/g	0.0	U	0.69	1.2	10.1		1.8	0.5	0.46	J	0.15	0.17					0.67	J	0.19	0.09
2IR-187-04a	IR2-187-04a	RANDOM	15-726	12/17/2007	0	0.5	pCi/g	-0.08	U	0.23	0.40	10.3		1.3	0.5	0.57	J	0.11	0.10					0.57	J	0.17	0.08
2IR-187-04b	IR2-187-04b	RANDOM	15-727	12/17/2007	0.5	1	pCi/g	0.05	U	0.36	0.66	9.9		1.5	0.4	0.42	J	0.12	0.12					0.41	J	0.14	0.08
2IR-187-05a	IR2-187-05a	RANDOM	15-728	12/17/2007	0	0.5	pCi/g	0.06	U	0.31	0.58	11.9		1.8	0.4	0.59	J	0.16	0.15	0.05	U	0.54	0.93	0.58	J	0.17	0.08
2IR-187-05b	IR2-187-05b	RANDOM	15-729	12/17/2007	0.5	1	pCi/g	0.12	U	0.40	0.72	15.5		2.3	0.5	0.72	J	0.17	0.11					0.85	J	0.22	0.09
2IR-187-06a	IR2-187-06a	RANDOM	15-730	12/17/2007	0	0.5	pCi/g	-0.03	U	0.37	0.71	9.7		1.7	0.5	0.54	J	0.16	0.14					0.50	J	0.16	0.08
2IR-187-06b	IR2-187-06b	RANDOM	15-731	12/17/2007	0.5	1	pCi/g	-0.03	U	0.24	0.43	10.8		1.3	0.5	0.354	J	0.090	0.087					0.74	J	0.21	0.08
2IR-187-07a	IR2-187-07a	RANDOM	15-732	12/17/2007	0	0.5	pCi/g	0.03	U	0.34	0.64	8.5		1.6	1.1	0.39	J	0.14	0.18					0.68	J	0.20	0.1
2IR-187-07b	IR2-187-07b	RANDOM	15-733	12/17/2007	0.5	1	pCi/g	0.03	U	0.39	0.74	9.7		1.9	1.1	0.49	J	0.14	0.10					0.80	J	0.23	0.11
2IR-187-08a	IR2-187-08a	RANDOM	15-734	12/17/2007	0	0.5	pCi/g	-0.11	U	0.40	0.73	11.8		1.9	0.5	0.29	J	0.14	0.20					0.37	J	0.15	0.11
2IR-187-08b	IR2-187-08b	RANDOM	15-735	12/17/2007	0.5	1	pCi/g	-0.007	U	0.20	0.38	11.8		1.5	0.5	0.42	J	0.11	0.12					0.58	J	0.20	0.12
2IR-187-09a	IR2-187-09a	RANDOM	15-736	12/17/2007	0	0.5	pCi/g	-0.03	U	0.29	0.54	8.5		1.4	0.6	0.34	J	0.11	0.13					0.51	J	0.16	0.07
2ir-187-09B	IR2-187-09b	RANDOM	15-737	12/17/2007	0.5	1	pCi/g	0.01	U	0.37	0.70	8.9		1.5	0.4	0.51	J	0.13	0.11					0.39	J	0.14	0.09
2IR-187-10a	IR2-187-10a	RANDOM	15-738	12/17/2007	0	0.5	pCi/g	0.01	U	0.38	0.73	7.2		1.5	0.5	0.46	J	0.13	0.09	0.23	U	0.43	0.71	0.47	J	0.16	0.1
2IR-187-10b	IR2-187-10b	RANDOM	15-739	12/17/2007	0.5	1	pCi/g	-0.14	U	0.47	0.84	10.5		1.8	0.5	0.58	J	0.18	0.15					0.44	J	0.16	0.09
B-2IR-341a	IR2-B-341a	BIASED	15-818	12/17/2007	1	1.5	pCi/g	0.11	U	0.28	0.48	15.9		1.7	0.3	0.44	J	0.11	0.13	-0.16	U	0.25	0.47	0.97	J	0.22	0.08
B-2IR-341b	IR2-B-341b	BIASED	15-819	12/17/2007	1.5	2	pCi/g	-0.07	U	0.45	0.82	15.2		2.1	0.4	0.71	J	0.16	0.09					0.75	J	0.21	0.09
1IR-18-ABC-04b	IR1-18ABC-04b	RANDOM	15-892	12/17/2007	2.5	3	pCi/g	0.20	U	0.34	0.57	7.8		1.5	0.5	0.40	J	0.13	0.13					0.32	J	0.12	0.07
B-2IR-342a	IR2-B-342a	BIASED	15-821	12/17/2007	1	1.5	pCi/g	-0.05	U	0.35	0.64	7.9		1.5	0.5	0.31	J	0.12	0.12					0.33	J	0.12	0.08
B-2IR-342b	IR2-B-342b	BIASED	15-822	12/17/2007	1.5	2	pCi/g	0.05	U	0.22	0.40	9.2		1.2	0.5	0.44	J	0.11	0.08					0.44	J	0.15	0.07
2IR-342-01a	IR2-342-01a	RANDOM	15-823	12/17/2007	0	0.5	pCi/g	-0.09	U	0.36	0.66	9.4		1.8	0.8	0.56	J	0.15	0.11					0.40	J	0.14	0.07
2IR-342-01b	IR2-342-01b	RANDOM	15-824	12/17/2007	0.5	1	pCi/g	-0.06	U	0.34	0.63	8.9		1.5	0.4	0.43	J	0.12	0.10					0.70	J	0.19	0.08
2IR-342-02a	IR2-342-02a	RANDOM	15-825	12/17/2007	0	0.5	pCi/g	0.0002	U	0.40	0.76	9.5		1.6	0.4	0.62	J	0.17	0.15					1.00		0.22	0.08
2IR-342-02b	IR2-342-02b	RANDOM	15-826	12/17/2007	0.5	1	pCi/g	0.12	U	0.18	0.30	8.9		1.1	0.5	0.48	J	0.11	0.1	-0.11	U	0.29	0.53	0.57	J	0.16	0.07
2IR-342-03a	IR2-342-03a	RANDOM	15-827	12/17/2007	0	0.5	pCi/g	0.02	U	0.31	0.57	8.2		1.4	0.8	0.45	J	0.12	0.11					0.56	J	0.17	0.08
2IR-342-03b	IR2-342-03b	RANDOM	15-828	12/17/2007	0.5	1	pCi/g	-0.005	U	0.37	0.70	10.2		1.7	0.4	0.57	J	0.14	0.11	0.05	U	0.48	0.81	0.46	J	0.15	0.07
2IR-342-04a	IR2-342-04a	RANDOM	15-829	12/17/2007	0	0.5	pCi/g	0.0	U	0.26	0.48	9.9		1.4	0.9	0.47	J	0.12	0.12					0.55	J	0.18	0.09
2IR-342-04b	IR2-342-04b	RANDOM	15-830	12/17/2007	0.5	1	pCi/g	0.19	U	0.37	0.63	8.2		1.5	0.9	0.35	J	0.12	0.14					0.48	J	0.16	0.11
2IR-342-05a	IR2-342-05a	RANDOM	15-831	12/17/2007	0	0.5	pCi/g	0.06	U	0.27	0.50	10.9		1.4	0.3	0.32	J	0.11	0.15					0.61	J	0.18	0.08
2IR-342-05b	IR2-342-05b	RANDOM	15-832	12/17/2007	0.5	1	pCi/g	0.05	U	0.35	0.66	9.6		1.7	0.5	0.63	J	0.14	0.05					0.44	J	0.21	0.17
2IR-342-06a	IR2-342-06a	RANDOM	15-833	12/17/2007	0	0.5	pCi/g	0.0	U	0.54	1.0	11.2		1.9	0.5	0.57	J	0.15	0.11					0.53	J	0.20	0.13
2IR-342-06b	IR2-342-06b	RANDOM	15-834	12/17/2007	0.5	1	pCi/g	0.07	U	0.23	0.41	10.1		1.3	0.5	0.46	J	0.12	0.09					0.66	J	0.19	0.10
2IR-342-07a	IR2-342-07a	RANDOM	15-835	12/17/2007	0	0.5	pCi/g	-0.0004	U	0.36	0.67	12.3		1.8	0.4	0.47	J	0.14	0.11					0.44	J	0.15	0.08
2IR-342-07b	IR2-342-07b	RANDOM	15-836	12/17/2007	0.5	1	pCi/g	0.07	U	0.32	0.58	11.3		1.5	0.3	0.38	J	0.12	0.15					0.66	J	0.18	0.09
B-2IR-279a	IR2-B-279a	BIASED	15-804	12/17/2007	1.5	2	pCi/g	-0.11	U	0.47	0.86	7.2		1.6	1.1	0.43	J	0.14	0.16					0.73	J	0.20	0.08
2IR-342-08a	IR2-342-08a	RANDOM	15-837	12/17/2007	0	0.5	pCi/g	0.04	U	0.37	0.66	10.1		1.5	0.7	0.4	J	4.2	0.2					0.77	J	0.21	0.11
B-2IR-279b	IR2-B-279b	BIASED	15-805	12/17/2007	2	2.5	pCi/g	0.0	U	0.64	1.1	7.0		1.4	1	0.52	J	0.17	0.21					1.55		0.30	0.09
2IR-342-08b	IR2-342-08b	RANDOM	15-838	12/17/2007	0.5	1	pCi/g	0.06	U	0.31	0.58	8.0		1.4	0.4	0.46	J	0.11	0.08	-0.30	U	0.30	0.59	0.59	J	0.17	0.11
2IR-342-09a	IR2-342-09a	RANDOM	15-839	12/17/2007	0	0.5	pCi/g	-0.06	U	0.37	0.69	10.1		1.7	0.4	0.32	J	0.13	0.17					0.50	J	0.16	0.09
2IR-342-09b	IR2-342-09b	RANDOM	15-840	12/17/2007	0.5	1	pCi/g	0.09	U	0.21	0.37	10.1		1.2	0.5	0.484	J	0.097	0.060					0.40	J	0.14	0.09
2IR-342-10a	IR2-342-10a	RANDOM	15-841	12/17/2007	0	0.5	pCi/g	-0.1	U	0.39	0.69	11.2		1.7	0.4	0.51	J	0.12	0.05					0.36	J	0.13	0.07
2IR-342-10b	IR2-342-10b	RANDOM	15-842	12/17/2007	0.5	1	pCi/g	0.0	U	0.060	0.22	8.1		1.4	0.4	0.27	J	0.12	0.17					0.55	J	0.16	0.08
B-2IR-343a	IR2-B-343a	BIASED	15-843	12/17/2007	1.5	2	pCi/g	0.0	U	0.42	0.80	9.7		1.8	0.6	0.65	J	0.17	0.13					0.73	J	0.19	0.06
B-2IR-343b	IR2-B-343b	BIASED	15-844	12/17/2007	2	2.5	pCi/g	-0.16	U	0.43	0.75	11.6		1.8	0.4	0.37	J	0.13	0.13					0.77	J	0.20	0.09
B-2IR-282a	IR2-B-282a	BIASED	15-806	12/17/2007	1	1.5	pCi/g	0.04	U	0.24	0.46	5.9		1.3	0.7	0.57	J	0.16	0.14					0.54	J	0.16	0.08
B-2IR-282b	IR2-B-282b	BIASED	15-807	12/17/2007	1.5	2	pCi/g	0.06	U	0.32	0.59	9.8		1.4	0.3	0.52	J	0.14	0.16					0.49	J	0.15	0.07
2IR-343-01a	IR2-343-01a	RANDOM	15-845	12/17/2007	0	0.5	pCi/g	0.0	U	0.43	0.77	11.9		1.6	0.3	0.36	J	0.12	0.16					0.39	J	0.14	0.09
2IR-343-01b	IR2-343-01b	RANDOM	15-846	12/17/2007	0.5	1	pCi/g	-0.08	U	0.52	0.95	9.8		1.9	1.1	0.35	J	0.14	0.16					0.51	J	0.15	0.07
2IR-282-01a	IR2-282-01a	RANDOM	15-808	12/17/2007	0	0.5	pCi/g	-0.01	U	0.30	0.56	9.4		1.4	0.3	0.30	J	0.12	0.16	-0.20	U	0.32	0.60	0.35	J	0.13	0.08
2IR-343-02a	IR2-343-02a	RANDOM	15-847	12/17/2007	0	0.5	pCi/g	0.04	U	0.38	0.71	11.9		1.9	0.5	0.51	J	0.14	0.12					0.37	J	0.13	0.06
2IR-343-02b	IR2-343-02b	RANDOM	15-848	12/17/2007	0.5	1	pCi/g	0.0	U	0.094	0.35	10.4		2.0	0.6	0.46	J	0.13	0.07	0.52	U	0.58	0.94	0.51	J	0.27	0.25
2IR-282-01b	IR2-282-01b	RANDOM	15-809	12/17/2007	0.5	1	pCi/g	-0.03	U	0.42	0.79	7.6		1.6	0.8	0.39	J	0.12	0.06					0.56	J	0.17	0.08
2IR-343-03a	IR2-343-03a	RANDOM	15-849	12/17/2007	0	0.5	pCi/g	-0.14	U	0.42	0.75	9.3		1.7	0.8	0.44	J	0.14	0.13					0.56	J	0.16	0.09
2IR-343-03b	IR2-343-03b	RANDOM	15-850	12/17/2007	0.5	1	pCi/g	0.02	U	0.23	0.43	10.5		1.4	0.6	0.38	J	0.10	0.12					0.67	J	0.18	0.08

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
2IR-282-02a	IR2-282-02a	RANDOM	15-810	12/17/2007	0	0.5	pCi/g	0.0	U	0.65	1.2	8.3		1.6	0.5	0.46	J	0.16	0.15					0.98	J	0.23	0.10
2IR-282-02b	IR2-282-02b	RANDOM	15-811	12/17/2007	0.5	1	pCi/g	-0.09	U	0.26	0.47	9.1		1.2	0.5	0.395	J	0.096	0.070					0.32	J	0.12	0.06
2IR-343-04a	IR2-343-04a	RANDOM	15-851	12/17/2007	0	0.5	pCi/g	0.0	U	0.65	1.2	10.9		1.8	0.8	0.22	J	0.11	0.15					0.57	J	0.18	0.08
2IR-282-03a	IR2-282-03a	RANDOM	15-812	12/17/2007	0	0.5	pCi/g	0.11	U	0.34	0.61	8.3		1.5	1	0.92	J	0.17	0.08					0.46	J	0.15	0.08
2IR-343-04b	IR2-343-04b	RANDOM	15-852	12/17/2007	0.5	1	pCi/g	0.15	U	0.30	0.53	10.4		1.8	0.5	0.22	J	0.12	0.17					0.56	J	0.21	0.11
2IR-282-03b	IR2-282-03b	RANDOM	15-813	12/17/2007	0.5	1	pCi/g	0.02	U	0.30	0.55	10.3		1.4	0.3	1.09		0.18	0.13					0.35	J	0.13	0.09
2IR-282-04a	IR2-282-04a	RANDOM	15-814	12/17/2007	0	0.5	pCi/g	0.04	U	0.24	0.44	9.6		1.3	0.5	1.66		0.21	0.09					0.64	J	0.18	0.08
2IR-282-04b	IR2-282-04b	RANDOM	15-815	12/17/2007	0.5	1	pCi/g	-0.10	U	0.36	0.65	7.6		1.4	0.4	0.48	J	0.13	0.14					0.43	J	0.15	0.07
2IR-282-05a	IR2-282-05a	RANDOM	15-816	12/17/2007	0	0.5	pCi/g	0.0	U	0.53	0.99	9.9		1.8	0.6	0.70	J	0.16	0.06					0.43	J	0.15	0.08
2IR-282-05b	IR2-282-05b	RANDOM	15-817	12/17/2007	0.5	1	pCi/g	0.0	U	0.57	1.0	8.1		1.6	0.5	0.29	J	0.13	0.17					0.78	J	0.20	0.08
2IR-343-05a	IR2-343-05a	RANDOM	15-853	12/19/2007	0	0.5	pCi/g	-0.009	U	0.31	0.59	7.8		1.4	0.4	0.47	J	0.12	0.07					0.49	J	0.16	0.07
2IR-343-05b	IR2-343-05b	RANDOM	15-854	12/19/2007	0.5	1	pCi/g	-0.12	U	0.39	0.70	9.7		1.6	0.4	0.44	J	0.13	0.11					0.49	J	0.17	0.09
B-2IR-344a	IR2-B-344a	BIASED	15-865	12/19/2007	2	2.5	pCi/g	-0.10	U	0.36	0.64	10.3		1.4	0.3	0.57	J	0.15	0.14					0.38	J	0.13	0.08
2IR-343-06a	IR2-343-06a	RANDOM	15-855	12/19/2007	0	0.5	pCi/g	-0.007	U	0.32	0.60	12.0		1.6	0.3	0.24	J	0.12	0.19					0.65	J	0.18	0.08
B-2IR-344b	IR2-B-344b	BIASED	15-866	12/19/2007	2.5	3	pCi/g	-0.03	U	0.34	0.63	11.0		1.5	0.3	0.48	J	0.12	0.10					0.57	J	0.16	0.07
2IR-343-06b	IR2-343-06b	RANDOM	15-856	12/19/2007	0.5	1	pCi/g	-0.05	U	0.35	0.63	10.4		1.5	0.3	0.32	J	0.12	0.17					0.94	J	0.22	0.08
2IR-343-07a	IR2-343-07a	RANDOM	15-857	12/19/2007	0	0.5	pCi/g	-0.004	U	0.59	1.1	11.9		2.0	0.6	0.60	J	0.18	0.12					0.57	J	0.18	0.09
2IR-343-07b	IR2-343-07b	RANDOM	15-858	12/19/2007	0.5	1	pCi/g	-0.03	U	0.42	0.78	10.6		1.8	0.5	0.46	J	0.14	0.12	0.12	U	0.52	0.88	0.28	J	0.12	0.08
2IR-343-08a	IR2-343-08a	RANDOM	15-859	12/19/2007	0	0.5	pCi/g	0.03	U	0.20	0.36	9.3		1.2	0.5	0.325	J	0.088	0.093					0.73	J	0.20	0.08
2IR-343-08b	IR2-343-08b	RANDOM	15-860	12/19/2007	0.5	1	pCi/g	-0.12	U	0.41	0.73	9.3		1.5	0.4	0.37	J	0.12	0.14					0.21	J	0.11	0.10
2IR-343-09a	IR2-343-09a	RANDOM	15-861	12/19/2007	0	0.5	pCi/g	-0.01	U	0.45	0.85	13.3		2.1	0.5	0.33	J	0.14	0.20					0.58	J	0.17	0.09
2IR-343-09b	IR2-343-09b	RANDOM	15-862	12/19/2007	0.5	1	pCi/g	-0.03	U	0.40	0.74	14.0		1.8	0.4	0.44	J	0.16	0.22					0.74	J	0.20	0.11
2IR-343-10a	IR2-343-10a	RANDOM	15-863	12/19/2007	0	0.5	pCi/g	0.0	U	0.44	0.82	11.6		1.8	1.0	0.47	J	0.17	0.23					0.52	J	0.16	0.09
2IR-343-10b	IR2-343-10b	RANDOM	15-864	12/19/2007	0.5	1	pCi/g	0.0	U	0.19	0.37	12.3		1.6	0.6	0.44	J	0.12	0.12					0.64	J	0.17	0.08
B-2IR-348a	IR2-B-348a	BIASED	15-868	12/19/2007	2	2.5	pCi/g	0.16	U	0.36	0.64	7.6		1.5	0.5	0.52	J	0.13	0.06	0.26	U	0.30	0.48	0.35	J	0.13	0.09
B-2IR-348b	IR2-B-348b	BIASED	15-869	12/19/2007	2.5	3	pCi/g	0.0	U	0.25	0.47	9.0		1.2	0.5	0.49	J	0.11	0.08					0.39	J	0.14	0.09
B-2IR-349a	IR2-B-349a	BIASED	15-870	12/19/2007	2	2.5	pCi/g	0.03	U	0.27	0.51	7.5		1.3	0.7	0.39	J	0.12	0.14					0.37	J	0.13	0.08
B-2IR-349b	IR2-B-349b	BIASED	15-871	12/19/2007	2.5	3	pCi/g	0.1	U	0.29	0.51	9.5		1.4	0.3	0.28	J	0.12	0.17					1.27		0.26	0.07
2IR-349-01a	IR2-349-01a	RANDOM	15-872	12/19/2007	0	0.5	pCi/g	-0.02	U	0.28	0.52	7.9		1.2	0.3	0.35	J	0.11	0.14					0.36	J	0.13	0.07
2IR-349-01b	IR2-349-01b	RANDOM	15-873	12/19/2007	0.5	1	pCi/g	-0.07	U	0.38	0.71	7.9		1.5	0.8	0.43	J	0.11	0.05					0.49	J	0.15	0.06
2IR-349-02a	IR2-349-02a	RANDOM	15-874	12/19/2007	0	0.5	pCi/g	0.0	U	0.069	0.25	9.1		1.6	0.5	0.49	J	0.15	0.13					0.43	J	0.14	0.07
2IR-349-02b	IR2-349-02b	RANDOM	15-875	12/19/2007	0.5	1	pCi/g	-0.05	U	0.34	0.63	7.6		1.4	0.9	0.32	J	0.11	0.13					0.36	J	0.13	0.08
2IR-349-03a	IR2-349-03a	RANDOM	15-876	12/19/2007	0	0.5	pCi/g	0.06	U	0.28	0.53	9.3		1.5	0.4	0.74	J	0.15	0.09					0.43	J	0.14	0.07
2IR-349-03b	IR2-349-03b	RANDOM	15-877	12/19/2007	0.5	1	pCi/g	0.08	U	0.26	0.46	8.0		1.2	0.6	0.26	J	0.11	0.15					0.47	J	0.15	0.07
2IR-349-04a	IR2-349-04a	RANDOM	15-878	12/19/2007	0	0.5	pCi/g	0.0	U	0.67	1.2	9.5		1.7	0.5	0.60	J	0.15	0.09	0.99	J	0.45	0.67	0.42	J	0.14	0.08
2IR-349-04b	IR2-349-04b	RANDOM	15-879	12/19/2007	0.5	1	pCi/g	0.14	U	0.22	0.36	8.1		1.5	0.7	0.55	J	0.14	0.11					0.55	J	0.17	0.09
2IR-349-05a	IR2-349-05a	RANDOM	15-880	12/19/2007	0	0.5	pCi/g	0.04	U	0.20	0.36	8.7		1.2	0.5	0.49	J	0.10	0.08					1.04		0.23	0.09
2IR-349-05b	IR2-349-05b	RANDOM	15-881	12/19/2007	0.5	1	pCi/g	-0.07	U	0.36	0.65	8.7		1.4	0.4	0.63	J	0.12	0.04					0.46	J	0.15	0.08
2IR-349-06a	IR2-349-06a	RANDOM	15-882	12/19/2007	0	0.5	pCi/g	-0.06	U	0.37	0.69	10.2		1.7	0.4	0.44	J	0.14	0.17					0.54	J	0.16	0.09
2IR-349-06b	IR2-349-06b	RANDOM	15-883	12/19/2007	0.5	1	pCi/g	0.07	U	0.35	0.63	8.8		1.4	0.9	0.51	J	0.15	0.19					0.61	J	0.18	0.1
2IR-349-07a	IR2-349-07a	RANDOM	15-884	12/19/2007	0	0.5	pCi/g	0.11	U	0.26	0.45	8.6		1.3	0.3	0.42	J	0.12	0.16					0.39	J	0.14	0.09
2IR-349-07b	IR2-349-07b	RANDOM	15-885	12/19/2007	0.5	1	pCi/g	0.04	U	0.20	0.36	8.2		1.1	0.4	0.402	J	0.097	0.10					0.48	J	0.15	0.09
2IR-349-08a	IR2-349-08a	RANDOM	15-886	12/19/2007	0	0.5	pCi/g	-0.09	U	0.35	0.63	8.7		1.4	0.3	0.49	J	0.13	0.09					0.51	J	0.16	0.09
2IR-349-08b	IR2-349-08b	RANDOM	15-887	12/19/2007	0.5	1	pCi/g	-0.14	U	0.36	0.64	5.9		1.3	0.9	0.87	J	0.17	0.12					0.40	J	0.14	0.1
2IR-349-09a	IR2-349-09a	RANDOM	15-888	12/19/2007	0	0.5	pCi/g	-0.05	U	0.27	0.50	9.1		1.4	0.8	0.51	J	0.13	0.11	-0.17	U	0.52	0.92	0.39	J	0.14	0.1
2IR-349-09b	IR2-349-09b	RANDOM	15-889	12/19/2007	0.5	1	pCi/g	0.005	U	0.32	0.63	7.0		1.4	0.5	0.67	J	0.14	0.05					0.70	J	0.19	0.08
2IR-349-10a	IR2-349-10a	RANDOM	15-890	12/19/2007	0	0.5	pCi/g	0.09	U	0.43	0.78	7.6		1.5	0.5	0.44	J	0.13	0.12					0.31	J	0.12	0.07
2IR-349-10b	IR2-349-10b	RANDOM	15-891	12/19/2007	0.5	1	pCi/g	-0.02	U	0.26	0.47	10.5		1.3	0.5	0.77	J	0.14	0.09					0.44	J	0.15	0.07
1IR-AB1-01b	IR1-1AB-01b	RANDOM	15-902	12/20/2007	2.5	3	pCi/g	0.01	U	0.39	0.71	10.2		1.3	0.3	6.60		0.53	0.16					0.54	J	0.16	0.07
1IR-13B-01b	IR1-13B-01b	RANDOM	15-893	12/20/2007	2.5	3	pCi/g	0.0	U	0.068	0.25	6.3		1.4	1	0.45	J	0.12	0.10					0.34	J	0.13	0.08
1IR-13A-01b	IR1-13A-01b	RANDOM	15-894	12/20/2007	2.5	3	pCi/g	0.0	U	0.26	0.47	8.3		1.1	0.4	0.370	J	0.088	0.081					0.22	J	0.10	0.09
1IR-15-01b	IR1-15-01b	RANDOM	15-895	12/20/2007	2.5	3	pCi/g	-0.02	U	0.27	0.50	8.9		1.5	1.0	0.24	J	0.10	0.13					0.49	J	0.15	0.07
1IR-17-01b	IR1-17-01b	RANDOM	15-896	12/20/2007	2.5	3	pCi/g	0.04	U	0.32	0.59	10.7		1.5	0.3	0.35	J	0.12	0.17					0.33	J	0.12	0.07
1IR-21-01b	IR1-21-01b	RANDOM	15-897	12/20/2007	2.5	3	pCi/g	-0.11	U	0.40	0.74	10.5		1.9	0.5	0.67	J	0.15	0.06					0.36	J	0.13	0.06
1IR-22-01b	IR1-22-01b	RANDOM	15-898	12/20/2007	2.5	3	pCi/g	0.12	U	0.33	0.60	7.0		1.5	0.6	0.48	J	0.14	0.12					0.36	J	0.13	0.07
1IR-23-01b	IR1-23-01b	RANDOM	15-899	12/20/2007	2.5	3	pCi/g	0.02	U	0.21	0.40	8.8		1.2	0.5	0.48	J	0.11	0.1					0.28	J	0.13	0.11
1IR-24-01b	IR1-24-01b	RANDOM	15-900	12/20/2007	2.5	3	pCi/g	-0.04	U	0.34	0.63	7.1		1.4	1.0	0.49	J	0.12	0.1					0.26	J	0.11	0.08
1IR-25-01b	IR1-25-01b	RANDOM	15-901	12/20/2007	2.5	3	pCi/g	0.09	U	0.35	0.64	10.7		1.8	0.5	0.42	J	0.14	0.16					0.48	J	0.18	0.11
B-1IR-B-3Aa	IR1-B-3Aa	BIASED	15-903	12/20/2007	2	2.5	pCi/g	-0.12	U	0.37	0.65	10.3		1.4	0.3	0.38	J	0.13	0.17					0.44	J	0.15	0.08
B-1IR-B-3Ab	IR1-B-3Ab	BIASED	15-904	12/20/2007	2.5	3	pCi/g	0.0	U	0.38	0.74	8.9		1.8	1.3	0.65	J	0.15	0.06					0.40	J	0.14	0.08
B-1IR-3Ba	IR1-B-3Ba	BIASED	15-905	12/20/2007	2	2.5	pCi/g	-0.04	U	0.41	0.78	8.7		1.8	1.3	0.64	J	0.17	0.13					0.42	J	0.15	0.09
B-1IR-3Bb	IR1-B-3Bb	BIASED	15-906	12/20/2007	2.5	3	pCi/g	-0.05	U	0.23	0.42	9.5		1.2	0.5	0.49	J	0.11	0.07					0.54	J	0.17	0.09
1IR-19-01a	IR1-19-01a	RANDOM	15-907	12/20/2007	2	2.5	pCi/g	-0.07	U	0.30	0.54	6.7		1.2	0.5	0.36	J	0.10	0.09					0.34	J	0.12	0.06
1IR-19-01b	IR1-19-01b	RANDOM	15-908	12/20/2007	2.5	3	pCi/g	-0.08	U	0.43	0.78	8.4		1.5	0.4	0.23	J	0.11	0.16	0.25	U	0.25	0.40	0.29	J	0.12	0.09
B-32IR-113a	IR32-B-111a	BIASED	15-909	1/22/2008	2	2.5	pCi/g	0.0	U	0.078	0.29	7.9		1.5	0.5	0.43	J	0.14	0.13					0.28	J	0.11	0.07
B-32IR-113b	IR32-B-111b	BIASED	15-910	1/22/2008	2.5	3	pCi/g	-0.06	U	0.32	0.58	9.7		1.4	0.3	0.31	J	0.12	0.16					0.31	J	0.12	0.10
B-32IR-114a	IR32-B-112a	BIASED	15-912	1/22/2008	2	2.5	pCi/g	-0.1	U	0.37	0.67	8.9		1.5	0.4	0.58	J	0.13	0.05					0.43	J	0.14	0.06
B-32IR-114b	IR32-B-112b	BIASED	15-913	1/22/2008	2.5	3	pCi/g	0.11	U	0.28	0.49	12.2		1.6	0.3	0.49	J	0.13	0.15					0.40	J	0.14	0.09
B-32IR-108a	IR32-B-108a	BIASED	15-914	1/22/2008	2	2.5	pCi/g	-0.03	U	0.42	0.80	8.2		1.7	0.6	0.48	J	0.14	0.09					0.38	J	0.14	0.09
B-32IR-108b	IR32-B-108b	BIASED	15-915	1/22/2008	2.5	3	pCi/g	0.04	U	0.28	0.54	9.3		1.7	1.1	0.43	J	0.14	0.16					0.44	J	0.14	0.08

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-32IR-109a	IR32-B-109a	BIASED	15-916	1/22/2008	2	2.5	pCi/g	-0.04	U	0.22	0.40	12.9		1.5	0.5	0.51	J	0.10	0.08					0.46	J	0.15	0.09
B-32IR-109b	IR32-B-109b	BIASED	15-917	1/22/2008	2.5	3	pCi/g	0.0	U	0.50	0.90	9.6		1.5	0.8	0.54	J	0.12	0.07					0.44	J	0.15	0.09
B-32IR-1a	IR32-B-1a	BIASED	15-918	1/22/2008	2	2.5	pCi/g	-0.14	U	0.39	0.69	10		1.6	0.4	0.25	J	0.11	0.16	0.30	U	0.26	0.42	0.37	J	0.14	0.09
B-32IR-1b	IR32-B-1b	BIASED	15-919	1/22/2008	2.5	3	pCi/g	0.004	U	0.33	0.63	5.8		1.2	0.9	0.18	U	0.12	0.19					0.38	J	0.14	0.08
B-32IR-2a	IR32-B-2a	BIASED	15-920	1/22/2008	2	2.5	pCi/g	-0.12	U	0.45	0.81	14.4		2.3	0.6	0.58	J	0.14	0.06					0.56	J	0.16	0.08
B-32IR-2b	IR32-B-2b	BIASED	15-921	1/22/2008	2.5	3	pCi/g	-0.09	U	0.50	0.89	10.3		1.7	1.1	0.72	J	0.17	0.15					0.47	J	0.16	0.08
32IR-121a	IR32-121a	RANDOM	15-922	1/22/2008	2	2.5	pCi/g	0.0	U	0.65	1.2	9.5		1.8	0.5	0.36	J	0.14	0.16					0.37	J	0.13	0.07
BRA2-1	BRA2-1	RANDOM	15-934	1/30/2008	0	0.5	pCi/g	0.02	U	0.28	0.54	9.9		1.5	1.1	0.55	J	0.14	0.17					0.61	J	0.17	0.07
BRA2-2	BRA2-2	RANDOM	15-935	1/30/2008	0	0.5	pCi/g	-0.02	U	0.47	0.88	10.0		1.9	0.8	0.54	J	0.17	0.13					0.47	J	0.16	0.09
BRA2-3	BRA2-3	RANDOM	15-936	1/30/2008	0	0.5	pCi/g	-0.15	U	0.36	0.63	11.7		1.7	0.4	0.49	J	0.14	0.18					0.66	J	0.18	0.08
BRA2-4	BRA2-4	RANDOM	15-937	1/30/2008	0	0.5	pCi/g	0.08	U	0.43	0.82	10.4		2.0	0.7	0.33	J	0.16	0.22					0.73	J	0.19	0.07
BRA2-5	BRA2-5	RANDOM	15-938	1/30/2008	0	0.5	pCi/g	0.08	U	0.42	0.78	13.1		2.2	0.6	0.70	J	0.16	0.07	0.15	U	0.25	0.43	0.56	J	0.17	0.08
BRA2-6	BRA2-6	RANDOM	15-939	1/30/2008	0	0.5	pCi/g	-0.12	U	0.30	0.52	9.9		1.3	0.3	0.45	J	0.12	0.15					0.53	J	0.17	0.11
BRA2-7	BRA2-7	RANDOM	15-940	1/30/2008	0	0.5	pCi/g	0.06	U	0.44	0.80	11.9		1.9	0.5	0.67	J	0.18	0.12					0.59	J	0.16	0.08
BRA2-8	BRA2-8	RANDOM	15-941	1/30/2008	0	0.5	pCi/g	0.0	U	0.086	0.32	10.8		1.9	0.6	0.79	J	0.20	0.16					0.67	J	0.18	0.08
BRA2-9	BRA2-9	RANDOM	15-942	1/30/2008	0	0.5	pCi/g	0.1	U	0.33	0.59	11.1		1.6	0.8	0.49	J	0.14	0.17					0.49	J	0.16	0.1
BRA2-10	BRA2-10	RANDOM	15-943	1/30/2008	0	0.5	pCi/g	0.16	U	0.37	0.65	10.3		1.7	0.7	0.68	J	0.17	0.11					0.39	J	0.14	0.09
BRA3-1	BRA3-1	RANDOM	15-944	1/30/2008	0	0.5	pCi/g	-0.12	U	0.41	0.73	15.0		2.0	0.4	0.46	J	0.14	0.18					0.76	J	0.19	0.08
BRA3-2	BRA3-2	RANDOM	15-945	1/30/2008	0	0.5	pCi/g	0.0	U	0.54	1.0	9.8		2.1	1.0	0.71	J	0.20	0.20					0.75	J	0.20	0.09
BRA3-3	BRA3-3	RANDOM	15-946	1/30/2008	0	0.5	pCi/g	0.09	U	0.32	0.58	13.0		1.9	1.0	0.65	J	0.16	0.17					0.67	J	0.24	0.13
BRA3-4	BRA3-4	RANDOM	15-947	1/30/2008	0	0.5	pCi/g	0.0	U	0.085	0.31	11.8		2.0	0.8	0.60	J	0.17	0.13					0.71	J	0.20	0.1
BRA3-5	BRA3-5	RANDOM	15-948	1/30/2008	0	0.5	pCi/g	-0.09	U	0.43	0.76	11.0		1.6	0.8	0.49	J	0.14	0.17	0.25	U	0.33	0.54	0.64	J	0.20	0.10
BRA3-6	BRA3-6	RANDOM	15-949	1/30/2008	0	0.5	pCi/g	0.11	U	0.39	0.72	13.8		2.3	0.6	0.65	J	0.16	0.11					0.59	J	0.17	0.08
BRA3-7	BRA3-7	RANDOM	15-950	1/30/2008	0	0.5	pCi/g	0.14	U	0.36	0.64	9.9		1.7	0.8	0.58	J	0.13	0.07					0.51	J	0.17	0.11
BRA3-8	BRA3-8	RANDOM	15-951	1/30/2008	0	0.5	pCi/g	0.09	U	0.25	0.46	10.6		1.6	0.9	0.58	J	0.16	0.19					0.53	J	0.16	0.07
BRA3-9	BRA3-9	RANDOM	15-952	1/30/2008	0	0.5	pCi/g	-0.23	U	0.56	0.98	8.3		1.7	1	0.70	J	0.17	0.14					0.55	J	0.23	0.14
BRA3-10	BRA3-10	RANDOM	15-953	1/30/2008	0	0.5	pCi/g	-0.02	U	0.32	0.61	13.1		1.8	0.4	0.65	J	0.17	0.19					0.71	J	0.28	0.18
BRA1-1	BRA1-1	RANDOM	15-924	1/30/2008	0	0.5	pCi/g	-0.01	U	0.34	0.65	9.4		1.7	0.5	0.60	J	0.15	0.12					0.61	J	0.18	0.08
BRA1-2	BRA1-2	RANDOM	15-925	1/30/2008	0	0.5	pCi/g	0.06	U	0.25	0.44	10.4		1.3	0.5	0.49	J	0.11	0.10					0.48	J	0.15	0.08
BRA1-3	BRA1-3	RANDOM	15-926	1/30/2008	0	0.5	pCi/g	0.0	U	0.33	0.63	7.7		1.4	0.9	0.253	J	0.088	0.087					0.59	J	0.17	0.08
BRA1-4	BRA1-4	RANDOM	15-927	1/30/2008	0	0.5	pCi/g	-0.05	U	0.31	0.59	7.9		1.5	0.5	0.42	J	0.13	0.15					0.80	J	0.20	0.08
BRA1-5	BRA1-5	RANDOM	15-928	1/30/2008	0	0.5	pCi/g	0.15	U	0.31	0.55	9.6		1.5	0.9	0.58	J	0.13	0.12	0.11	U	0.34	0.58	0.85	J	0.21	0.07
BRA1-6	BRA1-6	RANDOM	15-929	1/30/2008	0	0.5	pCi/g	0.09	U	0.31	0.57	10.0		1.6	0.8	0.49	J	0.12	0.07					0.39	J	0.19	0.17
BRA1-7	BRA1-7	RANDOM	15-930	1/30/2008	0	0.5	pCi/g	0.03	U	0.24	0.43	10.1		1.3	0.2	0.306	J	0.099	0.13					0.37	J	0.18	0.13
BRA1-8	BRA1-8	RANDOM	15-931	1/30/2008	0	0.5	pCi/g	-0.11	U	0.46	0.84	10.9		1.9	0.5	0.53	J	0.17	0.13					0.27	J	0.19	0.23
BRA1-9	BRA1-9	RANDOM	15-932	1/30/2008	0	0.5	pCi/g	-0.13	U	0.43	0.77	9.3		1.7	0.5	0.35	J	0.13	0.15					0.57	J	0.17	0.07
BRA1-10	BRA1-10	RANDOM	15-933	1/30/2008	0	0.5	pCi/g	0.0005	U	0.20	0.39	10.2		1.3	0.2	0.359	J	0.097	0.12					0.70	J	0.21	0.11
B-32IR-3a	IR32-B-3a	BIASED	15-954	3/27/2008	2	2.5	pCi/g	0.0	U	0.43	0.81	7.6		1.5	0.5	0.34	J	0.13	0.15					0.48	J	0.15	0.08
B-32IR-3b	IR32-B-3b	BIASED	15-955	3/27/2008	2.5	3	pCi/g	0.0	U	0.16	0.35	6.9		1.3	0.6	0.28	J	0.11	0.12					0.31	J	0.12	0.07
B-32IR-4Aa	IR32-B-4Aa	BIASED	15-957	3/27/2008	2	2.5	pCi/g	-0.007	U	0.28	0.52	8.3		1.2	0.3	0.36	J	0.11	0.12					0.46	J	0.15	0.08
B-32IR-4Ab	IR32-B-4Ab	BIASED	15-958	3/27/2008	2.5	3	pCi/g	0.22	U	0.38	0.64	10.1		1.9	0.6	0.61	J	0.15	0.12	-0.14	U	0.32	0.57	0.49	J	0.15	0.07
B-32IR-4Ba	IR32-B-4Ba	BIASED	15-959	3/27/2008	2	2.5	pCi/g	0.005	U	0.34	0.65	8.6		1.6	1	0.63	J	0.16	0.11					0.67	J	0.19	0.09
B-32IR-4Bb	IR32-B-4Bb	BIASED	15-960	3/27/2008	2.5	3	pCi/g	-0.08	U	0.21	0.36	10.1		1.2	0.2	0.435	J	0.093	0.084					0.50	J	0.16	0.09
B-32IR-7a	IR32-B-7a	BIASED	15-961	3/27/2008	2	2.5	pCi/g	-0.05	U	0.29	0.52	9.4		1.3	0.3	0.67	J	0.13	0.10					0.33	J	0.13	0.08
B-32IR-7b	IR32-B-7b	BIASED	15-962	3/27/2008	2.5	3	pCi/g	0.09	U	0.31	0.55	8.9		1.4	0.8	1.34		0.19	0.09					0.39	J	0.13	0.07
B-32IR-36a	IR32-B-36a	BIASED	15-963	3/27/2008	2	2.5	pCi/g	0.13	U	0.37	0.66	8.4		1.6	0.5	2.71		0.35	0.18					0.58	J	0.18	0.1
B-32IR-36b	IR32-B-36b	BIASED	15-964	3/27/2008	2.5	3	pCi/g	-0.007	U	0.34	0.67	8.3		1.6	0.5	0.74	J	0.17	0.09					0.37	J	0.13	0.04
B-32IR-37a	IR32-B-37a	BIASED	15-965	3/27/2008	2	2.5	pCi/g	0.02	U	0.24	0.45	9.5		1.3	0.3	0.87	J	0.14	0.1					0.36	J	0.17	0.12
B-32IR-37b	IR32-B-37b	BIASED	15-966	3/27/2008	2.5	3	pCi/g	0.05	U	0.32	0.59	8.7		1.5	0.7	0.53	J	0.14	0.1					0.63	J	0.23	0.13
B-32IR-41a	IR32-B-41a	BIASED	15-967	3/27/2008	2	2.5	pCi/g	0.07	U	0.38	0.71	8.0		1.6	0.7	0.35	J	0.12	0.12					0.33	J	0.13	0.09
B-32IR-41b	IR32-B-41b	BIASED	15-968	3/27/2008	2.5	3	pCi/g	-0.03	U	0.33	0.61	9.2		1.4	0.3	0.42	J	0.13	0.14	-0.007	U	0.40	0.69	0.38	J	0.13	0.08
B-32IR-43a	IR32-B-43a	BIASED	15-969	3/27/2008	2	2.5	pCi/g	0.0	U	0.58	1.1	10.2		1.7	0.7	0.56	J	0.13	0.07					0.43	J	0.14	0.09
B-32IR-43b	IR32-B-43b	BIASED	15-970	3/27/2008	2.5	3	pCi/g	-0.02	U	0.25	0.48	8.9		1.4	0.3	0.73	J	0.13	0.04					0.62	J	0.17	0.05
B-32IR-47a	IR32-B-47a	BIASED	15-971	3/27/2008	2	2.5	pCi/g	0.0	U	0.47	0.89	5.7		1.4	0.8	0.30	J	0.13	0.16					0.45	J	0.15	0.07
B-32IR-47b	IR32-B-47b	BIASED	15-972	3/27/2008	2.5	3	pCi/g	-0.08	U	0.44	0.80	8.8		1.6	0.5	0.48	J	0.14	0.09					0.44	J	0.16	0.10
32IR-48	IR32-48	RANDOM	15-973	3/27/2008	2	2.5	pCi/g	0.04	U	0.23	0.43	8.8		1.2	0.2	0.48	J	0.11	0.10					0.31	J	0.12	0.07
32IR-50	IR32-50	RANDOM	15-974	3/27/2008	2	2.5	pCi/g	-0.09	U	0.40	0.72	7.3		1.4	1.1	0.36	J	0.12	0.13					0.85	J	0.29	0.19
32IR-51	IR32-51	RANDOM	15-975	3/27/2008	2	2.5	pCi/g	0.02	U	0.35	0.66	8.8		1.6	0.9	0.53	J	0.13	0.07					0.58	J	0.20	0.13
B-32IR-54a	IR32-B-54a	BIASED	15-976	3/27/2008	2	2.5	pCi/g	-0.11	U	0.30	0.53	9.1		1.3	0.3	0.46	J	0.13	0.15					0.56	J	0.19	0.11
B-32IR-54b	IR32-B-54b	BIASED	15-977	3/27/2008	2.5	3	pCi/g	0.05	U	0.32	0.62	7.1		1.6	1.3	0.44	J	0.14	0.13					0.71	J	0.20	0.09
B-32IR-56a	IR32-B-56a	BIASED	15-978	3/27/2008	2	2.5	pCi/g	0.07	U	0.30	0.56	9.0		1.6	0.5	0.31	J	0.13	0.15	-1.57	U	0.39	0.77	0.37	J	0.14	0.05
B-32IR-56b	IR32-B-56b	BIASED	15-979	3/27/2008	2.5	3	pCi/g	-0.06	U	0.23	0.41	9.4		1.3	0.4	0.397	J	0.098	0.087					0.41	J	0.18	0.12
B-32IR-60a	IR32-B-60a	BIASED	15-980	3/27/2008	2	2.5	pCi/g	-0.03	U	0.31	0.58	9.7		1.5	0.6	0.85	J	0.16	0.07					0.49	J	0.17	0.11
B-32IR-60b	IR32-B-60b	BIASED	15-981	3/27/2008	2.5	3	pCi/g	0.0	U	0.47	0.86	8.8		1.5	0.4	0.47	J	0.13	0.11					0.24	J	0.12	0.09
B-32IR-61a	IR32-B-61a	BIASED	15-982	3/27/2008	2	2.5	pCi/g	0.01	U	0.38	0.72	6.5		1.5	1.5	2.69		0.31	0.07					0.41	J	0.20	0.1
B-32IR-61b	IR32-B-61b	BIASED	15-983	3/27/2008	2.5	3	pCi/g	-0.06	U	0.38	0.68	8.2		1.2	0.3	3.56		0.34	0.11					0.17	J	0.13	0.15
B-32IR-62a	IR32-B-62a	BIASED	15-984	3/27/2008	2	2.5	pCi/g	-0.03	U	0.38	0.73	7.1		1.6	0.9	0.47	J	0.15	0.13					0.26	J	0.14	0.12
B-32IR-62b	IR32-B-62b	BIASED	15-985	3/27/2008	2.5	3	pCi/g	0.13	U	0.39	0.70	8.1		1.5	0.4	1.35		0.22	0.11					0.41	J	0.17	0.13
B-32IR-63a	IR32-B-63a	BIASED	15-986	3/27/2008	2	2.5	pCi/g	0.0	U	0.16	0.31	10.2		1.3	0.2	0.48	J	0.11	0.08					0.51	J	0.16	0.08
B-32IR-63b	IR32-B-63b	BIASED	15-987	3/27/2008	2.5	3	pCi/g	-0.03	U	0.34	0.62	7.8		1.4	1.0	0.54	J	0.11	0.04					0.54	J	0.18	0.11

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-32IR-65a	IR32-B-65a	BIASED	15-988	3/27/2008	2	2.5	pCi/g	0.0	U	0.27	0.54	9.2		1.5	0.4	0.61	J	0.16	0.16	-0.15	U	0.39	0.69	0.14	U	0.11	0.14
B-32IR-65b	IR32-B-65b	BIASED	15-989	3/27/2008	2.5	3	pCi/g	-0.009	U	0.29	0.55	8.9		1.3	0.3	0.41	J	0.12	0.13					0.37	J	0.18	0.15
32IR-66	IR32-66	RANDOM	15-990	3/27/2008	2	2.5	pCi/g	-0.04	U	0.35	0.66	6.1		1.4	1.1	0.73	J	0.17	0.10					0.64	J	0.25	0.15
B-32IR-67a	IR32-B-67a	BIASED	15-991	3/27/2008	2	2.5	pCi/g	0.005	U	0.33	0.62	9.3		1.4	0.3	0.74	J	0.15	0.14					0.54	J	0.18	0.10
B-32IR-67b	IR32-B-67b	BIASED	15-992	3/27/2008	2.5	3	pCi/g	-0.04	U	0.46	0.85	9.6		1.7	0.5	2.38		0.32	0.15					0.42	J	0.16	0.06
B-32IR-69a	IR32-B-69a	BIASED	15-993	3/31/2008	2	2.5	pCi/g	0.01	U	0.27	0.51	6.0		1.2	0.8	0.60	J	0.13	0.13					0.48	J	0.14	0.07
B-32IR-69b	IR32-B-69b	BIASED	15-994	3/31/2008	2.5	3	pCi/g	-0.05	U	0.45	0.83	9.5		1.7	0.8	2.41		0.31	0.13					0.42	J	0.14	0.07
B-32IR-71a	IR32-B-71a	BIASED	15-996	3/31/2008	2	2.5	pCi/g	0.06	U	0.42	0.77	8.0		1.5	0.7	1.52		0.24	0.13					0.41	J	0.14	0.08
B-32IR-71b	IR32-B-71b	BIASED	15-997	3/31/2008	2.5	3	pCi/g	-0.21	U	0.57	0.97	9.3		1.5	0.6	8.65		0.69	0.22					0.41	J	0.14	0.05
B-32IR-73a	IR32-B-73a	BIASED	15-998	3/31/2008	2	2.5	pCi/g	0.0	U	0.51	0.95	10.3		1.8	0.5	5.34		0.54	0.20	-0.09	U	0.57	1.0	0.35	J	0.13	0.08
B-32IR-73b	IR32-B-73b	BIASED	15-999	3/31/2008	2.5	3	pCi/g	0.09	U	0.32	0.59	9.8		1.7	0.5	0.69	J	0.17	0.13					0.29	J	0.12	0.07
B-32IR-75a	IR32-B-75a	BIASED	15-1000	3/31/2008	2	2.5	pCi/g	0.003	U	0.21	0.39	8.3		1.1	0.2	1.25		0.16	0.06					0.61	J	0.17	0.08
B-32IR-75b	IR32-B-75b	BIASED	15-1001	3/31/2008	2.5	3	pCi/g	0.04	U	0.29	0.55	7.7		1.4	1.1	0.61	J	0.15	0.13					0.46	J	0.15	0.07
B-32IR-76a	IR32-B-76a	BIASED	15-1002	3/31/2008	2	2.5	pCi/g	0.22	U	0.65	1.1	8.9		1.7	1	11.1		0.87	0.22					0.34	J	0.12	0.07
B-32IR-76b	IR32-B-76b	BIASED	15-1003	3/31/2008	2.5	3	pCi/g	-0.06	U	0.30	0.54	6.8		1.2	0.6	0.35	J	0.11	0.14					0.49	J	0.16	0.1
B-32IR-79a	IR32-B-79a	BIASED	15-1004	3/31/2008	2	2.5	pCi/g	0.0	U	0.28	0.55	9.4		1.6	0.8	0.32	J	0.11	0.12					0.41	J	0.14	0.08
B-32IR-79b	IR32-B-79b	BIASED	15-1005	3/31/2008	2.5	3	pCi/g	0.05	U	0.33	0.59	8.5		1.4	0.9	0.52	J	0.14	0.15					0.60	J	0.17	0.09
B-32IR-80a	IR32-B-80a	BIASED	15-1006	3/31/2008	2	2.5	pCi/g	-0.08	U	0.48	0.88	7.8		1.6	0.6	0.34	J	0.14	0.19					0.37	J	0.13	0.08
B-32IR-80b	IR32-B-80b	BIASED	15-1007	3/31/2008	2.5	3	pCi/g	0.0	U	0.33	0.65	9.6		1.7	0.5	0.30	J	0.14	0.18					0.62	J	0.18	0.08
B-32IR-81a	IR32-B-81a	BIASED	15-1008	3/31/2008	2	2.5	pCi/g	0.04	U	0.22	0.41	9.5		1.3	0.3	0.67	J	0.13	0.11	0.17	U	0.40	0.67	0.45	J	0.15	0.05
B-32IR-81b	IR32-B-81b	BIASED	15-1009	3/31/2008	2.5	3	pCi/g	-0.08	U	0.41	0.74	6.8		1.3	0.8	0.52	J	0.13	0.07					0.45	J	0.15	0.08
B-32IR-84a	IR32-B-84a	BIASED	15-1010	3/31/2008	2	2.5	pCi/g	-0.08	U	0.46	0.83	8.4		1.5	0.5	0.47	J	0.13	0.11					0.96	J	0.22	0.08
B-32IR-84b	IR32-B-84b	BIASED	15-1011	3/31/2008	2.5	3	pCi/g	-0.05	U	0.33	0.60	8.9		1.3	0.3	0.53	J	0.13	0.12					0.48	J	0.15	0.08
B-32IR-6a	IR32-B-6a	BIASED	15-1012	3/31/2008	2	2.5	pCi/g	-0.07	U	0.38	0.69	9.5		1.6	0.6	0.53	J	0.14	0.1					0.40	J	0.15	0.09
B-32IR-6b	IR32-B-6a	BIASED	15-1013	3/31/2008	2.5	3	pCi/g	0.02	U	0.20	0.38	9.1		1.3	0.3	0.39	J	0.11	0.12					0.50	J	0.16	0.08
B-32IR-5a	IR32-B-5a	BIASED	15-1014	3/31/2008	2	2.5	pCi/g	-0.07	U	0.24	0.43	8.1		1.1	0.2	0.315	J	0.093	0.098					0.50	J	0.15	0.07
B-32IR-5b	IR32-B-5b	BIASED	15-1015	3/31/2008	2.5	3	pCi/g	0.12	U	0.38	0.67	7.9		1.4	0.4	0.51	J	0.13	0.11					0.37	J	0.13	0.07
B-IR1-134a	IR1-B-134a	BIASED	15-1016	3/31/2008	2	2.5	pCi/g	0.0	U	0.22	0.44	9.4		1.5	0.6	0.59	J	0.13	0.07					0.33	J	0.12	0.08
B-IR1-134b	IR1-B-134b	BIASED	15-1017	3/31/2008	2.5	3	pCi/g	0.12	U	0.24	0.42	10.1		1.5	0.6	0.57	J	0.14	0.15					0.34	J	0.12	0.08
B-IR1-135a	IR1-B-135a	BIASED	15-1018	3/31/2008	2	2.5	pCi/g	-0.002	U	0.26	0.49	10.8		1.5	0.3	0.68	J	0.16	0.11	-0.25	U	0.39	0.69	0.46	J	0.15	0.08
B-IR1-135b	IR1-B-135b	BIASED	15-1019	3/31/2008	2.5	3	pCi/g	-0.03	U	0.46	0.87	10.5		1.9	0.6	0.56	J	0.15	0.12					0.44	J	0.14	0.09
B-32IR-85a	IR32-B-85a	BIASED	15-1020	4/1/2008	2	2.5	pCi/g	0.0	U	0.076	0.28	10.5		1.8	0.5	0.59	J	0.15	0.08					0.36	J	0.13	0.08
B-32IR-85b	IR32-B-85b	BIASED	15-1021	4/1/2008	2.5	3	pCi/g	0.002	U	0.23	0.43	9.4		1.2	0.2	0.42	J	0.10	0.1					0.44	J	0.15	0.09
B-32IR-86a	IR32-B-86a	BIASED	15-1022	4/1/2008	2	2.5	pCi/g	0.0	U	0.38	0.71	7.4		1.4	1	0.30	J	0.11	0.13					0.29	J	0.12	0.07
B-32IR-86b	IR32-B-86b	BIASED	15-1023	4/1/2008	2.5	3	pCi/g	-0.08	U	0.41	0.75	9.3		1.6	0.5	0.33	J	0.13	0.17					0.50	J	0.16	0.09
B-32IR-87a	IR32-B-87a	BIASED	15-1024	4/1/2008	2	2.5	pCi/g	-0.06	U	0.33	0.59	10.2		1.5	0.3	0.36	J	0.12	0.15					0.39	J	0.14	0.07
B-32IR-87b	IR32-B-87b	BIASED	15-1025	4/1/2008	2.5	3	pCi/g	-0.03	U	0.40	0.74	8.0		1.6	1.0	0.41	J	0.12	0.08					0.49	J	0.15	0.08
B-32IR-88a	IR32-B-88a	BIASED	15-1026	4/1/2008	2	2.5	pCi/g	-0.05	U	0.32	0.59	10.1		1.6	0.6	0.45	J	0.13	0.13					0.58	J	0.17	0.1
B-32IR-88b	IR32-B-88b	BIASED	15-1027	4/1/2008	2.5	3	pCi/g	-0.12	U	0.35	0.61	7.8		1.3	0.9	0.48	J	0.12	0.12					0.75	J	0.20	0.11
B-32IR-89a	IR32-B-89a	BIASED	15-1028	4/1/2008	2	2.5	pCi/g	-0.07	U	0.39	0.72	9.8		1.8	0.5	0.58	J	0.14	0.11	-0.20	U	0.38	0.67	0.79	J	0.20	0.09
B-32IR-89b	IR32-B-89b	BIASED	15-1029	4/1/2008	2.5	3	pCi/g	-0.15	U	0.42	0.75	7.9		1.5	0.5	0.21	J	0.12	0.18					0.68	J	0.18	0.07
B-32IR-90a	IR32-B-90a	BIASED	15-1031	4/1/2008	2	2.5	pCi/g	-0.05	U	0.34	0.64	10.1		1.7	0.7	0.45	J	0.12	0.07					0.43	J	0.14	0.04
B-32IR-90b	IR32-B-90b	BIASED	15-1032	4/1/2008	2.5	3	pCi/g	0.06	U	0.30	0.54	9.7		1.5	0.8	0.40	J	0.12	0.13					0.46	J	0.15	0.08
B-32IR-91a	IR32-B-91a	BIASED	15-1033	4/1/2008	2	2.5	pCi/g	0.0	U	0.66	1.2	9.2		1.8	1.0	0.62	J	0.15	0.11					0.57	J	0.16	0.04
B-32IR-91b	IR32-B-91b	BIASED	15-1034	4/1/2008	2.5	3	pCi/g	-0.10	U	0.43	0.79	10.5		1.8	0.5	0.44	J	0.15	0.18					0.46	J	0.15	0.08
B-32IR-92a	IR32-B-92a	BIASED	15-1035	4/1/2008	2	2.5	pCi/g	0.12	U	0.22	0.38	10.7		1.3	0.2	0.48	J	0.10	0.09					0.59	J	0.17	0.08
B-32IR-92b	IR32-B-92b	BIASED	15-1036	4/1/2008	2.5	3	pCi/g	0.003	U	0.29	0.55	10.5		1.5	0.6	0.47	J	0.12	0.12					0.35	J	0.13	0.08
B-32IR-93a	IR32-B-93a	BIASED	15-1037	4/1/2008	2	2.5	pCi/g	0.0	U	0.49	0.89	8.8		1.6	0.7	0.47	J	0.12	0.09					1.10		0.23	0.04
B-32IR-93b	IR32-B-93b	BIASED	15-1038	4/1/2008	2.5	3	pCi/g	0.12	U	0.33	0.57	11.1		1.5	0.3	0.43	J	0.13	0.16	-0.10	U	0.38	0.67	0.48	J	0.15	0.08
B-32IR-94a	IR32-B-94a	BIASED	15-1039	4/1/2008	2	2.5	pCi/g	-0.003	U	0.33	0.64	10		1.7	0.7	0.52	J	0.12	0.05					0.40	J	0.28	0.32
B-32IR-94b	IR32-B-94b	BIASED	15-1040	4/1/2008	2.5	3	pCi/g	0.08	U	0.25	0.46	10.4		1.5	0.3	0.46	J	0.13	0.13					0.47	J	0.15	0.09
B-32IR-95a	IR32-B-95a	BIASED	15-1041	4/1/2008	2	2.5	pCi/g	0.23	U	0.57	1.0	6.9		1.6	1.1	4.85		0.51	0.21					0.40	J	0.14	0.09
B-32IR-95b	IR32-B-95b	BIASED	15-1042	4/1/2008	2.5	3	pCi/g	-0.14	U	0.47	0.84	9.2		1.7	0.5	0.38	J	0.13	0.15					0.50	J	0.16	0.09
B-32IR-96a	IR32-B-96a	BIASED	15-1043	4/1/2008	2	2.5	pCi/g	0.06	U	0.23	0.40	7.8		1.1	0.2	1.34		0.17	0.06					0.30	J	0.12	0.09
B-32IR-96b	IR32-B-96b	BIASED	15-1044	4/1/2008	2.5	3	pCi/g	-0.10	U	0.36	0.64	4.7		1.1	1	1.22		0.19	0.07					0.64	J	0.19	0.11
B-32IR-97a	IR32-B-97a	BIASED	15-1045	4/1/2008	2	2.5	pCi/g	0.0	U	0.38	0.72	7.1		1.4	0.7	0.46	J	0.14	0.13					0.44	J	0.15	0.08
B-32IR-97b	IR32-B-97b	BIASED	15-1046	4/1/2008	2.5	3	pCi/g	-0.07	U	0.28	0.50	7.4		1.2	0.7	0.59	J	0.13	0.12					0.44	J	0.14	0.07
B-32IR-98a	IR32-B-98a	BIASED	15-1047	4/1/2008	2	2.5	pCi/g	0.01	U	0.27	0.53	9.8		1.7	0.7	0.40	J	0.11	0.05					0.38	J	0.13	0.09
B-32IR-98b	IR32-B-98b	BIASED	15-1048	4/1/2008	2.5	3	pCi/g	0.06	U	0.29	0.54	8.7		1.4	0.7	0.35	J	0.12	0.15	0.08	U	0.40	0.68	0.39	J	0.13	0.05
B-32IR-99a	IR32-B-99a	BIASED	15-1049	4/1/2008	2	2.5	pCi/g	0.11	U	0.28	0.50	12.2		1.8	0.6	0.73	J	0.14	0.04					0.51	J	0.16	0.08
B-32IR-99b	IR32-B-99b	BIASED	15-1050	4/1/2008	2.5	3	pCi/g	-0.01	U	0.27	0.50	12.5		1.5	0.3	0.41	J	0.11	0.11					0.70	J	0.19	0.09
B-32IR-100a	IR32-B-100a	BIASED	15-1051	4/1/2008	2	2.5	pCi/g	0.0	U	0.071	0.26	12.1		1.9	0.5	0.50	J	0.15	0.17					0.46	J	0.14	0.07
B-32IR-100b	IR32-B-100b	BIASED	15-1052	4/1/2008	2.5	3	pCi/g	0.0	U	0.46	0.85	10.8		1.7	0.4	0.48	J	0.14	0.12					0.61	J	0.17	0.08
B-32IR-101a	IR32-B-101a	BIASED	15-1053	4/1/2008	2	2.5	pCi/g	0.10	U	0.18	0.32	10.9		1.3	0.2	0.45	J	0.10	0.1					0.57	J	0.17	0.10
B-32IR-101b	IR32-B-101b	BIASED	15-1054	4/1/2008	2.5	3	pCi/g	0.11	U	0.29	0.52	10.5		1.5	0.6	0.41	J	0.12	0.13					0.71	J	0.18	0.08
B-32IR-102a	IR32-B-102a	BIASED	15-1055	4/2/2008	2	2.5	pCi/g	0.02	U	0.17	0.33	13.5		1.6	0.3	0.52	J	0.13	0.14					0.73	J	0.42	0.41
B-32IR-102b	IR32-B-102b	BIASED	15-1056	4/2/2008	2.5	3	pCi/g	0.07	U	0.29	0.53	11.4		1.5	0.3	0.45	J	0.12	0.12					0.69	J	0.23	0.13
B-32IR-103a	IR32-B-103a	BIASED	15-1057	4/2/2008	2	2.5	pCi/g	-0.04	U	0.31	0.56	11.7		1.6	0.5	0.59	J	0.12	0.07					0.59	J	0.18	0.1
B-32IR-103b	IR32-B-103b	BIASED	15-1058	4/2/2008	2.5	3	pCi/g	0.02	U	0.30	0.57	11.2		1.7	0.6	0.65	J	0.13	0.06	-0.1	U	0.42	0.73	0.50	J	0.24	0.19
B-32IR-104a	IR32-B-104a	BIASED	15-1059	4/2/2008	2	2.5	pCi/g	0.0	U	0.30	0.55	11.6		1.5	0.3	0.58	J	0.12	0.11					0.54	J	0.20	0.07

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-32IR-104b	IR32-B-104b	BIASED	15-1060	4/2/2008	2.5	3	pCi/g	-0.08	U	0.35	0.64	14.7		2.1	0.5	0.62	J	0.16	0.14					0.62	J	0.21	0.12
B-32IR-105a	IR32-B-105a	BIASED	15-1061	4/2/2008	2	2.5	pCi/g	-0.10	U	0.39	0.70	12.6		1.9	0.4	0.70	J	0.18	0.12					0.55	J	0.26	0.23
B-32IR-105b	IR32-B-105b	BIASED	15-1062	4/2/2008	2.5	3	pCi/g	-0.02	U	0.24	0.45	13.6		1.5	0.2	0.51	J	0.11	0.11					0.67	J	0.20	0.11
B-32IR-106a	IR32-B-106a	BIASED	15-1063	4/2/2008	2	2.5	pCi/g	-0.03	U	0.30	0.54	9.4		1.4	0.8	0.54	J	0.12	0.08					0.71	J	0.21	0.12
B-32IR-106b	IR32-B-106b	BIASED	15-1064	4/2/2008	2.5	3	pCi/g	-0.16	U	0.40	0.71	11.9		1.7	0.4	0.55	J	0.14	0.11					0.50	J	0.18	0.12
B-32IR-107a	IR32-B-107a	BIASED	15-1065	4/2/2008	2	2.5	pCi/g	0.12	U	0.33	0.58	10.5		1.6	0.5	0.59	J	0.14	0.08					0.39	J	0.25	0.26
B-32IR-107b	IR32-B-107b	BIASED	15-1066	4/2/2008	2.5	3	pCi/g	-0.03	U	0.26	0.48	12.0		1.5	0.3	0.47	J	0.13	0.15					0.60	J	0.18	0.08
B-32IR-113a	IR32-B-113a	BIASED	15-1067	4/2/2008	2	2.5	pCi/g	0.12	U	0.39	0.70	8.2		1.5	0.5	0.57	J	0.15	0.12					0.34	J	0.15	0.10
B-32IR-113b	IR32-B-113b	BIASED	15-1068	4/2/2008	2.5	3	pCi/g	0.05	U	0.19	0.34	10.4		1.2	0.2	0.427	J	0.092	0.082	0.07	U	0.40	0.68	0.33	J	0.14	0.10
B-32IR-114a	IR32-B-114a	BIASED	15-1069	4/2/2008	2	2.5	pCi/g	0.02	U	0.25	0.48	9.3		1.3	0.3	0.44	J	0.10	0.11					0.35	J	0.14	0.09
B-32IR-114b	IR32-B-114b	BIASED	15-1070	4/2/2008	2.5	3	pCi/g	0.03	U	0.32	0.59	9.9		1.5	0.6	0.36	J	0.11	0.11					0.26	J	0.12	0.09
B-32IR-115a	IR32-B-115a	BIASED	15-1071	4/2/2008	2	2.5	pCi/g	0.01	U	0.33	0.62	10.1		1.6	0.4	0.52	J	0.14	0.11					0.49	J	0.20	0.12
B-32IR-115b	IR32-B-115b	BIASED	15-1072	4/2/2008	2.5	3	pCi/g	-0.04	U	0.30	0.56	11.6		1.5	0.3	0.43	J	0.12	0.13					0.42	J	0.14	0.08
B-32IR-116a	IR32-B-116a	BIASED	15-1073	4/2/2008	2	2.5	pCi/g	-0.01	U	0.36	0.66	13.5		1.9	0.8	0.50	J	0.15	0.12					0.56	J	0.17	0.09
B-32IR-116b	IR32-B-116b	BIASED	15-1074	4/2/2008	2.5	3	pCi/g	0.0	U	0.35	0.63	9.6		1.2	0.2	0.42	J	0.10	0.11					0.52	J	0.16	0.09
B-32IR-118a	IR32-B-118a	BIASED	15-1075	4/2/2008	2	2.5	pCi/g	-0.02	U	0.35	0.67	10.5		1.8	0.7	0.32	J	0.12	0.15					0.71	J	0.19	0.08
B-32IR-118b	IR32-B-118b	BIASED	15-1076	4/2/2008	2.5	3	pCi/g	-0.14	U	0.41	0.73	8.6		1.5	0.6	0.62	J	0.15	0.10					0.43	U	0.14	0.08
B-32IR-119a	IR32-B-119a	BIASED	15-1077	4/2/2008	2	2.5	pCi/g	-0.008	U	0.32	0.60	12.1		1.8	0.4	0.42	J	0.13	0.13					0.71	J	0.18	0.08
B-32IR-119b	IR32-B-119b	BIASED	15-1078	4/2/2008	2.5	3	pCi/g	-0.06	U	0.30	0.54	9.8		1.4	0.8	0.42	J	0.11	0.13	-0.23	U	0.42	0.76	0.47	U	0.16	0.11
B-32IR-120a	IR32-B-120a	BIASED	15-1079	4/2/2008	2	2.5	pCi/g	0.003	U	0.33	0.63	10.6		1.7	0.7	0.64	J	0.16	0.13					0.44	U	0.14	0.06
B-32IR-120b	IR32-B-120b	BIASED	15-1080	4/2/2008	2.5	3	pCi/g	0.0007	U	0.18	0.35	10.1		1.2	0.4	0.57	J	0.10	0.08					0.61	J	0.18	0.09
B-32IR-126a	IR32-B-126a	BIASED	15-1082	4/2/2008	2	2.5	pCi/g	0.04	U	0.34	0.63	7.9		1.5	1.1	0.29	J	0.11	0.14					0.46	U	0.14	0.08
B-32IR-126b	IR32-B-126b	BIASED	15-1083	4/2/2008	2.5	3	pCi/g	0.02	U	0.11	0.21	9.2		1.1	0.2	0.265	J	0.076	0.083					0.30	U	0.13	0.11
B-32IR-129a	IR32-B-129a	BIASED	15-1084	4/2/2008	2	2.5	pCi/g	-0.01	U	0.34	0.62	9.7		1.4	0.6	0.43	J	0.12	0.12					0.55	J	0.17	0.09
B-32IR-129b	IR32-B-129b	BIASED	15-1085	4/2/2008	2.5	3	pCi/g	-0.003	U	0.28	0.54	8.8		1.5	0.6	0.67	J	0.14	0.07					0.72	J	0.18	0.08
B-32IR-131a	IR32-B-131a	BIASED	15-1086	4/2/2008	2	2.5	pCi/g	0.0	U	0.060	0.22	10.5		1.6	0.6	0.46	J	0.13	0.09					0.47	U	0.15	0.1
B-32IR-131b	IR32-B-131b	BIASED	15-1087	4/2/2008	2.5	3	pCi/g	-0.10	U	0.32	0.56	8.1		1.3	0.8	0.42	J	0.12	0.13					0.40	J	0.19	0.14
B-32IR-133a	IR32-B-133a	BIASED	15-1088	4/2/2008	2	2.5	pCi/g	-0.10	U	0.60	1.1	9.5		1.8	0.6	4.81		0.52	0.19	0.02	U	0.37	0.63	0.49	U	0.16	0.08
B-32IR-133b	IR32-B-133b	BIASED	15-1089	4/2/2008	2.5	3	pCi/g	0.002	U	0.47	0.87	9.0		1.5	0.4	2.54		0.31	0.13					0.57	J	0.17	0.09
B-32IR-134a	IR32-B-134a	BIASED	15-1090	4/2/2008	2	2.5	pCi/g	0.03	U	0.21	0.39	7.9		1.1	0.2	0.60	J	0.12	0.09					0.33	U	0.12	0.05
B-32IR-134b	IR32-B-134b	BIASED	15-1091	4/2/2008	2.5	3	pCi/g	0.0006	U	0.37	0.68	7.3		1.4	1.0	0.69	J	0.15	0.09					0.43	U	0.15	0.08
B-32IR-135a	IR32-B-135a	BIASED	15-1092	4/2/2008	2	2.5	pCi/g	0.03	U	0.33	0.61	9.0		1.5	0.8	1.14		0.19	0.15					0.36	U	0.13	0.08
B-32IR-135b	IR32-B-135b	BIASED	15-1093	4/2/2008	2.5	3	pCi/g	0.08	U	0.29	0.53	9.2		1.5	0.4	0.48	J	0.14	0.17					0.45	U	0.14	0.07
B-32IR-136a	IR32-B-136a	BIASED	15-1094	4/2/2008	2	2.5	pCi/g	0.15	U	0.39	0.69	8.4		1.6	0.5	1.35		0.24	0.16					0.46	U	0.19	0.14
B-32IR-136b	IR32-B-136b	BIASED	15-1095	4/2/2008	2.5	3	pCi/g	-0.002	U	0.27	0.52	8.9		1.4	0.5	0.92	J	0.17	0.12					0.32	J	0.13	0.09
B-32IR-137a	IR32-B-137a	BIASED	15-1096	4/2/2008	2	2.5	pCi/g	-0.26	U	0.65	1.1	6.8		1.6	1.4	7.06		0.63	0.18					0.30	U	0.12	0.08
B-32IR-137b	IR32-B-137b	BIASED	15-1097	4/2/2008	2.5	3	pCi/g	-0.10	U	0.54	0.95	9.8		1.6	0.9	12.9		0.94	0.24					0.31	J	0.12	0.09
B-32IR-138a	IR32-B-138a	BIASED	15-1098	4/2/2008	2	2.5	pCi/g	0.0	U	0.46	0.87	10.4		1.8	0.5	0.88	J	0.20	0.16	0.26	U	0.45	0.75	0.41	J	0.14	0.08
B-32IR-138b	IR32-B-138b	BIASED	15-1099	4/2/2008	2.5	3	pCi/g	-0.09	U	0.43	0.77	3.9		1.1	0.9	0.41	J	0.13	0.14					0.33	J	0.13	0.11
B-32IR-139a	IR32-B-139a	BIASED	15-1100	4/2/2008	2	2.5	pCi/g	-0.002	U	0.29	0.53	11.6		1.3	0.2	4.05		0.36	0.12					0.38	J	0.13	0.08
B-32IR-139b	IR32-B-139b	BIASED	15-1101	4/2/2008	2.5	3	pCi/g	-0.08	U	0.51	0.89	9.3		1.5	0.6	8.52		0.67	0.21					0.44	J	0.14	0.09
B-32IR-140a	IR32-B-140a	BIASED	15-1102	4/2/2008	2	2.5	pCi/g	0.0	U	0.48	0.91	8.6		1.7	0.9	1.23		0.22	0.11					0.46	J	0.15	0.1
B-32IR-140b	IR32-B-140b	BIASED	15-1103	4/2/2008	2.5	3	pCi/g	0.002	U	0.32	0.62	9.0		1.6	1.1	1.30		0.21	0.10					0.30	U	0.12	0.08
B-32IR-141a	IR32-B-141a	BIASED	15-1104	4/3/2008	2	2.5	pCi/g	-0.07	U	0.40	0.74	10.3		1.7	0.5	2.02		0.29	0.12					0.170	J	0.087	0.072
B-32IR-141b	IR32-B-141b	BIASED	15-1105	4/3/2008	2.5	3	pCi/g	0.0	U	0.42	0.77	9.0		1.5	1.1	1.39		0.21	0.09					0.41	J	0.14	0.08
32IR-142	IR32-142	RANDOM	15-1107	4/3/2008	2	2.5	pCi/g	-0.03	U	0.16	0.31	3.98		0.70	0.21	0.199	J	0.074	0.091					0.165	J	0.089	0.078
B-32IR-143a	IR32-B-143a	BIASED	15-1108	4/3/2008	2	2.5	pCi/g	-0.01	U	0.33	0.65	12.7		2.0	0.7	0.44	J	0.12	0.05	0.37	U	0.32	0.50	0.38	J	0.14	0.1
B-32IR-143b	IR32-B-143b	BIASED	15-1109	4/3/2008	2.5	3	pCi/g	-0.02	U	0.33	0.61	6.6		1.3	1	0.33	J	0.11	0.11					0.58	J	0.17	0.08
B-32IR-144a	IR32-B-144a	BIASED	15-1110	4/3/2008	2	2.5	pCi/g	-0.05	U	0.39	0.73	12.3		2.0	0.5	0.42	J	0.17	0.17					0.35	J	0.13	0.08
B-32IR-144b	IR32-B-144b	BIASED	15-1111	4/3/2008	2.5	3	pCi/g	-0.19	U	0.40	0.70	11.1		1.7	0.6	0.38	J	0.12	0.14					0.56	J	0.16	0.09
32IR-149	IR32-149	RANDOM	15-1112	4/3/2008	2	2.5	pCi/g	0.008	U	0.30	0.59	8.8		1.6	0.7	0.49	J	0.14	0.10					0.28	J	0.11	0.05
B-32IR-150Aa	IR32-B-150Aa	BIASED	15-1113	4/3/2008	2	2.5	pCi/g	-0.0004	U	0.26	0.50	8.5		1.3	0.3	0.40	J	0.11	0.12					0.42	J	0.14	0.07
B-32IR-150Ab	IR32-B-150Ab	BIASED	15-1114	4/3/2008	2.5	3	pCi/g	0.002	U	0.20	0.39	7.4		1.2	0.3	0.47	J	0.12	0.12					0.29	J	0.12	0.08
B-32IR-150-Ba	IR32-B-150Ba	BIASED	15-1115	4/3/2008	2	2.5	pCi/g	0.0	U	0.46	0.86	7.9		1.6	0.6	0.61	J	0.16	0.13					0.38	J	0.14	0.08
B-32IR-150-Bb	IR32-B-150Bb	BIASED	15-1116	4/3/2008	2.5	3	pCi/g	-0.10	U	0.40	0.73	8.4		1.7	0.6	0.30	J	0.12	0.16					0.45	J	0.14	0.07
B-32IR-151a	IR32-B-151a	BIASED	15-1117	4/3/2008	2	2.5	pCi/g	0.0	U	0.48	0.90	8.0		1.6	0.5	0.43	J	0.12	0.06					0.35	J	0.13	0.1
B-32IR-151b	IR32-B-151b	BIASED	15-1118	4/3/2008	2.5	3	pCi/g	0.001	U	0.20	0.39	10.5		1.3	0.4	0.40	J	0.10	0.1	0.17	U	0.27	0.45	0.49	J	0.15	0.08
B-32IR-157a	IR32-B-157a	BIASED	15-1119	4/3/2008	3	3.5	pCi/g	0.14	U	0.29	0.51	9.9		1.6	0.6	0.74	J	0.16	0.14					0.27	J	0.11	0.08
B-32IR-157b	IR32-B-157b	BIASED	15-1120	4/3/2008	3.5	4	pCi/g	-0.09	U	0.38	0.69	7.8		1.4	0.6	0.92	J	0.19	0.14					0.53	J	0.16	0.09
B-32IR-158a	IR32-B-158a	BIASED	15-1121	4/3/2008	2	2.5	pCi/g	0.02	U	0.35	0.63	10.5		1.4	0.3	1.76		0.23	0.14					0.27	J	0.11	0.05
B-32IR-158b	IR32-B-158b	BIASED	15-1122	4/3/2008	2.5	3	pCi/g	-0.11	U	0.41	0.74	8.2		1.6	0.7	0.39	J	0.12	0.08					0.30	J	0.12	0.08
B-32IR-159a	IR32-B-159a	BIASED	15-1123	4/3/2008	2	2.5	pCi/g	-0.11	U	0.39	0.69	11.1		1.5	0.3	3.91		0.38	0.16					0.45	J	0.15	0.08
B-32IR-159b	IR32-B-159b	BIASED	15-1124	4/3/2008	2.5	3	pCi/g	-0.03	U	0.40	0.71	7.5		1.4	1.5	9.77		0.71	0.17					0.82	J	0.19	0.07
B-32IR-172a	IR32-B-172a	BIASED	15-1125	4/3/2008	2	2.5	pCi/g	-0.12	U	0.32	0.57	10.8		1.5	0.3	0.56	J	0.13	0.13					0.44	J	0.15	0.09
B-32IR-172b	IR32-B-172b	BIASED	15-1126	4/3/2008	2.5	3	pCi/g	-0.009	U	0.31	0.59	8.0		1.4	0.6	0.53	J	0.16	0.13					0.41	J	0.14	0.08
B-32IR-32Xa	IR32-B-32Xa	BIASED	15-1127	4/3/2008	2	2.5	pCi/g	0.0	U	0.20	0.39	9.1		1.4	0.5	0.95	J	0.16	0.12					0.39	J	0.14	0.09
B-32IR-32Xb	IR32-B-32Xb	BIASED	15-1128	4/3/2008	2.5	3	pCi/g	-0.06	U	0.38	0.71	10.1		1.8	0.6	0.91	J	0.21	0.16	0.19	U	0.32	0.54	0.36	J	0.14	0.10
B-32IR-G5a	IR32-B-G5a	BIASED	15-1129	4/3/2008	2	2.5	pCi/g	0.05	U	0.39	0.73	8.5		1.6	0.5	0.55	J	0.18	0.14					0.39	J	0.13	0.04
B-32IR-G5b	IR32-B-G5b	BIASED	15-1130	4/3/2008	2.5	3	pCi/g	0.08	U	0.31	0.56	9.8		1.5	0.3	0.50	J	0.13	0.14					0.36	J	0.14	0.08
B-32IR-G6a	IR32-B-G6a	BIASED	15-1131	4/3/2008	2	2.5	pCi/g	0.06	U	0.35	0.65	7.5		1.4	0.6	0.54	J	0.13	0.07					0.49	J	0.17	0.1

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90	Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit
B-32IR-G6b	IR32-B-G6b	BIASED	15-1132	4/3/2008	2.5	3	pCi/g	-0.10	U	0.35	0.61	7.4		1.2	0.6	0.30	J	0.10	0.12					0.36	J	0.14	0.08
B-32IR-G7a	IR32-B-G7a	BIASED	15-1133	4/3/2008	2	2.5	pCi/g	-0.04	U	0.28	0.53	8.6		1.6	0.8	0.58	J	0.14	0.1					0.47	J	0.16	0.09
B-32IR-G7b	IR32-B-G7b	BIASED	15-1134	4/3/2008	2.5	3	pCi/g	0.06	U	0.36	0.67	6.8		1.5	1	0.38	J	0.12	0.08					0.31	J	0.12	0.08
B-32IR-G8a	IR32-B-G8a	BIASED	15-1135	4/3/2008	2	2.5	pCi/g	0.07	U	0.23	0.41	9.2		1.2	0.2	0.52	J	0.11	0.1					0.38	J	0.14	0.1
B-32IR-G8b	IR32-B-G8b	BIASED	15-1136	4/3/2008	2.5	3	pCi/g	-0.07	U	0.39	0.71	10.7		1.7	0.4	0.54	J	0.14	0.11					0.53	J	0.17	0.08
B-32IR-G9a	IR32-B-G9a	BIASED	15-1137	4/3/2008	2	2.5	pCi/g	0.04	U	0.30	0.55	8.9		1.3	0.3	2.89		0.32	0.14					1.07		0.24	0.05
B-32IR-G9b	IR32-B-G9b	BIASED	15-1138	4/3/2008	2.5	3	pCi/g	-0.16	U	0.42	0.74	9.6		1.5	0.6	0.64	J	0.14	0.11	-0.16	U	0.29	0.54	0.43	J	0.15	0.1
B-32IR-G10a	IR32-B-G10a	BIASED	15-1139	4/3/2008	2	2.5	pCi/g	-0.13	U	0.39	0.69	8.4		1.5	0.4	1.01		0.20	0.14					0.35	J	0.12	0.07
B-32IR-G10b	IR32-B-G10b	BIASED	15-1140	4/3/2008	2.5	3	pCi/g	-0.07	U	0.45	0.83	9.5		1.7	0.7	2.24		0.31	0.15					0.37	J	0.15	0.09
B-32IR-G11a	IR32-B-G11a	BIASED	15-1141	4/3/2008	2	2.5	pCi/g	0.10	U	0.26	0.45	8.7		1.3	0.5	0.46	J	0.12	0.12					0.38	J	0.14	0.1
B-32IR-G11b	IR32-B-G11b	BIASED	15-1142	4/3/2008	2.5	3	pCi/g	0.02	U	0.30	0.58	8.7		1.6	0.5	0.38	J	0.14	0.17					0.23	J	0.12	0.06
Analyte not analyzed.																											
Results were flagged due to percent relative standard deviations (RSDs), relative response factors (RRFs) of the initial calibration,																											
Results were flagged due to method blank contamination.																											
Results were flaggged due to tracer compound recoveries out of QC limits.																											
Results were flagged due to laboratory control samples out of QC limits.																											
Results were flagged due to the laboratory duplicate error ratios out of QC limits.																											

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
IR1-13A	IR1-13A	RANDOM	15-168	10/2/2007			pCi/g	0.26	U	0.10	0.04	0.37		0.17	0.31	0.27	J	0.11	0.05	-0.0071	U	0.008	0.068	0.35	J	0.12	0.05
IR1-13B	IR1-13B	RANDOM	15-169	10/2/2007			pCi/g	0.34	U	0.13	0.06	0.24	U	0.16	0.30	0.32	J	0.12	0.05	0.014	U	0.027	0.037	0.36	J	0.13	0.05
IR1-27B	IR1-27B	RANDOM	15-170	10/2/2007			pCi/g	0.29	U	0.12	0.07	0.26	U	0.19	0.28	0.37	J	0.12	0.04	0.0	U	0.011	0.033	0.29	J	0.11	0.04
IR1-27A	IR1-27A	RANDOM	15-171	10/2/2007			pCi/g	0.31	U	0.14	0.08	0.25	U	0.15	0.26	0.25	J	0.11	0.06	-0.0049	U	0.007	0.064	0.24	J	0.10	0.06
IR1-26A	IR1-26A	RANDOM	15-172	10/2/2007			pCi/g	0.52	J	0.16	0.07	0.38		0.14	0.24	0.28	J	0.11	0.07	0.011	U	0.027	0.056	0.31	J	0.12	0.04
IR1-21	IR1-21	RANDOM	15-173	10/2/2007			pCi/g	0.40	J	0.15	0.07	0.34	U	0.25	0.36	0.37	J	0.13	0.06	0.011	U	0.028	0.058	0.27	J	0.11	0.05
IR1-22-1	IR1-22-1	RANDOM	15-174	10/2/2007			pCi/g	0.52	J	0.16	0.06	0.32		0.2	0.28	0.36	J	0.13	0.06	0.025	U	0.036	0.034	0.26	J	0.11	0.04
IR1-22-2	IR1-22-2	RANDOM	15-175	10/5/2007			pCi/g	0.49	U	0.15	0.06	0.10	U	0.15	0.26	0.14	U	0.40	0.83	0.10	U	0.34	0.82	0.46	U	0.54	0.72
IR1-14	IR1-14	RANDOM	15-176	10/5/2007			pCi/g	0.52	U	0.15	0.07	0.35		0.16	0.31	0.31	J	0.11	0.07	0.033	U	0.041	0.050	0.39	J	0.13	0.08
IR1-15	IR1-15	RANDOM	15-177	10/5/2007			pCi/g	0.54	U	0.16	0.03	0.40		0.20	0.35	0.37	J	0.12	0.05	0.019	U	0.034	0.058	0.34	J	0.12	0.07
IR1-16	IR1-16	RANDOM	15-178	10/5/2007			pCi/g	0.30	J	0.14	0.08	0.22	U	0.16	0.24	0.43	J	0.14	0.06	0.029	U	0.041	0.039	0.38	J	0.13	0.05
IR1-17	IR1-17	RANDOM	15-179	10/5/2007			pCi/g	0.74	J	0.18	0.04	0.41		0.18	0.30	0.46	J	0.14	0.04	0.10	J	0.069	0.048	0.45	J	0.13	0.02
IR1-18A	IR1-18A	RANDOM	15-180	10/5/2007			pCi/g	0.55	U	0.17	0.05	0.34		0.16	0.25	0.45	J	0.14	0.05	0.010	U	0.026	0.054	0.31	J	0.12	0.03
IR1-20	IR1-20	RANDOM	15-181	10/5/2007			pCi/g	0.40	U	0.14	0.07	0.35	U	0.24	0.35	0.52	J	0.16	0.07	0.025	U	0.039	0.058	0.50	J	0.16	0.06
IR1-23	IR1-23	RANDOM	15-182	10/5/2007			pCi/g	0.72	J	0.19	0.03	0.29	U	0.17	0.38	0.42	J	0.14	0.06	0.025	U	0.035	0.034	0.34	J	0.12	0.04
IR1-24	IR1-24	RANDOM	15-183	10/5/2007			pCi/g	0.81	J	0.20	0.06	0.43		0.20	0.25	0.45	J	0.14	0.05	0.034	U	0.046	0.064	0.55	J	0.16	0.03
IR1-25	IR1-25	RANDOM	15-184	10/8/2007			pCi/g	0.60	U	0.17	0.06	0.21	U	0.15	0.35	0.32	J	0.12	0.07	0.010	U	0.026	0.055	0.28	J	0.11	0.04
IR1-AB-1	IR1-AB-1	RANDOM	15-185	10/8/2007			pCi/g	0.33	U	0.12	0.05	0.41		0.18	0.28	0.32	J	0.12	0.05	0.035	U	0.044	0.054	0.24	J	0.10	0.04
IR32-1	IR32-1	RANDOM	15-186	10/8/2007			pCi/g	0.45	U	0.14	0.05	0.14	U	0.15	0.24	0.30	J	0.11	0.06	0.036	J	0.042	0.033	0.37	J	0.12	0.04
IR32-2	IR32-2	RANDOM	15-187	10/8/2007			pCi/g	0.73	J	0.20	0.08	0.46		0.17	0.32	0.35	J	0.12	0.06	0.057	U	0.055	0.060	0.43	J	0.14	0.04
IR32-3	IR32-3	RANDOM	15-188	10/8/2007			pCi/g	0.71	J	0.18	0.03	0.23	U	0.20	0.32	0.27	J	0.10	0.05	0.017	U	0.035	0.065	0.36	J	0.12	0.04
IR32-4A	IR32-4A	RANDOM	15-189	10/8/2007			pCi/g	0.62	U	0.17	0.04	0.4		0.14	0.23	0.45	J	0.14	0.04	0.047	U	0.050	0.052	0.35	J	0.12	0.05
IR32-4B	IR32-4B	RANDOM	15-190	10/8/2007			pCi/g	0.52	U	0.16	0.03	0.33		0.19	0.26	0.41	J	0.13	0.05	0.005	U	0.025	0.064	0.46	J	0.14	0.05
IR1-2A-1a	IR1-2A-1a	RANDOM	15-191	10/17/2007	0	0.5	pCi/g	0.52	U	0.16	0.06	0.41		0.19	0.39	0.40	J	0.13	0.05	0.047	U	0.049	0.052	0.46	J	0.14	0.03
IR1-3A-1a	IR1-3A-1a	RANDOM	15-192	10/17/2007	0	0.5	pCi/g	0.82	J	0.21	0.08	0.32		0.16	0.29	0.33	J	0.12	0.06	0.025	U	0.035	0.033	0.27	J	0.11	0.04
IR1-3COE-1a	IR1-3CDE-1a	RANDOM	15-193	10/17/2007	0	0.5	pCi/g	0.50	U	0.16	0.03	0.65		0.23	0.37	0.36	J	0.12	0.05	0.044	U	0.049	0.060	0.30	J	0.11	0.03
IR1-4A-1a	IR1-4A-1a	RANDOM	15-194	10/17/2007	0	0.5	pCi/g	0.75	J	0.20	0.06	0.39		0.23	0.29	0.45	J	0.14	0.07	0.036	U	0.045	0.055	0.50	J	0.15	0.04
IR1-2A-1b	IR1-2A-1b	RANDOM	15-195	10/18/2007	2	2.5	pCi/g	0.64	J	0.18	0.05	0.22	U	0.16	0.23	0.36	J	0.13	0.06	-0.0025	U	0.004	0.056	0.31	J	0.12	0.04
IR1-3A-1b	IR1-3A-1b	RANDOM	15-196	10/18/2007	2	2.5	pCi/g	0.74	J	0.19	0.05	0.58		0.18	0.33	0.38	J	0.13	0.06	0.012	U	0.024	0.033	0.32	J	0.11	0.04
IR1-3COE-1b	IR1-3CDE-1b	RANDOM	15-197	10/18/2007	2.5	3	pCi/g	0.63	J	0.17	0.06	0.53		0.16	0.20	0.49	J	0.14	0.06	0.061	J	0.054	0.053	0.28	J	0.10	0.04
IR1-4A-1b	IR1-4A-1b	RANDOM	15-198	10/18/2007	2.5	3	pCi/g	0.28	U	0.11	0.05	0.18	U	0.26	0.44	0.27	J	0.10	0.05	0.015	U	0.031	0.058	0.266	J	0.099	0.037
IR1-5AB-1a	IR1-5AB-1a	RANDOM	15-199	10/18/2007	2	2.5	pCi/g	0.59	U	0.18	0.07	0.44		0.24	0.30	0.27	J	0.11	0.04	0.010	U	0.025	0.052	0.40	J	0.13	0.05
IR1-5AB-1b	IR1-5AB-1b	RANDOM	15-200	10/18/2007	2.5	3	pCi/g	0.49	U	0.15	0.06	0.20	U	0.20	0.34	0.35	J	0.12	0.05	0.016	U	0.033	0.062	0.33	J	0.11	0.05
IR1-6A-1a	IR1-6A-1a	RANDOM	15-201	10/18/2007	3	3.5	pCi/g	0.35	U	0.11	0.04	0.46		0.21	0.27	0.277	J	0.093	0.035	0.027	J	0.031	0.024	0.285	J	0.094	0.030
IR1-6A-1b	IR1-6A-1b	RANDOM	15-202	10/18/2007	3.5	4	pCi/g	0.61	J	0.16	0.05	0.17	U	0.24	0.41	0.32	J	0.11	0.04	0.004	U	0.021	0.055	0.250	J	0.094	0.040
IR1-6B-1a	IR1-6B-1a	RANDOM	15-203	10/19/2007	2	2.5	pCi/g	0.41	J	0.13	0.04	0.26		0.17	0.25	0.39	J	0.14	0.07	0.025	U	0.040	0.059	0.31	J	0.12	0.07
IR1-6B-1b	IR1-6B-1b	RANDOM	15-204	10/19/2007	2.5	3	pCi/g	0.59	J	0.17	0.03	0.37		0.18	0.20	0.222	J	0.096	0.048	0.044	U	0.049	0.060	0.32	J	0.12	0.03
IR1-8-A-1a	IR1-8A-1a	RANDOM	15-205	10/19/2007	1	1.5	pCi/g	0.40	J	0.13	0.05	0.38		0.20	0.27	0.27	J	0.11	0.05	0.020	U	0.035	0.059	0.213	U	0.092	0.026
IR1-8A-1b	IR1-8A-1b	RANDOM	15-206	10/19/2007	1.5	2	pCi/g	0.56	J	0.16	0.03	0.13	U	0.19	0.33	0.29	J	0.10	0.05	0.018	U	0.028	0.042	0.258	J	0.093	0.034
IR1-8B-1a	IR1-8B-1a	RANDOM	15-207	10/19/2007	1	1.5	pCi/g	0.52	J	0.14	0.04	0.32		0.21	0.28	0.34	J	0.11	0.04	-0.0018	U	0.003	0.041	0.36	J	0.11	0.03
IR1-8B-1b	IR1-8B-1b	RANDOM	15-208	10/19/2007	1.5	2	pCi/g	0.47	J	0.15	0.04	0.27		0.16	0.21	0.35	J	0.12	0.06	0.012	U	0.024	0.033	0.45	J	0.14	0.04
IR1-8C-1a	IR1-8C-1a	RANDOM	15-209	10/19/2007	1	1.5	pCi/g	0.28	J	0.10	0.05	0.21	U	0.18	0.27	0.33	J	0.11	0.05	0.006	U	0.020	0.046	0.34	J	0.11	0.03
IR1-8C-1b	IR1-8C-1b	RANDOM	15-210	10/19/2007	1.5	2	pCi/g	0.60	J	0.17	0.05	0.44		0.19	0.32	0.30	J	0.11	0.05	0.005	U	0.024	0.061	0.37	J	0.12	0.04
IR1-8D-1a	IR1-8D-1a	RANDOM	15-211	10/19/2007	1	1.5	pCi/g	0.36	J	0.15	0.07	0.23	U	0.18	0.27	0.38	J	0.12	0.04	0.021	U	0.033	0.049	0.35	J	0.12	0.04
IR1-8D-1b	IR1-8D-1b	RANDOM	15-212	10/19/2007	1.5	2	pCi/g	0.44	J	0.14	0.07	0.28		0.19	0.27	0.25	J	0.10	0.05	0.005	U	0.026	0.066	0.29	J	0.11	0.05
IR1-8E-1a	IR1-8E-1a	RANDOM	15-213	10/19/2007	1	1.5	pCi/g	0.49	J	0.15	0.03	0.43		0.16	0.26	0.39	J	0.13	0.05	0.024	U	0.035	0.033	0.36	J	0.12	0.04
IR1-8E-1b	IR1-8E-1b	RANDOM	15-214	10/19/2007	1.5	2	pCi/g	0.58	J	0.17	0.05	0.22	U	0.19	0.31	0.42	J	0.14	0.06	0.006	U	0.027	0.070	0.49	J	0.15	0.04
IR1-8F-1a	IR1-8F-1a	RANDOM	15-215	10/19/2007	1	1.5	pCi/g	0.42	J	0.12	0.03	0.20	U	0.15	0.22	0.44	J	0.12	0.04	0.0	U	0.008	0.025	0.289	J	0.097	0.037
IR1-8F-1b	IR1-8F-1b	RANDOM	15-216	10/19/2007	1.5	2	pCi/g	0.43	J	0.14	0.05	0.20	U	0.23	0.39	0.28	J	0.10	0.04	0.046	J	0.046	0.031	0.29	J	0.11	0.04
IR1-8G-1a	IR1-8G-1a	RANDOM	15-217	10/19/2007	1	1.5	pCi/g	0.37	J	0.13	0.07	0.30	U	0.17	0.33	0.30	J	0.11	0.06	0.018	U	0.033	0.056	0.214	J	0.091	0.049
IR1-8G-1b	IR1-8G-1b	RANDOM	15-218	10/19/2007	1.5	2	pCi/g	0.45	J	0.14	0.06	0.56		0.23	0.27	0.178	J	0.083	0.049	0.035	J	0.041	0.032	0.26	J	0.10	0.04
IR1-8H-1a	IR1-8H-1a	RANDOM	15-219	10/19/2007	1	1.5	pCi/g	0.42	J	0.14	0.06	0.15	U	0.20	0.33	0.37	J	0.13	0.04	0.035	U	0.044	0.054	0.24	J	0.10	0.05
IR1-8H-1b	IR1-8H-1b	RANDOM	15-220	10/19/2007	1.5	2	pCi/g	0.39	J	0.13	0.06	0.15	U	0.17	0.30	0.41	J	0.13	0.07	0.021	U	0.033	0.049	0.30	J	0.11	0.07
IR1-8I-1a	IR1-8I-1a	RANDOM	15-221	10/19/2007	1	1.5	pCi/g	0.27	J	0.11	0.05	0.31		0.20	0.29	0.28	J	0.11	0.05	0.020	U	0.035	0.059	0.48	J	0.14	0.07
IR1-8I-1b	IR1-8I-1b	RANDOM	15-222	10/19/2007	1.5	2	pCi/g	0.50	J	0.15	0.05	0.11	U	0.21	0.37	0.34	J	0.12	0.05	0.009	U	0.024	0.050	0.34	J	0.12	0.04
IR1-8J-1a	IR1-8J-1a	RANDOM	15-223	10/19/2007	1	1.5	pCi/g	0.53	J	0.15	0.06	0.35		0.20	0.27	0.43	J	0.13	0.04	0.009	U	0.023	0.048	0.30	J	0.11	0.02
IR1-8J-1b	IR1-8J-1b	RANDOM	15-224	10/19/2007	1	1.5	pCi/g	0.35	J	0.13	0.06	0.31		0.17	0.23	0.22	J	0.10	0.07	0.037	U	0.046	0.056	0.203	U	0.096	0.061
IR1-8K-1a	IR1-8K-1a	RANDOM	15-225	10/22/2007	1	1.5	pCi/g	0.47	J	0.13	0.04	0.30		0.14	0.29	0.45	J	0.15	0.06	0.025	U	0.040	0.060	0.48	J	0.15	0.03
IR1-8K-1b	IR1-8K-1b	RANDOM	15-226	10/22/2007	1.5	2	pCi/g	0.47	J	0.14	0.05	0.19	UJ	0.19	0.30	0.32	J	0.12	0.06	0.0	U	0.011	0.035	0.27	J	0.11	0.04
IR1-8L-1a	IR1-8L-1a	RANDOM	15-227	10/22/2007	1	1.5	pCi/g	0.42	J	0.13	0.06	0.13	U	0.15	0.23	0.41	J	0.13	0.05	0.020	U	0.036	0.061	0.43	J	0.14	0.03
IR1-8L-1b	IR1-8L-1b	RANDOM	15-228	10/22/2007	1.5	2	pCi/g	0.29	J	0.11	0.03	0.31		0.19	0.30	0.27	J	0.11	0.07	-0.0025	U	0.005	0.056	0.26	J	0.11	0.05
IR1-8M-1a	IR1-8M-1a	RANDOM	15-229	10/22/2007	1	1.5	pCi/g	0.39	J	0.12	0.04	0.34	U	0.25	0.38	0.46	J	0.14	0.06	0.010	U	0.026	0.055	0.29	J	0.11	0.04
IR1-8M-1b	IR1-8M-1b	RANDOM	15-230	10/22/2007	1.5	2	pCi/g	0.40	J	0.12	0.04	0.33	U	0.24	0.34	0.24	J	0.10	0.06	0.039	J	0.045	0.035	0.43	J	0.14	0.04
IR1-9-1a	IR1-9-1a	RANDOM	15-231	10/22/2007	1	1.5	pCi/g	0.31	J	0.11	0.05	0.41		0.18	0.21	0.26	J	0.11	0.06	0.020	U	0.035	0.060	0.34	J	0.12	0.04
IR1-9-1b	IR1-9-1b	RANDOM	15-232	10/22/2007	1.5	2	pCi/g	0.34	J	0.11	0.05	0.20	U	0.18	0.27	0.206	J	0.094	0.054	0.031	U	0.044	0.068	0.33	J	0.12	0.04
IR1-1AB-1a	IR1-1AB-1a	RANDOM	15-233	10/22/2007	1	1.5	pCi/g	0.62	J	0.17	0.05	0.41	U	0.28	0.44	0.31	J	0.12	0.04	0.023	U	0.037	0.055	0.35	J	0.13	0.05
IR1-1AB-1b	IR1-1AB-1b	RANDOM	15-234	10/22/2007	1.5	2	pCi/g	0.43	J	0.14	0.06	0.22	UJ	0.28	0.46	0.50	J	0.15	0.08	0.035	U	0.043	0.053	0.35	J	0.13	0.08
IR1-11-1a	IR1-11-1a	RANDOM	15-235	10/24/2007	2	2.5	pCi/g	0.53	U	0.15	0.03	0.16	U	0.21	0.37	0.26	J	0.11	0.04	0.010	U	0.026	0.054	0.29	J	0.11	0.05
IR1-11-1b	IR1-11-1b	RANDOM	15-236	10/24/2007	2.5	3	pCi/g	0.39	U	0.13	0.03	0.35		0.14	0.26	0.197	J	0.087	0.045	0.0	U	0.009	0.031	0.32	J	0.11	0.04
IR1-12-1a	IR1-12-1a	RANDOM	15-237	10/24/2007	2	2.5	pCi/g	0.33	U	0.12	0.03	0.33	U	0.20	0.38	0.40	J	0.14	0.07	0.049	U	0.054	0.066	0.31	J	0.12	0.05

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
IR1-12-1b	IR1-12-1b	RANDOM	15-238	10/24/2007	2.5	3	pCi/g	0.46	U	0.14	0.05	0.14	U	0.21	0.36	0.31	J	0.12	0.05	0.014	U	0.027	0.037	0.25	J	0.11	0.05
IR2-160-1a	IR2-160-1a	RANDOM	15-239	10/24/2007	3	3.5	pCi/g	0.61	U	0.16	0.04	0.38		0.16	0.29	0.55	J	0.15	0.05	-0.0041	U	0.005	0.054	0.62	J	0.16	0.05
IR2-160-1b	IR2-160-1b	RANDOM	15-240	10/24/2007	3.5	4	pCi/g	0.46	U	0.14	0.06	0.37	U	0.19	0.39	0.290	J	0.099	0.042	0.020	U	0.028	0.027	0.41	J	0.12	0.03
IR2-171-1a	IR2-171-1a	RANDOM	15-241	10/24/2007	2	2.5	pCi/g	0.50	U	0.16	0.06	0.31		0.13	0.23	0.28	J	0.10	0.04	0.051	J	0.048	0.046	0.29	J	0.11	0.04
IR2-171-1b	IR2-171-1b	RANDOM	15-242	10/24/2007	2.5	3	pCi/g	0.50	U	0.16	0.05	0.28	U	0.18	0.36	0.28	J	0.10	0.06	0.038	U	0.041	0.043	0.29	J	0.10	0.07
IR2-172-1a	IR2-172-1a	RANDOM	15-243	10/24/2007	2	2.5	pCi/g	0.32	U	0.12	0.07	0.20	U	0.29	0.48	0.35	J	0.12	0.05	0.019	U	0.033	0.057	0.41	J	0.13	0.07
IR2-172-1b	IR2-172-1b	RANDOM	15-244	10/24/2007	2.5	3	pCi/g	0.51	U	0.15	0.03	0.28	U	0.28	0.46	0.186	J	0.084	0.044	0.043	U	0.045	0.048	0.34	J	0.11	0.04
IR2-182-1a	IR2-182-1a	RANDOM	15-245	10/24/2007	2	2.5	pCi/g	0.38	U	0.13	0.05	0.39		0.15	0.31	0.268	J	0.093	0.032	0.026	U	0.033	0.040	0.277	J	0.094	0.020
IR2-182-1b	IR2-182-1b	RANDOM	15-246	10/24/2007	2.5	3	pCi/g	0.74	U	0.18	0.04	0.41		0.19	0.38	0.31	J	0.10	0.04	0.008	U	0.021	0.043	0.43	J	0.12	0.02
IR2-183ABC-1a	IR2-183ABC-1a	RANDOM	15-247	10/25/2007	2	2.5	pCi/g	0.44	U	0.12	0.05	0.44		0.25	0.34	0.48	J	0.13	0.04	0.031	J	0.035	0.028	0.51	J	0.14	0.04
IR2-183ABC-1b	IR2-183ABC-1b	RANDOM	15-248	10/25/2007	2.5	3	pCi/g	0.51	U	0.15	0.03	0.43		0.22	0.29	0.29	J	0.11	0.04	0.067	J	0.055	0.030	0.44	J	0.13	0.04
IR2-187-1a	IR2-187-1a	RANDOM	15-249	10/25/2007	2	2.5	pCi/g	0.55	U	0.15	0.03	0.55		0.19	0.20	0.24	J	0.10	0.06	0.032	U	0.043	0.060	0.32	J	0.12	0.05
IR2-187-1b	IR2-187-1b	RANDOM	15-250	10/25/2007	2.5	3	pCi/g	0.47	U	0.15	0.06	0.30		0.17	0.29	0.33	J	0.12	0.05	0.025	U	0.036	0.034	0.32	J	0.12	0.04
IR2-188AB-1a	IR2-188AB-1a	RANDOM	15-251	10/25/2007	2	2.5	pCi/g	0.60	U	0.17	0.05	0.35		0.17	0.23	0.234	J	0.093	0.037	0.009	U	0.022	0.045	0.34	J	0.11	0.04
IR2-188AB-Ab	IR2-188AB-1b	RANDOM	15-252	10/25/2007	2.5	3	pCi/g	0.35	U	0.12	0.02	0.37		0.21	0.26	0.34	J	0.11	0.06	0.018	U	0.028	0.042	0.29	J	0.10	0.06
IR2-190ABC-1a	IR2-190ABC-1a	RANDOM	15-253	10/25/2007	2	2.5	pCi/g	0.53	U	0.16	0.05	0.34		0.14	0.27	0.32	J	0.11	0.05	0.018	U	0.033	0.055	0.36	J	0.12	0.06
IR2-190ABC-1b	IR2-190ABC-1b	RANDOM	15-254	10/25/2007	2.5	3	pCi/g	0.36	U	0.11	0.04	0.27	U	0.18	0.28	0.256	J	0.099	0.044	0.020	U	0.032	0.047	0.28	J	0.10	0.04
32IR-G-01a	IR32-G-01a	RANDOM	15-274	12/4/2007	0	0.5	pCi/g	0.95	J	0.22	0.06	0.32		0.21	0.31	0.34	J	0.12	0.05	0.036	J	0.042	0.033	0.41	J	0.13	0.04
32IR-G-01b	IR32-G-01b	RANDOM	15-275	12/4/2007	0.5	1	pCi/g	0.39	J	0.13	0.06	0.45		0.23	0.30	0.33	J	0.11	0.06	0.018	U	0.029	0.043	0.36	J	0.12	0.07
32IR-G-02a	IR32-G-02a	RANDOM	15-276	12/4/2007	0	0.5	pCi/g	0.74	J	0.18	0.03	0.54		0.15	0.23	0.56	J	0.15	0.05	0.018	U	0.032	0.054	0.42	J	0.13	0.06
32IR-G-02b	IR32-G-02b	RANDOM	15-277	12/4/2007	0.5	1	pCi/g	0.57	J	0.17	0.05	0.32		0.20	0.27	0.56	J	0.16	0.05	0.049	U	0.051	0.054	0.56	J	0.16	0.04
32IR-G-03a	IR32-G-03a	RANDOM	15-278	12/4/2007	0	0.5	pCi/g	0.76	J	0.18	0.04	1.13		0.20	0.17	0.62	J	0.16	0.04	0.01	U	0.024	0.051	0.51	J	0.15	0.03
32IR-G-03b	IR32-G-03b	RANDOM	15-279	12/4/2007	0.5	1	pCi/g	0.53	J	0.16	0.05	0.15	UJ	0.14	0.22	0.29	J	0.11	0.05	-0.0023	U	0.004	0.053	0.31	J	0.11	0.03
32IR-G-04a	IR32-G-04a	RANDOM	15-280	12/4/2007	0	0.5	pCi/g	0.82	J	0.20	0.07	0.74		0.22	0.36	0.50	J	0.15	0.07	0.051	U	0.054	0.057	0.52	J	0.16	0.06
32IR-G-04b	IR32-G-04b	RANDOM	15-281	12/4/2007	0.5	1	pCi/g	0.55	J	0.14	0.04	0.19	U	0.21	0.34	0.39	J	0.12	0.06	0.022	U	0.032	0.030	0.50	J	0.14	0.04
32IR-G-05a	IR32-G-05a	RANDOM	15-282	12/5/2007	0	0.5	pCi/g	0.61	J	0.16	0.06	0.42		0.19	0.28	0.52	J	0.14	0.04	0.037	U	0.042	0.050	0.35	J	0.11	0.02
32IR-G-05b	IR32-G-05b	RANDOM	15-283	12/5/2007	0.5	1	pCi/g	0.30	J	0.11	0.05	0.18	UJ	0.19	0.30	0.38	J	0.12	0.06	0.021	U	0.033	0.049	0.255	J	0.099	0.039
32IR-G-06a	IR32-G-06a	RANDOM	15-284	12/5/2007	0	0.5	pCi/g	0.66	J	0.17	0.05	-0.04	U	0.72	0.34	0.34	J	0.11	0.04	-0.0018	U	0.003	0.041	0.31	J	0.10	0.03
32IR-G-06b	IR32-G-06b	RANDOM	15-285	12/5/2007	0.5	1	pCi/g	0.41	J	0.13	0.05	0.22	U	0.20	0.31	0.32	J	0.11	0.05	0.01	U	0.020	0.026	0.30	J	0.10	0.03
32IR-G-07a	IR32-G-07a	RANDOM	15-286	12/5/2007	0	0.5	pCi/g	1.04		0.23	0.07	0.63		0.19	0.28	0.59	J	0.16	0.06	0.031	U	0.042	0.058	0.68	J	0.17	0.04
32IR-G-07b	IR32-G-07b	RANDOM	15-287	12/5/2007	0.5	1	pCi/g	0.217	J	0.097	0.044	0.18	U	0.18	0.30	0.41	J	0.13	0.05	0.018	U	0.035	0.066	0.49	J	0.14	0.04
32IR-G-08a	IR32-G-08a	RANDOM	15-288	12/5/2007	0	0.5	pCi/g	1.09		0.25	0.08	0.84		0.23	0.28	0.88	J	0.22	0.05	0.056	U	0.059	0.062	0.93	J	0.22	0.06
32IR-G-08b	IR32-G-08b	RANDOM	15-289	12/5/2007	0.5	1	pCi/g	0.53	J	0.15	0.06	0.33		0.20	0.26	0.26	J	0.11	0.05	0.042	U	0.050	0.066	0.36	J	0.12	0.05
32IR-G-09a	IR32-G-09a	RANDOM	15-290	12/5/2007	0	0.5	pCi/g	0.82	J	0.21	0.07	0.67	J	0.21	0.25	0.67	J	0.18	0.06	0.057	J	0.057	0.038	0.74	J	0.19	0.05
32IR-G-09b	IR32-G-09b	RANDOM	15-291	12/5/2007	0.5	1	pCi/g	0.47	J	0.14	0.05	0.30	J	0.16	0.22	0.38	J	0.12	0.04	0.030	U	0.037	0.046	0.35	J	0.11	0.04
32IR-G-10a	IR32-G-10a	RANDOM	15-292	12/5/2007	0	0.5	pCi/g	1.09		0.23	0.05	1.01		0.25	0.34	0.69	J	0.18	0.05	0.049	J	0.049	0.033	0.65	J	0.17	0.05
32IR-G-10b	IR32-G-10b	RANDOM	15-293	12/5/2007	0.5	1	pCi/g	0.42	J	0.13	0.04	0.28		0.19	0.27	0.36	J	0.12	0.04	0.044	J	0.044	0.030	0.32	J	0.11	0.04
B-1IR-B-1ABa	IR1-B-1ABa	BIASED	15-294	12/6/2007	4	4.5	pCi/g	0.38	U	0.13	0.06	0.33		0.17	0.30	0.53	J	0.15	0.05	0.023	U	0.036	0.054	0.45	J	0.14	0.04
B-1IR-B-1ABb	IR1-B-1ABb	BIASED	15-295	12/6/2007	4.5	5	pCi/g	0.58	J	0.18	0.06	0.38		0.15	0.23	0.29	J	0.11	0.04	0.012	U	0.024	0.032	0.26	J	0.10	0.04
B-1IR-B-3CDa	IR1-B-3-CDa	BIASED	15-299	12/6/2007	3	3.5	pCi/g	0.92	J	0.23	0.07	0.65		0.17	0.20	0.60	J	0.18	0.08	0.025	U	0.044	0.075	0.86	J	0.22	0.07
B-1IR-B-3CDb	IR1-B-3-CDb	BIASED	15-300	12/6/2007	3.5	4	pCi/g	0.65	J	0.22	0.08	0.35		0.20	0.24	0.64	J	0.18	0.07	0.026	U	0.041	0.062	0.48	J	0.16	0.06
1IR-3-02a	IR1-3-02a	RANDOM	15-301	12/6/2007	0	0.5	pCi/g	0.75	J	0.19	0.03	0.32	U	0.24	0.35	0.58	J	0.17	0.07	0.029	U	0.041	0.040	0.42	J	0.15	0.05
1IR-3-02b	IR1-3-02b	RANDOM	15-302	12/6/2007	0.5	1	pCi/g	0.53	U	0.16	0.05	0.34	U	0.24	0.35	0.33	J	0.13	0.07	-0.0050	U	0.007	0.066	0.40	J	0.14	0.05
1IR-3-03a	IR1-3-03a	RANDOM	15-303	12/6/2007	0	0.5	pCi/g	0.54	J	0.16	0.03	0.42		0.13	0.15	0.28	J	0.13	0.07	0.007	U	0.036	0.092	0.20	J	0.11	0.06
1IR-3-03b	IR1-3-03b	RANDOM	15-304	12/6/2007	0.5	1	pCi/g	0.62	J	0.17	0.03	0.23		0.16	0.22	0.35	J	0.12	0.04	0.010	U	0.025	0.053	0.30	J	0.11	0.05
1IR-3-04a	IR1-3-04a	RANDOM	15-305	12/6/2007	0	0.5	pCi/g	1.04		0.23	0.06	0.53		0.15	0.21	0.52	J	0.16	0.05	0.059	U	0.060	0.072	0.60	J	0.17	0.05
1IR-3-04b	IR1-3-04b	RANDOM	15-306	12/6/2007	0.5	1	pCi/g	0.38	U	0.14	0.06	0.55		0.17	0.28	0.34	J	0.13	0.05	0.024	U	0.038	0.057	0.36	J	0.13	0.03
1IR-3-05a	IR1-3-05a	RANDOM	15-307	12/6/2007	1	0.5	pCi/g	0.49	U	0.15	0.07	0.34		0.15	0.28	0.36	J	0.13	0.05	0.033	U	0.045	0.062	0.40	J	0.13	0.03
1IR-3-05b	IR1-3-05b	RANDOM	15-308	12/6/2007	0.5	1	pCi/g	0.55	J	0.22	0.11	0.39	U	0.28	0.41	0.59	J	0.17	0.06	0.011	U	0.027	0.057	0.52	J	0.16	0.05
1IR-3-06a	IR1-3-06a	RANDOM	15-309	12/6/2007	0	0.5	pCi/g	0.68	J	0.25	0.11	0.31	U	0.22	0.32	0.27	J	0.11	0.06	0.012	U	0.024	0.033	0.35	J	0.12	0.04
1IR-3-06b	IR1-3-06b	RANDOM	15-310	12/6/2007	0.5	1	pCi/g	0.52	U	0.16	0.05	0.58		0.16	0.1	0.39	J	0.13	0.06	-0.0045	U	0.006	0.058	0.49	J	0.14	0.04
1IR-3-07a	IR1-3-07a	RANDOM	15-311	12/6/2007	0	0.5	pCi/g	0.53	U	0.17	0.07	0.30		0.13	0.21	0.28	J	0.11	0.05	0.017	U	0.035	0.065	0.34	J	0.12	0.04
1IR-3-07b	IR1-3-07b	RANDOM	15-312	12/6/2007	0.5	1	pCi/g	0.38	U	0.20	0.13	0.12	U	0.17	0.29	0.27	J	0.11	0.04	-0.0024	U	0.004	0.055	0.36	J	0.13	0.05
1IR-3-08a	IR1-3-08a	RANDOM	15-313	12/6/2007	0	0.5	pCi/g	0.41	U	0.18	0.12	0.67		0.21	0.23	0.29	J	0.11	0.05	0.006	U	0.028	0.072	0.33	J	0.12	0.05
1IR-3-08b	IR1-3-08b	RANDOM	15-314	12/6/2007	0.5	1	pCi/g	0.50	U	0.24	0.15	0.0	U	0.20	0.36	0.59	J	0.16	0.05	0.038	J	0.044	0.034	0.50	J	0.15	0.04
1IR-3-09a	IR1-3-09a	RANDOM	15-315	12/6/2007	0	0.5	pCi/g	0.73	J	0.19	0.05	0.52		0.17	0.18	0.62	J	0.16	0.04	0.012	U	0.024	0.033	0.43	J	0.14	0.04
1IR-3-09b	IR1-3-09b	RANDOM	15-316	12/6/2007	0.5	1	pCi/g	0.44	U	0.15	0.07	0.46		0.18	0.20	0.30	J	0.12	0.05	0.027	U	0.039	0.037	0.28	J	0.11	0.05
1IR-3-10a	IR1-3-10a	RANDOM	15-317	12/6/2007	0	0.5	pCi/g	0.52	U	0.16	0.06	0.36		0.15	0.32	0.30	J	0.12	0.06	0.013	U	0.026	0.035	0.27	J	0.11	0.05
1IR-3-10b	IR1-3-10b	RANDOM	15-318	12/6/2007	0.5	1	pCi/g	0.87	J	0.23	0.08	0.23	U	0.21	0.32	0.199	J	0.092	0.043	0.075	J	0.062	0.034	0.29	J	0.11	0.04
B-1IR-4Aa	IR1-B-4Aa	BIASED	15-319	12/6/2007	2	2.5	pCi/g	0.59	J	0.18	0.07	0.40		0.15	0.17	0.38	J	0.14	0.08	0.040	U	0.053	0.074	0.31	J	0.13	0.07
B-1IR-4Ab	IR1-B-4Ab	BIASED	15-320	12/6/2007	2.5	3	pCi/g	0.61	J	0.18	0.07	0.21	U	0.16	0.24	0.38	J	0.14	0.06	0.015	U	0.031	0.042	0.28	J	0.12	0.05
B-1IR-4BCa	IR1-B-4BCa	BIASED	15-322	12/6/2007	2	2.5	pCi/g	0.86	J	0.22	0.03	0.36		0.25	0.35	0.55	J	0.18	0.06	0.013	U	0.033	0.070	0.45	J	0.16	0.07
B-1IR-4BCb	IR1-B-4BCb	BIASED	15-323	12/6/2007	2.5	3	pCi/g	0.48	U	0.15	0.05	0.62		0.15	0.07	0.38	J	0.14	0.08	0.051	U	0.054	0.057	0.26	J	0.11	0.09
1IR-4-02a	IR1-4-02a	RANDOM	15-324	12/6/2007	0	0.5	pCi/g	0.28	U	0.12	0.06	0.40		0.18	0.21	0.44	J	0.15	0.07	0.040	U	0.053	0.074	0.54	J	0.17	0.09
1IR-4-02b	IR1-4-02b	RANDOM	15-325	12/6/2007	0.5	1	pCi/g	0.058	U	0.018	0.003	0.53		0.20	0.19	0.040	J	0.014	0.005	0.0091	J	0.007	0.0057	0.035	J	0.013	0.005
1IR-4-03a	IR1-4-03a	RANDOM	15-326	12/6/2007	0	0.5	pCi/g	0.78	J	0.22	0.06	0.41		0.23	0.31	0.34	J	0.12	0.04	0.044	U	0.046	0.049	0.34	J	0.12	0.02
1IR-4-03b	IR1-4-03b	RANDOM	15-327	12/6/2007	0.5	1	pCi/g	0.48	U	0.15	0.07	0.12	U	0.23	0.39	0.29	J	0.11	0.06	0.008	U	0.026	0.061	0.35	J	0.12	0.05
1IR-4-04a	IR1-4-04a	RANDOM	15-328	12/7/2007	0	0.5	pCi/g	0.42	U	0.19	0.11	0.31		0.14	0.23	0.31	J	0.12	0.05	0.039	U	0.049	0.059	0.38	J	0.13	0.05
1IR-4-04b	IR1-4-04b	RANDOM	15-329	12/7/2007	0.5	1	pCi/g	1.18	U	0.33	0.11	0.34		0.16	0.29	0.26	J	0.10	0.06	0.024	U	0.034	0.032	0.35	J	0.12	0.04
1IR-4-05a	IR1-4-05a	RANDOM	15-330	12/7/2007	0	0.5	pCi/g	0.71	U	0.25	0.09	0.22	U	0.25	0.40	0.31	J	0.12	0.05	0.045	U	0.051	0.061	0.27	J	0.11	0.03

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
1IR-4-05b	IR1-4-05b	RANDOM	15-331	12/7/2007	0.5	1	pCi/g	0.65	U	0.23	0.1	0.48		0.18	0.30	0.40	J	0.14	0.07	0.011	U	0.027	0.057	0.46	J	0.15	0.05
1IR-4-06a	IR1-4-06a	RANDOM	15-332	12/7/2007	0	0.5	pCi/g	0.58	U	0.22	0.09	0.47		0.19	0.23	0.64	J	0.17	0.05	0.036	U	0.044	0.054	0.47	J	0.14	0.04
1IR-4-06b	IR1-4-06b	RANDOM	15-333	12/7/2007	0.5	1	pCi/g	0.30	U	0.17	0.13	0.33		0.20	0.27	0.38	J	0.13	0.06	0.024	U	0.033	0.032	0.38	J	0.12	0.04
1IR-4-07a	IR1-4-07a	RANDOM	15-334	12/7/2007	0	0.5	pCi/g	0.36	U	0.18	0.13	0.32		0.16	0.19	0.26	J	0.11	0.05	0.028	U	0.039	0.037	0.33	J	0.12	0.05
1IR-4-07b	IR1-4-07b	RANDOM	15-335	12/7/2007	0.5	1	pCi/g	0.25	U	0.15	0.11	0.43		0.22	0.30	0.24	J	0.10	0.06	0.006	U	0.027	0.069	0.35	J	0.12	0.04
1IR-4-08a	IR1-4-08a	RANDOM	15-336	12/7/2007	0	0.5	pCi/g	0.57	U	0.26	0.14	0.22	U	0.22	0.34	0.30	J	0.11	0.04	-0.0023	U	0.004	0.053	0.36	J	0.13	0.05
1IR-4-08b	IR1-4-08b	RANDOM	15-337	12/7/2007	0.5	1	pCi/g	0.46	U	0.21	0.12	0.47		0.22	0.26	0.75	J	0.19	0.05	0.032	U	0.046	0.070	0.59	J	0.16	0.05
1IR-4-09a	IR1-4-09a	RANDOM	15-338	12/7/2007	0	0.5	pCi/g	0.38	U	0.14	0.06	0.38		0.19	0.37	0.35	J	0.12	0.04	0.074	J	0.060	0.033	0.30	J	0.11	0.04
1IR-4-09b	IR1-4-09b	RANDOM	15-339	12/7/2007	0.5	1	pCi/g	0.66	U	0.18	0.06	0.53		0.14	0.15	0.48	J	0.15	0.07	0.039	U	0.049	0.060	0.47	J	0.15	0.07
1IR-4-10a	IR1-4-10a	RANDOM	15-340	12/7/2007	0	0.5	pCi/g	0.37	U	0.14	0.06	0.35		0.19	0.26	0.30	J	0.11	0.06	0.061	J	0.055	0.033	0.29	J	0.11	0.04
1IR-4-10b	IR1-4-10b	RANDOM	15-341	12/7/2007	0.5	1	pCi/g	0.46	U	0.15	0.07	0.44		0.23	0.30	0.30	J	0.11	0.05	0.021	U	0.036	0.062	0.30	J	0.11	0.03
B-1IR-5ABa	IR1-B-5ABa	BIASED	15-342	12/7/2007	0	0.5	pCi/g	0.147	U	0.082	0.030	0.0	U	0.20	0.37	0.27	J	0.11	0.06	0.022	U	0.035	0.052	0.175	J	0.085	0.042
B-1IR-5ABb	IR1-B-5ABb	BIASED	15-343	12/7/2007	0.5	1	pCi/g	0.35	U	0.13	0.05	0.37		0.19	0.26	0.175	J	0.087	0.054	0.010	U	0.025	0.053	0.189	J	0.089	0.043
B-1IR-6Aa	IR1-B-6Aa	BIASED	15-345	12/7/2007	0	0.5	pCi/g	0.49	U	0.16	0.05	0.61		0.20	0.20	0.45	J	0.14	0.06	0.025	U	0.036	0.034	0.38	J	0.13	0.04
B-1IR-6Ab	IR1-B-6Ab	BIASED	15-346	12/7/2007	0.5	1	pCi/g	0.52	U	0.17	0.06	0.19	U	0.21	0.34	0.38	J	0.13	0.06	0.008	U	0.025	0.059	0.39	J	0.13	0.04
1IR-6A-02a	IR1-6A-02a	RANDOM	15-347	12/7/2007	0	0.5	pCi/g	0.40	U	0.14	0.07	0.29		0.11	0.17	0.231	J	0.099	0.053	-0.0069	U	0.008	0.066	0.224	J	0.096	0.042
1IR-6A-02b	IR1-6A-02b	RANDOM	15-348	12/7/2007	0.5	1	pCi/g	0.63	U	0.25	0.12	0.41		0.15	0.17	0.41	J	0.13	0.05	0.013	U	0.026	0.035	0.193	J	0.091	0.044
1IR-6A-03a	IR1-6A-03a	RANDOM	15-349	12/7/2007	0	0.5	pCi/g	0.45	U	0.25	0.18	0.26	U	0.25	0.39	0.202	J	0.090	0.051	0.012	U	0.023	0.032	0.222	J	0.094	0.046
1IR-6A-03b	IR1-6A-03b	RANDOM	15-350	12/7/2007	0.5	1	pCi/g	0.53	U	0.22	0.13	0.30	U	0.26	0.40	0.206	J	0.095	0.044	0.0	U	0.011	0.035	0.28	J	0.11	0.04
1IR-6A-04a	IR1-6A-04a	RANDOM	15-351	12/7/2007	0	0.5	pCi/g	0.40	U	0.19	0.06	0.29		0.14	0.19	0.38	J	0.13	0.06	0.020	U	0.036	0.061	0.36	J	0.12	0.05
1IR-6A-04b	IR1-6A-04b	RANDOM	15-352	12/7/2007	0.5	1	pCi/g	0.61	U	0.23	0.08	0.31		0.13	0.24	0.34	J	0.13	0.06	0.058	J	0.058	0.039	0.23	J	0.10	0.05
1IR-6A-05a	IR1-6A-05a	RANDOM	15-353	12/7/2007	0	0.5	pCi/g	0.32	U	0.16	0.05	0.17	U	0.24	0.40	0.41	J	0.14	0.05	0.024	U	0.037	0.056	0.35	J	0.13	0.05
1IR-6A-05b	IR1-6A-05b	RANDOM	15-354	12/7/2007	0.5	1	pCi/g	0.29	U	0.15	0.06	0.37		0.19	0.25	0.24	J	0.11	0.08	0.023	U	0.037	0.055	0.35	J	0.13	0.08
B-1IR-6Ba	IR1-B-6B-a	BIASED	15-355	12/10/2007	0	0.5	pCi/g	0.37	U	0.13	0.03	0.37		0.20	0.26	0.43	J	0.16	0.07	0.030	U	0.048	0.072	0.30	J	0.13	0.04
B-1IR-6Bb	IR1-B-6B-b	BIASED	15-356	12/10/2007	0.5	1	pCi/g	0.48	U	0.15	0.05	0.45		0.15	0.21	0.35	J	0.14	0.07	0.045	U	0.060	0.084	0.28	J	0.13	0.04
1IR-6B-02a	IR1-6B-02a	RANDOM	15-359	12/10/2007	0	0.5	pCi/g	0.63	J	0.18	0.05	0.11	U	0.18	0.30	0.28	J	0.12	0.07	-0.0025	U	0.005	0.058	0.172	J	0.088	0.046
1IR-6B-02b	IR1-6B-02b	RANDOM	15-360	12/10/2007	0.5	1	pCi/g	0.27	U	0.11	0.06	0.23	U	0.20	0.31	0.31	J	0.12	0.06	0.063	J	0.059	0.055	0.29	J	0.11	0.04
1IR-6B-03a	IR1-6B-03a	RANDOM	15-361	12/10/2007	0	0.5	pCi/g	0.50	U	0.15	0.06	0.16	U	0.19	0.32	0.33	J	0.12	0.06	0.011	U	0.027	0.058	0.33	J	0.12	0.05
1IR-6B-03b	IR1-6B-03b	RANDOM	15-362	12/10/2007	0.5	1	pCi/g	0.43	U	0.14	0.06	0.38		0.12	0.17	0.36	J	0.12	0.06	0.007	U	0.025	0.059	0.26	J	0.10	0.04
1IR-6B-04a	IR1-6B-04a	RANDOM	15-363	12/10/2007	0	0.5	pCi/g	0.28	U	0.12	0.06	0.35		0.14	0.24	0.143	J	0.078	0.053	0.018	U	0.036	0.066	0.235	J	0.099	0.042
1IR-6B-04b	IR1-6B-04b	RANDOM	15-364	12/10/2007	0.5	1	pCi/g	0.45	U	0.15	0.06	0.25	U	0.19	0.27	0.97	J	0.22	0.05	0.066	J	0.061	0.058	0.42	J	0.14	0.05
1IR-6B-05a	IR1-6B-05a	RANDOM	15-365	12/10/2007	0	0.5	pCi/g	0.27	U	0.15	0.11	0.30		0.16	0.27	0.213	J	0.096	0.064	0.020	U	0.035	0.060	0.183	J	0.086	0.041
1IR-6B-05b	IR1-6B-05b	RANDOM	15-366	12/10/2007	0.5	1	pCi/g	0.39	U	0.14	0.06	0.13	U	0.15	0.25	0.24	J	0.10	0.04	-0.0024	U	0.004	0.054	0.30	J	0.11	0.05
1IR-6B-06a	IR1-6B-06a	RANDOM	15-367	12/10/2007	0	0.5	pCi/g	0.49	J	0.16	0.08	0.42		0.22	0.28	0.33	J	0.12	0.05	0.042	U	0.050	0.066	0.25	J	0.10	0.05
1IR-6B-06b	IR1-6B-06b	RANDOM	15-368	12/10/2007	0.5	1	pCi/g	0.38	U	0.21	0.15	0.37		0.12	0.20	0.40	J	0.13	0.05	0.013	U	0.026	0.036	0.28	J	0.11	0.04
1IR-6B-07a	IR1-6B-07a	RANDOM	15-369	12/10/2007	0	0.5	pCi/g	0.36	U	0.14	0.06	0.18	U	0.15	0.23	0.29	J	0.11	0.04	0.012	U	0.024	0.033	0.36	J	0.12	0.04
1IR-6B-07b	IR1-6B-07b	RANDOM	15-370	12/10/2007	0.5	1	pCi/g	0.53	J	0.17	0.05	0.26	U	0.20	0.30	0.24	J	0.10	0.06	0.008	U	0.027	0.063	0.26	J	0.11	0.06
1IR-6B-08a	IR1-6B-08a	RANDOM	15-371	12/10/2007	0	0.5	pCi/g	0.30	U	0.13	0.07	0.43		0.23	0.29	0.221	J	0.099	0.056	0.0	U	0.012	0.036	0.30	J	0.11	0.04
1IR-6B-08b	IR1-6B-08b	RANDOM	15-372	12/10/2007	0.5	1	pCi/g	0.53	J	0.17	0.03	0.42		0.15	0.26	0.33	J	0.12	0.04	0.047	U	0.049	0.052	0.33	J	0.12	0.05
1IR-6B-09a	IR1-6B-09a	RANDOM	15-373	12/10/2007	0	0.5	pCi/g	0.55	J	0.17	0.07	0.61		0.20	0.21	0.50	J	0.15	0.08	0.034	U	0.042	0.051	0.52	J	0.15	0.08
1IR-6B-09b	IR1-6B-09b	RANDOM	15-374	12/10/2007	0.5	1	pCi/g	0.28	U	0.13	0.08	0.29	U	0.22	0.31	0.27	J	0.11	0.06	0.008	U	0.027	0.065	0.29	J	0.12	0.08
1IR-6B-10a	IR1-6B-10a	RANDOM	15-375	12/10/2007	0	0.5	pCi/g	0.46	J	0.24	0.16	0.30	U	0.21	0.30	0.28	J	0.11	0.05	0.024	U	0.037	0.056	0.25	J	0.10	0.04
1IR-6B-10b	IR1-6B-10b	RANDOM	15-376	12/10/2007	0.5	1	pCi/g	0.46	J	0.15	0.06	0.30		0.11	0.19	0.25	J	0.10	0.04	0.035	U	0.043	0.053	0.30	J	0.11	0.03
B-1IR-7Aa	IR1-B-7Aa	BIASED	15-377	12/11/2007	3	3.5	pCi/g	0.55	J	0.15	0.04	0.48		0.15	0.23	0.67	J	0.18	0.05	0.035	U	0.046	0.064	0.47	J	0.15	0.05
B-1IR-7Ab	IR1-B-7Ab	BIASED	15-378	12/11/2007	3.5	4	pCi/g	0.89	J	0.22	0.06	0.49		0.16	0.26	0.70	J	0.18	0.05	0.036	U	0.045	0.055	0.56	J	0.16	0.04
B-1IR-7Ba	IR1-B-7Ba	BIASED	15-380	12/11/2007	3	3.5	pCi/g	0.50	J	0.15	0.05	0.41		0.18	0.34	0.70	J	0.19	0.07	0.012	U	0.029	0.061	0.68	J	0.19	0.03
B-1IR-7Bb	IR1-B-7Bb	BIASED	15-381	12/11/2007	3.5	4	pCi/g	0.87	J	0.20	0.03	0.81		0.23	0.36	0.53	J	0.16	0.06	0.048	U	0.054	0.065	0.52	J	0.16	0.07
B-1IR-7Ca	IR1-B-7Ca	BIASED	15-382	12/11/2007	3	3.5	pCi/g	0.56	J	0.17	0.03	0.56		0.25	0.29	0.32	J	0.13	0.08	0.070	J	0.063	0.038	0.45	J	0.15	0.07
B-1IR-7Cb	IR1-B-7Cb	BIASED	15-383	12/11/2007	3.5	4	pCi/g	0.62	J	0.19	0.09	0.45		0.13	0.20	0.39	J	0.14	0.07	0.026	U	0.041	0.061	0.34	J	0.13	0.06
B-1IR-7Da	IR1-B-7Da	BIASED	15-384	12/11/2007	3	3.5	pCi/g	0.84	J	0.20	0.06	0.48		0.17	0.30	0.85	J	0.21	0.08	0.020	U	0.040	0.075	0.82	J	0.21	0.09
B-1IR-7Db	IR1-B-7Db	BIASED	15-385	12/11/2007	3.5	4	pCi/g	0.89	J	0.22	0.03	0.54		0.19	0.30	0.58	J	0.16	0.05	0.008	U	0.026	0.062	0.46	J	0.14	0.06
B-1IR-8Aa	IR1-B-8Aa	BIASED	15-386	12/11/2007	2	2.5	pCi/g	0.47	J	0.14	0.05	0.32		0.15	0.28	0.25	J	0.10	0.05	-0.0023	U	0.004	0.052	0.36	J	0.12	0.04
B-1IR-8Ab	IR1-B-8Ab	BIASED	15-387	12/11/2007	2.5	3	pCi/g	0.65	J	0.18	0.06	0.45		0.18	0.21	0.53	J	0.14	0.04	0.011	U	0.022	0.030	0.48	J	0.14	0.04
B-1IR-8Ba	IR1-B-8Ba	BIASED	15-388	12/11/2007	2	2.5	pCi/g	0.53	J	0.16	0.06	0.32		0.16	0.21	0.27	U	0.10	0.04	0.024	U	0.034	0.032	0.36	J	0.12	0.04
B-1IR-8Bb	IR1-B-8Bb	BIASED	15-389	12/11/2007	2.5	3	pCi/g	0.26	U	0.12	0.08	0.36		0.18	0.15	0.25	U	0.10	0.06	0.020	U	0.035	0.060	0.30	J	0.11	0.05
1IR-8AB-02a	IR1-8AB-02a	RANDOM	15-390	12/11/2007	0	0.5	pCi/g	0.34	U	0.13	0.06	0.38		0.16	0.28	0.29	J	0.11	0.05	0.0	U	0.011	0.033	0.223	J	0.096	0.048
1IR-8AB-02b	IR1-8AB-02b	RANDOM	15-391	12/11/2007	0.5	1	pCi/g	0.56	J	0.16	0.05	0.34		0.12	0.18	0.34	J	0.12	0.04	0.012	U	0.024	0.033	0.42	J	0.13	0.04
1IR-8AB-03a	IR1-8AB-03a	RANDOM	15-392	12/11/2007	0	0.5	pCi/g	0.27	U	0.11	0.07	0.24	U	0.14	0.30	0.28	U	0.10	0.06	-0.0043	U	0.006	0.056	0.223	J	0.093	0.049
1IR-8AB-03b	IR1-8AB-03b	RANDOM	15-393	12/11/2007	0.5	1	pCi/g	0.61	J	0.17	0.03	0.25		0.16	0.21	0.46	J	0.14	0.06	0.027	U	0.038	0.037	0.39	J	0.13	0.04
1IR-8AB-04a	IR1-8AB-04a	RANDOM	15-394	12/11/2007	0	0.5	pCi/g	0.52	J	0.16	0.05	0.38		0.15	0.27	0.25	U	0.11	0.05	0.024	U	0.037	0.055	0.30	J	0.12	0.05
1IR-8AB-04b	IR1-8AB-04b	RANDOM	15-395	12/11/2007	0.5	1	pCi/g	0.40	U	0.14	0.03	0.24	U	0.18	0.27	0.31	J	0.12	0.08	0.011	U	0.026	0.055	0.27	J	0.11	0.08
1IR-8AB-05a	IR1-8AB-05a	RANDOM	15-396	12/11/2007	0	0.5	pCi/g	0.25	U	0.11	0.03	0.19	U	0.20	0.31	0.51	J	0.16	0.06	-0.0053	U	0.007	0.069	0.35	J	0.13	0.08
1IR-8AB-05b	IR1-8AB-05b	RANDOM	15-397	12/11/2007	0.5	1	pCi/g	0.49	J	0.15	0.05	0.28	U	0.20	0.28	0.29	J	0.11	0.05	0.010	U	0.026	0.054	0.35	J	0.12	0.04
B-1IR-8Ka	IR1-B-8Ka	BIASED	15-429	12/12/2007	0.5	1	pCi/g	0.56	J	0.16	0.05	0.32		0.19	0.25	0.35	J	0.12	0.05	0.013	U	0.026	0.035	0.44	J	0.14	0.04
B-1IR-8Ca	IR1-B-8Ca	BIASED	15-398	12/12/2007	2	2.5	pCi/g	0.56	J	0.17	0.06	0.37		0.14	0.17	0.35	J	0.12	0.04	-0.0023	U	0.004	0.053	0.174	J	0.085	0.049
B-1IR-8Cb	IR1-B-8Cb	BIASED	15-399	12/12/2007	2.5	3	pCi/g	0.60	J	0.17	0.07	0.41		0.20	0.26	0.35	J	0.13	0.05	0.032	U	0.046	0.070	0.31	J	0.12	0.05
B-1IR-8Kb	IR1-B-8Kb	BIASED	15-430	12/12/2007	1	1.5	pCi/g	0.39	U	0.14	0.06	0.33		0.15	0.20	0.37	J	0.13	0.06	0.01	U	0.025	0.052	0.43	J	0.14	0.05
B-1IR-8Da	IR1-B-8Da	BIASED	15-400	12/12/2007	2	2.5	pCi/g	0.34	U	0.13	0.03	0.39		0.19	0.22	0.38	J	0.13	0.05	0.038	J	0.044	0.034	0.32	J	0.12	0.04
B-1IR-8Db	IR1-B-8Db	BIASED	15-401	12/12/2007	2.5	3	pCi/g	0.52	J	0.15	0.04	0.51		0.20	0.23	0.35	J	0.12	0.04	0.0	U	0.010	0.032	0.35	J	0.12	0.04
1IR-8K-02a	IR1-8K-02a	RANDOM	15-432	12/12/2007	0	0.5	pCi/g	0.60	J	0.17	0.08	0.25	U	0.19	0.29	0.37	J	0.13	0.08	0.034	U	0.042	0.051	0.25	J	0.10	0.08

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
1IR-8D-02a	IR1-8D-02a	RANDOM	15-402	12/12/2007	0	0.5	pCi/g	0.34	U	0.12	0.03	0.20	U	0.17	0.26	0.33	J	0.12	0.06	0.019	U	0.034	0.058	0.25	J	0.10	0.05
1IR-8K-02b	IR1-8K-02b	RANDOM	15-433	12/12/2007	0.5	1	pCi/g	0.175	U	0.088	0.059	0.40		0.12	0.15	0.37	J	0.13	0.05	0.008	U	0.026	0.061	0.28	J	0.11	0.07
1IR-8D-02b	IR1-8D-02b	RANDOM	15-403	12/12/2007	0.5	1	pCi/g	0.57	J	0.16	0.03	0.38		0.24	0.33	0.34	J	0.12	0.06	0.011	U	0.023	0.031	0.34	J	0.12	0.04
B-1IR-8Ea	IR1-B-8Ea	BIASED	15-404	12/12/2007	2	2.5	pCi/g	0.75	J	0.19	0.05	0.61		0.18	0.27	0.53	J	0.15	0.06	0.007	U	0.024	0.056	0.35	J	0.12	0.04
B-1IR-8La	IR1-B-8La	BIASED	15-434	12/12/2007	0.5	1	pCi/g	0.41	U	0.14	0.05	0.34		0.21	0.31	0.24	J	0.10	0.05	0.010	U	0.025	0.053	0.28	J	0.11	0.04
B-1IR-8Eb	IR1-B-8Eb	BIASED	15-405	12/12/2007	2.5	3	pCi/g	0.49	J	0.15	0.05	0.32		0.18	0.25	0.39	J	0.13	0.05	0.005	U	0.026	0.066	0.27	J	0.11	0.04
B-1IR-8Lb	IR1-B-8Lb	BIASED	15-435	12/12/2007	1	1.5	pCi/g	0.40	U	0.13	0.06	0.40		0.19	0.19	0.40	J	0.13	0.04	0.021	U	0.034	0.050	0.31	J	0.11	0.03
1IR-8L-02a	IR1-8L-02a	RANDOM	15-436	12/12/2007	0	0.5	pCi/g	0.45	J	0.14	0.05	0.45		0.12	0.18	0.30	J	0.11	0.05	0.010	U	0.026	0.053	0.32	J	0.12	0.03
1IR-8L-02b	IR1-8L-02b	RANDOM	15-437	12/12/2007	0.5	1	pCi/g	0.27	U	0.11	0.06	0.23	U	0.19	0.29	0.24	J	0.10	0.06	0.025	U	0.035	0.033	0.33	J	0.12	0.04
1IR-8E-02a	IR1-8E-02a	RANDOM	15-407	12/12/2007	0	0.5	pCi/g	0.70	J	0.19	0.06	0.28		0.18	0.25	0.45	J	0.14	0.04	0.01	U	0.025	0.051	0.34	J	0.12	0.05
1IR-8E-02b	IR1-8E-02b	RANDOM	15-408	12/12/2007	0.5	1	pCi/g	0.280	U	0.099	0.040	0.29		0.15	0.17	0.31	J	0.10	0.04	-0.0056	U	0.006	0.053	0.30	J	0.10	0.04
B-1IR-8Fa	IR1-B-8Fa	BIASED	15-409	12/12/2007	2	2.5	pCi/g	0.54	J	0.16	0.07	0.48		0.14	0.18	0.43	J	0.13	0.05	0.024	U	0.034	0.032	0.38	J	0.12	0.04
B-1IR-8Fb	IR1-B-8Fb	BIASED	15-410	12/12/2007	2.5	3	pCi/g	0.30	U	0.12	0.06	0.39		0.14	0.20	0.28	J	0.11	0.06	0.013	U	0.026	0.036	0.36	J	0.12	0.04
B-1IR-8Ma	IR1-B-8Ma	BIASED	15-438	12/12/2007	1	1.5	pCi/g	0.28	U	0.12	0.06	0.12	U	0.18	0.30	0.31	J	0.11	0.05	0.008	U	0.026	0.061	0.27	J	0.11	0.03
B-1IR-8Mb	IR1-B-8Mb	BIASED	15-439	12/12/2007	1.5	2	pCi/g	0.40	U	0.13	0.05	0.35		0.24	0.33	0.27	J	0.11	0.07	0.036	U	0.044	0.054	0.201	J	0.092	0.043
1IR-8F-02a	IR1-8F-02a	RANDOM	15-411	12/12/2007	0	0.5	pCi/g	0.52	J	0.16	0.06	0.30	U	0.14	0.34	0.210	J	0.096	0.075	0.01	U	0.024	0.051	0.30	J	0.11	0.08
1IR-8F-02b	IR1-8F-02b	RANDOM	15-412	12/12/2007	0.5	1	pCi/g	0.40	J	0.14	0.06	0.40		0.19	0.24	0.34	J	0.12	0.06	0.021	U	0.037	0.063	0.40	J	0.14	0.07
1IR-8M-02a	IR1-8M-02a	RANDOM	15-440	12/12/2007	0	0.5	pCi/g	0.51	J	0.16	0.06	0.50		0.15	0.18	0.30	J	0.12	0.06	0.049	U	0.052	0.055	0.26	J	0.10	0.04
1IR-8M-02b	IR1-8M-02b	RANDOM	15-441	12/12/2007	0.5	1	pCi/g	0.61	J	0.17	0.06	0.32		0.20	0.28	0.29	J	0.12	0.06	0.013	U	0.026	0.035	0.39	J	0.13	0.04
B-1IR-8Ga	IR1-B-8Ga	BIASED	15-413	12/12/2007	2	2.5	pCi/g	0.44	J	0.14	0.05	0.33		0.15	0.23	0.38	J	0.13	0.05	0.023	U	0.036	0.054	0.32	J	0.12	0.04
B-1IR-8Gb	IR1-B-8Gb	BIASED	15-414	12/12/2007	2.5	3	pCi/g	0.46	J	0.15	0.07	0.43		0.13	0.17	0.36	J	0.12	0.04	0.047	U	0.050	0.052	0.27	J	0.11	0.03
1IR-8G-02a	IR1-8G-02a	RANDOM	15-415	12/12/2007	0	0.5	pCi/g	0.47	J	0.15	0.03	0.35		0.21	0.29	0.34	J	0.12	0.05	0.037	U	0.046	0.056	0.26	J	0.11	0.03
1IR-8G-02b	IR1-8G-02b	RANDOM	15-416	12/12/2007	0.5	1	pCi/g	0.43	J	0.14	0.05	0.26	U	0.19	0.27	0.38	J	0.13	0.06	0.063	J	0.059	0.056	0.39	J	0.13	0.06
B-1IR-9Aa	IR1-B-9Aa	BIASED	15-442	12/12/2007	2	2.5	pCi/g	0.51	J	0.16	0.07	0.39		0.16	0.24	0.37	J	0.13	0.07	0.020	U	0.036	0.061	0.49	J	0.15	0.04
B-1IR-8Ha	IR1-B-8Ha	BIASED	15-417	12/12/2007	2	2.5	pCi/g	0.55	J	0.16	0.04	0.26		0.17	0.22	0.28	J	0.11	0.06	0.034	J	0.039	0.030	0.33	J	0.11	0.04
B-1IR-9Ab	IR1-B-9Ab	BIASED	15-443	12/12/2007	2.5	3	pCi/g	0.55	J	0.16	0.03	0.34		0.21	0.28	0.37	J	0.12	0.05	0.029	U	0.042	0.065	0.29	J	0.11	0.04
B-1IR-8Hb	IR1-B-8Hb	BIASED	15-418	12/12/2007	2.5	3	pCi/g	0.51	J	0.15	0.05	0.46		0.14	0.14	0.37	J	0.12	0.05	0.032	U	0.043	0.059	0.35	J	0.12	0.03
1IR-8H02a	IR1-8H-02a	RANDOM	15-419	12/12/2007	0	0.5	pCi/g	0.25	U	0.10	0.05	0.38		0.15	0.26	0.215	J	0.099	0.067	0.023	U	0.037	0.055	0.24	J	0.10	0.04
1IR-8H-02b	IR1-8H-02b	RANDOM	15-420	12/12/2007	0.5	1	pCi/g	0.48	J	0.15	0.06	0.27	U	0.19	0.27	0.34	J	0.12	0.06	0.049	U	0.051	0.054	0.58	J	0.16	0.04
1IR-9A-02a	IR1-9A-02a	RANDOM	15-444	12/12/2007	0	0.5	pCi/g	0.51	J	0.15	0.04	0.31		0.10	0.17	0.26	J	0.10	0.04	-0.0022	U	0.004	0.051	0.30	J	0.11	0.05
1IR-9A-02b	IR1-9A-02b	RANDOM	15-445	12/12/2007	0.5	1	pCi/g	0.49	J	0.15	0.03	0.44		0.16	0.27	0.33	J	0.12	0.05	-0.0073	U	0.008	0.070	0.32	J	0.12	0.05
1IR-9A-03a	IR1-9A-03a	RANDOM	15-446	12/12/2007	0	0.5	pCi/g	0.39	U	0.13	0.03	0.52		0.19	0.24	0.29	J	0.12	0.05	0.040	J	0.046	0.036	0.24	J	0.10	0.05
B-1IR-8Ia	IR1-B-8Ia	BIASED	15-421	12/12/2007	2	2.5	pCi/g	0.26	U	0.11	0.05	0.41		0.21	0.24	0.30	J	0.11	0.06	0.024	U	0.034	0.033	0.25	J	0.10	0.04
B-1IR-8Ib	IR1-B-8Ib	BIASED	15-422	12/12/2007	2.5	3	pCi/g	0.51	J	0.16	0.06	0.34		0.11	0.14	0.34	J	0.12	0.06	0.043	U	0.048	0.058	0.30	J	0.11	0.04
1IR-9A-03b	IR1-9A-03b	RANDOM	15-447	12/12/2007	0.5	1	pCi/g	0.52	J	0.16	0.06	0.23	U	0.18	0.26	0.27	J	0.10	0.05	0.035	J	0.041	0.032	0.36	J	0.12	0.05
1IR-8I-02a	IR1-8I-02a	RANDOM	15-423	12/12/2007	0	0.5	pCi/g	0.41	J	0.13	0.05	0.23	U	0.17	0.26	0.32	J	0.12	0.05	-0.0069	U	0.008	0.066	0.196	J	0.090	0.042
1IR-8I-02b	IR1-8I-02b	RANDOM	15-424	12/12/2007	0.5	1	pCi/g	0.49	J	0.15	0.07	0.23	U	0.18	0.27	0.37	J	0.13	0.04	0.023	U	0.037	0.055	0.41	J	0.14	0.05
1IR-9A-04a	IR1-9A-04a	RANDOM	15-448	12/12/2007	0	0.5	pCi/g	0.38	U	0.13	0.04	0.232		0.092	0.16	0.27	J	0.11	0.04	0.024	U	0.034	0.033	0.242	J	0.099	0.041
B-1IR-8Ja	IR1-B-8Ja	BIASED	15-425	12/12/2007	2	2.5	pCi/g	0.25	U	0.10	0.03	0.28	U	0.21	0.31	0.31	J	0.12	0.05	0.031	U	0.045	0.069	0.25	J	0.10	0.05
1IR-9A-04 b	IR1-9A-04b	RANDOM	15-449	12/12/2007	0.5	1	pCi/g	0.31	J	0.12	0.06	0.36		0.19	0.23	0.220	J	0.097	0.050	0.023	U	0.036	0.054	0.26	J	0.11	0.03
B-1IR-8Jb	IR1-B-8Jb	BIASED	15-426	12/12/2007	2.5	3	pCi/g	0.33	U	0.12	0.04	0.35		0.13	0.21	0.220	J	0.096	0.043	0.025	U	0.036	0.034	0.27	J	0.11	0.04
1IR-8J-02a	IR1-8J-02a	RANDOM	15-427	12/12/2007	0	0.5	pCi/g	0.40	J	0.13	0.03	0.22	U	0.17	0.24	0.38	J	0.13	0.06	0.044	U	0.050	0.060	0.24	J	0.10	0.05
1IR-8J-02b	IR1-8J-02b	RANDOM	15-428	12/12/2007	0.5	1	pCi/g	0.30	U	0.12	0.03	0.19	U	0.19	0.29	0.32	J	0.11	0.05	0.024	U	0.034	0.032	0.170	J	0.082	0.041
1IR-9A-05a	IR1-9A-05a	RANDOM	15-450	12/12/2007	0	0.5	pCi/g	0.48	J	0.14	0.05	0.38		0.15	0.25	0.38	J	0.13	0.06	0.023	U	0.033	0.031	0.43	J	0.13	0.04
1IR-9A-05b	IR1-9A-05b	RANDOM	15-451	12/12/2007	0.5	1	pCi/g	0.51	J	0.16	0.06	0.37		0.22	0.30	0.35	J	0.12	0.05	0.019	U	0.035	0.059	0.33	J	0.12	0.03
1IR-9A-06a	IR1-9A-06a	RANDOM	15-452	12/12/2007	0	0.5	pCi/g	0.28	J	0.11	0.07	0.26	U	0.14	0.28	0.38	J	0.13	0.07	0.037	U	0.046	0.056	0.52	J	0.15	0.05
1IR-9A-06b	IR1-9A-06b	RANDOM	15-453	12/12/2007	0.5	1	pCi/g	0.34	J	0.14	0.03	0.39	U	0.30	0.46	0.52	J	0.15	0.06	0.048	U	0.051	0.054	0.93	J	0.21	0.04
B-1IR-11a	IR1-B-11a	BIASED	15-462	12/12/2007	2	2.5	pCi/g	0.49	J	0.16	0.05	0.15	U	0.17	0.28	0.25	J	0.10	0.06	0.031	U	0.042	0.058	0.31	J	0.11	0.05
B-1IR-11b	IR1-B-11b	BIASED	15-463	12/12/2007	2.5	3	pCi/g	0.67	J	0.18	0.05	0.38		0.11	0.14	0.33	J	0.12	0.06	0.019	U	0.033	0.056	0.40	J	0.13	0.05
1IR-9A-07a	IR1-9A-07a	RANDOM	15-454	12/12/2007	0	0.5	pCi/g	0.61	J	0.17	0.07	0.20	U	0.19	0.30	0.27	J	0.11	0.06	0.025	U	0.035	0.034	0.38	J	0.13	0.04
1IR-11-02a	IR1-11-02a	RANDOM	15-465	12/12/2007	0	0.5	pCi/g	0.40	J	0.14	0.07	0.31		0.12	0.21	0.29	J	0.11	0.05	0.026	U	0.037	0.036	0.171	J	0.085	0.043
1IR-11-02b	IR1-11-02b	RANDOM	15-466	12/12/2007	0.5	1	pCi/g	0.182	J	0.089	0.029	0.27		0.14	0.26	0.47	J	0.15	0.04	0.010	U	0.026	0.055	0.26	J	0.11	0.05
1IR-9A-07b	IR1-9A-07b	RANDOM	15-455	12/12/2007	0.5	1	pCi/g	0.36	J	0.13	0.03	0.39		0.13	0.18	0.42	J	0.14	0.07	0.020	U	0.036	0.061	0.30	J	0.11	0.04
1IR-9A-08a	IR1-9A-08a	RANDOM	15-456	12/12/2007	0	0.5	pCi/g	0.229	J	0.096	0.026	0.25		0.15	0.20	0.193	J	0.088	0.051	0.017	U	0.034	0.063	0.215	J	0.092	0.040
1IR-9A-08b	IR1-9A-08b	RANDOM	15-457	12/12/2007	0.5	1	pCi/g	0.35	J	0.13	0.05	0.34		0.21	0.28	0.31	J	0.11	0.04	0.022	U	0.035	0.052	0.27	J	0.11	0.05
1IR-9A-09a	IR1-9A-09a	RANDOM	15-458	12/12/2007	0	0.5	pCi/g	0.56	J	0.17	0.05	0.36		0.17	0.23	0.29	J	0.11	0.05	0.005	U	0.025	0.064	0.33	J	0.12	0.05
B-1IR-12a	IR1-B-12a	BIASED	15-467	12/12/2007	2	2.5	pCi/g	0.69	J	0.18	0.05	0.0	U	0.23	0.40	0.43	J	0.14	0.05	0.047	U	0.050	0.053	0.47	J	0.14	0.04
B-1IR-12b	IR1-B-12b	BIASED	15-468	12/12/2007	2.5	3	pCi/g	0.64	J	0.17	0.04	0.41	U	0.49	0.80	0.38	J	0.29	0.31	0.0	UJ	0.051	0.16	0.39	J	0.29	0.30
1IR-9A-09b	IR1-9A-09b	RANDOM	15-459	12/12/2007	0.5	1	pCi/g	0.47	J	0.15	0.06	0.27		0.16	0.22	0.61	J	0.16	0.05	0.025	U	0.035	0.034	0.34	J	0.12	0.04
1IR-9A-10a	IR1-9A-10a	RANDOM	15-460	12/12/2007	0	0.5	pCi/g	0.47	J	0.15	0.06	0.35		0.20	0.26	0.39	J	0.12	0.05	0.0	U	0.009	0.031	0.49	J	0.14	0.04
1IR-9A-10b	IR1-9A-10b	RANDOM	15-461	12/12/2007	0.5	1	pCi/g	0.41	J	0.15	0.06	0.28	U	0.21	0.30	0.62	J	0.16	0.04	0.012	U	0.024	0.033	0.40	J	0.13	0.04
1IR-12-02a	IR1-12-02a	RANDOM	15-469	12/12/2007	0	0.5	pCi/g	0.42	J	0.14	0.05	0.27	U	0.22	0.32	0.24	J	0.10	0.05	0.023	U	0.036	0.053	0.31	J	0.12	0.03
1IR-12-02b	IR1-12-02b	RANDOM	15-470	12/12/2007	0.5	1	pCi/g	0.41	U	0.14	0.05	0.29		0.11	0.17	0.30	J	0.11	0.05	0.020	U	0.036	0.060	0.30	J	0.12	0.07
1IR-12-03a	IR1-12-03a	RANDOM	15-471	12/12/2007	2	2.5	pCi/g	0.54	J	0.17	0.06	0.35	U	0.24	0.37	0.37	J	0.12	0.04	0.032	U	0.040	0.049	0.257	J	0.099	0.025
1IR-12-03b	IR1-12-03b	RANDOM	15-472	12/12/2007	2.5	3	pCi/g	0.50	J	0.15	0.06	0.18	U	0.18	0.28	0.28	J	0.11	0.06	0.024	U	0.034	0.033	0.33	J	0.12	0.04
1IR-12-04a	IR1-12-04a	RANDOM	15-473	12/12/2007	2	2.5	pCi/g	0.71	J	0.19	0.06	0.62		0.30	0.42	0.48	J	0.15	0.05	0.022	U	0.035	0.053	0.48	J	0.14	0.04
1IR-12-04b	IR1-12-04b	RANDOM	15-474	12/12/2007	2.5	3	pCi/g	0.58	J	0.17	0.06	0.47		0.29	0.42	0.62	J	0.17	0.06	0.050	J	0.051	0.034	0.56	J	0.16	0.04
1IR-12-05a	IR1-12-05a	RANDOM	15-475	12/12/2007	0	0.5	pCi/g	0.39	U	0.13	0.06	0.41		0.23	0.32	0.39	J	0.13	0.06	0.020	U	0.035	0.059	0.34	J	0.12	0.04
1IR-12-05b	IR1-12-05b	RANDOM	15-476	12/12/2007	0.5	1	pCi/g	0.43	J	0.14	0.05	0.33		0.19	0.26	0.43	J	0.14	0.05	0.018	U	0.036	0.067	0.40	J	0.13	0.04
B-1IR-13Ba	IR1-B-13Ba	BIASED	15-477	12/13/2007	2	2.5	pCi/g	0.32	U	0.14	0.06	0.22	U	0.25	0.41	0.28	J	0.11	0.07	0.011	U	0.027	0.057	0.36	J	0.13	0.05

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-1IR-13Bb	IR1-B-13Bb	BIASED	15-478	12/13/2007	2.5	3	pCi/g	1.04		0.25	0.08	0.18	U	0.16	0.25	0.95	J	0.22	0.06	-0.0026	U	0.005	0.058	0.76	J	0.19	0.05
1IR-18ABC-01a	IR1-18ABC-01a	RANDOM	15-508	12/13/2007	0	0.5	pCi/g	0.38	J	0.14	0.06	0.27		0.17	0.25	0.35	J	0.17	0.08	-0.0046	U	0.009	0.10	0.35	J	0.17	0.1
1IR-13B-02a	IR1-13B-02a	RANDOM	15-479	12/13/2007	0	0.5	pCi/g	0.51	J	0.16	0.06	0.29		0.19	0.28	0.42	J	0.13	0.06	0.012	U	0.024	0.033	0.39	J	0.13	0.04
1IR-18ABC-01b	IR1-18ABC-01b	RANDOM	15-509	12/13/2007	0.5	1	pCi/g	0.35	J	0.13	0.07	0.38		0.18	0.23	0.17	J	0.12	0.1	0.048	U	0.069	0.066	0.29	J	0.15	0.08
1IR-13B-02b	IR1-13B-02b	RANDOM	15-480	12/13/2007	0.5	1	pCi/g	0.44	J	0.14	0.06	0.22	U	0.16	0.24	0.50	J	0.15	0.07	-0.0047	U	0.006	0.062	0.32	J	0.12	0.04
1IR-13B-03a	IR1-13B-03a	RANDOM	15-481	12/13/2007	2	2.5	pCi/g	0.31	U	0.18	0.13	0.08	U	0.18	0.30	0.202	J	0.095	0.056	0.006	U	0.027	0.070	0.27	J	0.11	0.04
1IR-13B-03b	IR1-13B-03b	RANDOM	15-482	12/13/2007	2.5	3	pCi/g	0.39	J	0.14	0.06	0.20	U	0.23	0.38	0.30	J	0.12	0.05	-0.0025	U	0.005	0.057	0.209	J	0.097	0.052
1IR-13B-04a	IR1-13B-04a	RANDOM	15-483	12/13/2007	0	0.5	pCi/g	0.39	J	0.14	0.06	0.27		0.19	0.27	0.26	J	0.11	0.05	0.019	U	0.039	0.072	0.32	J	0.12	0.05
1IR-13B-04b	IR1-13B-04b	RANDOM	15-484	12/13/2007	0.5	1	pCi/g	0.36	U	0.13	0.06	0.23		0.14	0.21	0.224	J	0.097	0.048	0.012	U	0.025	0.033	0.32	J	0.12	0.04
1IR-13B-05a	IR1-13B-05a	RANDOM	15-485	12/13/2007	2	2.5	pCi/g	0.24	U	0.12	0.08	0.27		0.16	0.22	0.44	J	0.18	0.1	0.023	U	0.047	0.063	0.46	J	0.19	0.08
1IR-13B-05b	IR1-13B-05b	RANDOM	15-486	12/13/2007	2.5	3	pCi/g	0.34	U	0.12	0.04	0.28		0.18	0.26	0.38	J	0.13	0.04	0.037	J	0.042	0.033	0.32	J	0.12	0.04
1IR-18ABC-02a	IR1-18ABC-02a	RANDOM	15-511	12/13/2007	0	0.5	pCi/g	0.46	J	0.16	0.06	0.37		0.23	0.32	0.45	J	0.20	0.09	0.0	U	0.022	0.070	0.33	J	0.17	0.09
1IR-18ABC-02b	IR1-18ABC-02b	RANDOM	15-512	12/13/2007	0.5	1	pCi/g	0.45	J	0.15	0.07	0.16	U	0.21	0.34	0.19	J	0.13	0.13	-0.01	U	0.014	0.13	0.23	J	0.14	0.11
B-1IR-21a	IR1-B-21a	BIASED	15-550	12/13/2007	2	2.5	pCi/g	0.52	J	0.16	0.05	0.44		0.26	0.35	0.57	J	0.16	0.03	0.038	J	0.044	0.034	0.48	J	0.15	0.05
1IR-18ABC-03a	IR1-18ABC-03a	RANDOM	15-513	12/13/2007	0	0.5	pCi/g	0.42	J	0.14	0.07	0.33		0.12	0.19	0.28	J	0.15	0.10	0.0	U	0.021	0.065	0.19	J	0.12	0.1
B-1IR-21b	IR1-B-21b	BIASED	15-551	12/13/2007	2.5	3	pCi/g	0.80	J	0.21	0.06	0.32		0.15	0.20	0.53	J	0.15	0.05	0.022	U	0.035	0.052	0.56	J	0.16	0.03
1IR-18ABC-03b	IR1-18ABC-03b	RANDOM	15-514	12/13/2007	0.5	1	pCi/g	0.45	J	0.15	0.03	0.13	U	0.16	0.26	0.48	J	0.21	0.11	0.079	J	0.092	0.072	0.26	J	0.15	0.09
B-1IR-15a	IR1-B-15a	BIASED	15-487	12/13/2007	2	2.5	pCi/g	0.39	U	0.13	0.05	0.23	U	0.16	0.24	0.43	J	0.14	0.06	0.045	U	0.050	0.061	0.38	J	0.13	0.05
B-1IR-15b	IR1-B-15b	BIASED	15-488	12/13/2007	2.5	3	pCi/g	0.56	J	0.17	0.03	0.31		0.20	0.27	0.27	J	0.11	0.05	0.078	J	0.064	0.035	0.27	J	0.11	0.04
1IR-18ABC-04a	IR1-18ABC-04a	RANDOM	15-515	12/13/2007	2	2.6	pCi/g	0.37	J	0.17	0.08	0.40		0.21	0.28	0.47	J	0.20	0.09	0.021	U	0.053	0.11	0.31	J	0.17	0.10
1IR-21-02a	IR1-21-02a	RANDOM	15-553	12/13/2007	2	2.5	pCi/g	0.39	J	0.13	0.03	0.28	U	0.13	0.34	0.35	J	0.11	0.04	0.019	U	0.031	0.045	0.33	J	0.11	0.04
1IR-15-02a	IR1-15-02a	RANDOM	15-490	12/13/2007	0	0.5	pCi/g	0.39	U	0.13	0.03	0.20	U	0.20	0.31	0.41	J	0.14	0.05	0.011	U	0.027	0.056	0.42	J	0.14	0.05
1IR-18ABC-05a	IR1-18ABC-05a	RANDOM	15-516	12/13/2007	2	2.6	pCi/g	0.60	J	0.17	0.03	0.18	U	0.14	0.20	0.42	J	0.19	0.14	0.087	U	0.092	0.097	0.36	J	0.18	0.15
1IR-15-02b	IR1-15-02b	RANDOM	15-491	12/13/2007	0.5	1	pCi/g	0.52	J	0.16	0.06	0.36		0.14	0.18	0.32	J	0.12	0.08	0.010	U	0.025	0.053	0.26	J	0.11	0.08
1IR-21-02b	IR1-21-02b	RANDOM	15-554	12/13/2007	2.5	3	pCi/g	0.57	J	0.18	0.05	0.25	U	0.20	0.29	0.60	J	0.17	0.03	0.036	U	0.045	0.055	0.54	J	0.16	0.03
B-1IR-16a	IR1-B-16a	BIASED	15-492	12/13/2007	2	2.5	pCi/g	0.50	J	0.15	0.05	0.31		0.14	0.26	0.41	J	0.14	0.06	-0.0052	U	0.007	0.068	0.34	J	0.13	0.08
1IR-18ABC-05b	IR1-18ABC-05b	RANDOM	15-517	12/13/2007	2.6	3	pCi/g	0.46	J	0.15	0.05	0.24	U	0.17	0.26	0.44	J	0.20	0.11	0.043	U	0.076	0.13	0.56	J	0.23	0.15
B-1IR-16b	IR1-B-16b	BIASED	15-493	12/13/2007	2.5	3	pCi/g	0.36	U	0.13	0.05	0.36		0.16	0.17	0.32	J	0.12	0.05	0.010	U	0.025	0.053	0.34	J	0.12	0.04
1IR-21-03a	IR1-21-03a	RANDOM	15-555	12/13/2007	2	2.5	pCi/g	0.39	J	0.14	0.06	0.39		0.22	0.32	0.38	J	0.13	0.07	0.025	U	0.035	0.033	0.27	J	0.11	0.07
1IR-16-02a	IR1-16-02a	RANDOM	15-496	12/13/2007	2	2.5	pCi/g	0.58	J	0.17	0.07	0.35		0.15	0.18	0.32	J	0.11	0.04	0.01	U	0.024	0.050	0.40	J	0.13	0.03
1IR-21-03b	IR1-21-03b	RANDOM	15-556	12/13/2007	2.5	3	pCi/g	0.71	J	0.20	0.1	0.31	U	0.21	0.32	0.53	J	0.15	0.05	0.032	U	0.043	0.061	0.38	J	0.13	0.06
1IR-16-02b	IR1-16-02b	RANDOM	15-497	12/13/2007	2.5	3	pCi/g	0.54	J	0.16	0.06	0.38		0.20	0.35	0.45	J	0.14	0.05	0.010	U	0.025	0.053	0.33	J	0.12	0.03
1IR-21-04a	IR1-21-04a	RANDOM	15-557	12/13/2007	2	2.5	pCi/g	0.53	J	0.18	0.09	0.60		0.28	0.34	0.53	J	0.15	0.05	0.021	U	0.034	0.050	0.39	J	0.13	0.04
1IR-18ABC-06a	IR1-18ABC-06a	RANDOM	15-518	12/13/2007	0	0.5	pCi/g	0.43	J	0.25	0.22	0.26	U	0.18	0.27	0.41	J	0.13	0.04	0.025	U	0.036	0.034	0.36	J	0.12	0.04
1IR-21-04b	IR1-21-04b	RANDOM	15-558	12/13/2007	2.5	3	pCi/g	0.39	J	0.14	0.07	0.50		0.18	0.30	0.48	J	0.15	0.06	0.011	U	0.027	0.056	0.45	J	0.14	0.04
1IR-18ABC006b	IR1-18ABC-06b	RANDOM	15-519	12/13/2007	0.5	1	pCi/g	0.51	J	0.19	0.10	0.30		0.17	0.23	0.38	J	0.13	0.04	0.036	U	0.045	0.054	0.25	J	0.10	0.05
B-1IR-17a	IR1-B-17a	BIASED	15-498	12/13/2007	2	2.5	pCi/g	0.29	U	0.12	0.05	0.22	U	0.21	0.33	0.24	J	0.11	0.07	0.054	U	0.057	0.060	0.173	J	0.092	0.066
1IR-21-05a	IR1-21-05a	RANDOM	15-559	12/13/2007	0	0.5	pCi/g	0.50	U	0.17	0.09	0.39		0.13	0.19	0.37	J	0.13	0.07	-0.0022	U	0.004	0.051	0.44	J	0.14	0.07
B-1IR-17b	IR1-B-17b	BIASED	15-499	12/13/2007	2.5	3	pCi/g	0.48	J	0.17	0.07	0.39		0.14	0.16	0.26	J	0.11	0.05	0.049	U	0.055	0.066	0.38	J	0.13	0.03
1IR-18ABC-07a	IR1-18ABC-07a	RANDOM	15-520	12/13/2007	2	2.6	pCi/g	0.50	J	0.20	0.08	0.27	U	0.20	0.28	0.56	J	0.16	0.08	0.060	J	0.056	0.053	0.44	J	0.14	0.08
1IR-17-02a	IR1-17-02a	RANDOM	15-500	12/13/2007	2	2.5	pCi/g	0.59	J	0.17	0.06	0.43		0.20	0.24	0.46	J	0.14	0.06	0.025	U	0.035	0.034	0.50	J	0.15	0.04
1IR-21095b	IR1-21-05b	RANDOM	15-560	12/13/2007	0.5	1	pCi/g	0.40	J	0.15	0.07	0.16	U	0.25	0.42	0.27	J	0.11	0.05	0.010	U	0.025	0.053	0.27	J	0.11	0.04
1IR-18ABC-07b	IR1-18ABC-07b	RANDOM	15-521	12/13/2007	2.6	3	pCi/g	0.38	J	0.14	0.06	0.18	U	0.19	0.30	0.42	J	0.13	0.05	0.068	J	0.060	0.059	0.45	J	0.14	0.07
1IR-17-02b	IR1-17-02b	RANDOM	15-501	12/13/2007	2.5	3	pCi/g	0.53	J	0.16	0.06	0.34		0.20	0.26	0.35	J	0.12	0.07	0.010	U	0.026	0.054	0.42	J	0.14	0.04
1IR-18ABC-08a	IR1-18ABC-08a	RANDOM	15-522	12/13/2007	2	2.6	pCi/g	0.27	U	0.13	0.06	0.33		0.12	0.20	0.19	J	0.10	0.06	-0.0029	U	0.005	0.066	0.41	J	0.15	0.05
1IR-18ABC-08b	IR1-18ABC-08b	RANDOM	15-523	12/13/2007	2.6	3	pCi/g	0.40	J	0.15	0.07	0.18	U	0.17	0.26	0.27	J	0.10	0.04	-0.0022	U	0.004	0.049	0.32	J	0.11	0.03
B-1IR-22a	IR1-B-22a	BIASED	15-561	12/13/2007	2	2.5	pCi/g	0.48	J	0.17	0.07	0.28	U	0.21	0.31	0.41	J	0.13	0.06	0.013	U	0.025	0.034	0.31	J	0.12	0.04
1IR-18ABC-09a	IR1-18ABC-09a	RANDOM	15-524	12/13/2007	2	2.6	pCi/g	0.68	J	0.29	0.14	0.25	U	0.20	0.29	0.49	J	0.15	0.05	0.023	U	0.036	0.053	0.53	J	0.15	0.03
B-1IR-22b	IR1-B-22b	BIASED	15-562	12/13/2007	2.5	3	pCi/g	0.48	J	0.15	0.06	0.35		0.15	0.18	0.39	J	0.13	0.06	0.042	U	0.046	0.056	0.36	J	0.12	0.04
B-1IR-18Aa	IR1-B-18Aa	BIASED	15-502	12/13/2007	2	2.5	pCi/g	0.187	U	0.094	0.063	0.15	U	0.15	0.24	0.41	J	0.14	0.06	0.051	U	0.054	0.057	0.33	J	0.12	0.05
1IR-18ABC-09b	IR1-18ABC-09b	RANDOM	15-525	12/13/2007	2.6	3	pCi/g	0.40	J	0.15	0.08	0.27		0.18	0.26	0.36	J	0.13	0.06	0.024	U	0.037	0.055	0.39	J	0.13	0.06
B-1IR-18Ab	IR1-B-18Ab	BIASED	15-503	12/13/2007	2.5	3	pCi/g	0.60	J	0.17	0.03	0.41		0.16	0.18	0.35	J	0.12	0.06	0.012	U	0.024	0.032	0.218	J	0.094	0.041
B-1IR-18Ba	IR1-B-18Ba	BIASED	15-504	12/13/2007	2	2.5	pCi/g	0.44	U	0.15	0.05	0.22	U	0.19	0.30	0.28	J	0.11	0.06	0.019	U	0.033	0.056	0.28	J	0.11	0.04
B-1IR-18Bb	IR1-B-18Bb	BIASED	15-505	12/13/2007	2.5	3	pCi/g	0.57	J	0.17	0.03	0.43		0.17	0.28	0.32	J	0.12	0.06	-0.0073	U	0.008	0.070	0.32	J	0.12	0.04
1IR-18ABC-10a	IR1-18ABC-10a	RANDOM	15-526	12/13/2007	2	2.6	pCi/g	0.53	J	0.17	0.06	0.25		0.16	0.24	0.31	J	0.12	0.06	0.026	U	0.036	0.035	0.40	J	0.13	0.04
1IR-22-02a	IR1-22-02a	RANDOM	15-563	12/13/2007	2	2.5	pCi/g	0.46	J	0.15	0.05	0.36		0.18	0.20	0.35	J	0.12	0.06	0.006	U	0.027	0.070	0.32	J	0.12	0.04
1IR-18ABC-10b	IR1-18ABC-10b	RANDOM	15-527	12/13/2007	2.6	3	pCi/g	0.39	J	0.14	0.05	0.20	U	0.21	0.33	0.34	J	0.13	0.05	0.022	U	0.039	0.066	0.42	J	0.14	0.03
B-1IR-18Ca	IR1-B-18Ca	BIASED	15-506	12/13/2007	2	2.5	pCi/g	0.33	U	0.12	0.03	0.27		0.13	0.16	0.30	J	0.11	0.04	0.010	U	0.026	0.054	0.40	J	0.13	0.05
1IR-22-02b	IR1-22-02b	RANDOM	15-564	12/13/2007	2.5	3	pCi/g	0.39	J	0.13	0.03	0.42		0.23	0.32	0.39	J	0.13	0.04	0.085	J	0.067	0.053	0.47	J	0.14	0.05
B-1IR-18Cb	IR1-B-18Cb	BIASED	15-507	12/13/2007	2.5	3	pCi/g	0.57	J	0.17	0.05	0.37		0.16	0.18	0.39	J	0.13	0.05	0.005	U	0.025	0.065	0.239	J	0.099	0.048
1IR-22-03a	IR1-22-03a	RANDOM	15-565	12/13/2007	0	0.5	pCi/g	0.31	J	0.12	0.05	0.44		0.18	0.21	0.178	J	0.090	0.052	-0.0075	U	0.008	0.072	0.209	J	0.097	0.052
1IR-22-03b	IR1-22-03b	RANDOM	15-566	12/13/2007	0.5	1	pCi/g	0.36	J	0.12	0.03	0.39		0.24	0.33	0.214	J	0.097	0.051	0.065	J	0.058	0.035	0.28	J	0.11	0.04
B-1IR-19a	IR1-B-19a	BIASED	15-528	12/13/2007	2	2.6	pCi/g	0.56	U	0.17	0.03	0.39		0.16	0.31	0.44	J	0.14	0.05	0.013	U	0.026	0.035	0.51	J	0.15	0.04
1IR-22-04a	IR1-22-04a	RANDOM	15-567	12/13/2007	0	0.5	pCi/g	0.55	J	0.16	0.05	0.16	U	0.21	0.35	0.55	J	0.16	0.06	0.027	U	0.038	0.036	0.35	J	0.13	0.05
B-1IR-24a	IR1-B-24a	BIASED	15-581	12/13/2007	2	2.5	pCi/g	0.21	U	0.10	0.07	0.20	U	0.19	0.29	0.22	J	0.11	0.05	0.026	U	0.042	0.062	0.29	J	0.12	0.06
B-1IR-19b	IR1-B-19b	BIASED	15-529	12/13/2007	2.6	3	pCi/g	0.31	U	0.14	0.07	0.44		0.20	0.21	0.47	J	0.14	0.06	-0.0047	U	0.006	0.062	0.35	J	0.12	0.05
B-1IR-24b	IR1-B-24b	BIASED	15-582	12/13/2007	2.5	3	pCi/g	0.44	J	0.15	0.03	0.33		0.14	0.24	0.34	J	0.14	0.07	0.043	U	0.057	0.079	0.40	J	0.15	0.09
1IR-22-04b	IR1-22-04b	RANDOM	15-568	12/13/2007	0.5	1	pCi/g	0.46	J	0.15	0.08	0.41		0.14	0.18	0.36	J	0.13	0.05	0.041	J	0.048	0.037	0.35	J	0.13	0.05
1IR-22-05a	IR1-22-05a	RANDOM	15-569	12/13/2007	0	0.5	pCi/g	0.52	J	0.16	0.06	0.19	U	0.19	0.30	0.54	J	0.16	0.07	0.051	U	0.057	0.070	0.22	J	0.10	0.06

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
1IR-24-02a	IR1-24-02a	RANDOM	15-584	12/13/2007	0	0.5	pCi/g	0.55	J	0.17	0.06	0.29	U	0.24	0.35	0.21	J	0.10	0.06	0.028	U	0.044	0.065	0.29	J	0.12	0.05
1IR-24-02b	IR1-24-02b	RANDOM	15-585	12/13/2007	0.5	1	pCi/g	0.32	J	0.12	0.03	0.24	U	0.20	0.29	0.22	J	0.10	0.05	0.011	U	0.029	0.060	0.28	J	0.11	0.03
1IR-19-02a	IR1-19-02a	RANDOM	15-532	12/13/2007	0	0.5	pCi/g	0.55	J	0.18	0.04	0.34		0.22	0.33	0.34	J	0.13	0.08	0.079	J	0.065	0.035	0.42	J	0.14	0.05
1IR-22-05b	IR1-22-05b	RANDOM	15-570	12/13/2007	0.5	1	pCi/g	0.41	J	0.14	0.03	0.24		0.17	0.23	0.31	J	0.13	0.07	0.009	U	0.031	0.073	0.31	J	0.13	0.07
1IR-19-02b	IR1-19-02b	RANDOM	15-533	12/13/2007	0.5	1	pCi/g	0.76	J	0.20	0.05	0.39		0.16	0.26	0.85	J	0.20	0.06	0.063	J	0.059	0.055	0.65	J	0.17	0.03
B-1IR-23a	IR1-B-23a	BIASED	15-571	12/13/2007	2	2.5	pCi/g	0.35	U	0.14	0.09	0.15	U	0.22	0.38	0.28	J	0.13	0.07	0.034	U	0.049	0.046	0.28	J	0.12	0.06
1IR-19-03a	IR1-19-03a	RANDOM	15-534	12/13/2007	0	0.5	pCi/g	0.44	J	0.18	0.12	0.50		0.25	0.28	0.51	J	0.15	0.06	0.022	U	0.035	0.053	0.41	J	0.13	0.05
B-1IR-23b	IR1-B-23b	BIASED	15-572	12/13/2007	2.5	3	pCi/g	0.58	J	0.18	0.07	0.22	U	0.21	0.34	0.39	J	0.14	0.09	0.025	U	0.040	0.059	0.37	J	0.14	0.09
1IR-19-03b	IR1-19-03b	RANDOM	15-535	12/13/2007	0.5	1	pCi/g	0.43	J	0.19	0.1	0.44		0.19	0.36	0.33	J	0.14	0.08	0.011	U	0.036	0.086	0.35	J	0.14	0.07
1IR-19-04a	IR1-19-04a	RANDOM	15-536	12/13/2007	2	2.5	pCi/g	0.48	J	0.19	0.08	0.35		0.21	0.29	0.35	J	0.14	0.08	0.013	U	0.033	0.069	0.42	J	0.15	0.04
1IR-23-02a	IR1-23-02a	RANDOM	15-573	12/13/2007	0	0.5	pCi/g	0.61	J	0.19	0.06	0.46		0.12	0.18	0.36	J	0.14	0.06	0.024	U	0.042	0.072	0.56	J	0.17	0.08
1IR-19-04b	IR1-19-04b	RANDOM	15-537	12/13/2007	2.6	3	pCi/g	0.46	J	0.17	0.08	0.29		0.19	0.28	0.41	J	0.16	0.04	0.016	U	0.040	0.083	0.45	J	0.17	0.07
1IR-23-02b	IR1-23-02b	RANDOM	15-574	12/13/2007	0.5	1	pCi/g	0.57	J	0.18	0.03	0.30		0.19	0.25	0.35	J	0.14	0.06	0.044	U	0.055	0.067	0.47	J	0.16	0.05
B-1IR-25a	IR1-B-25a	BIASED	15-586	12/13/2007	2	2.5	pCi/g	0.78	J	0.20	0.05	0.50		0.15	0.22	0.54	J	0.17	0.06	-0.0028	U	0.005	0.065	0.57	J	0.17	0.03
1IR-23-03a	IR1-23-03a	RANDOM	15-575	12/13/2007	2	2.5	pCi/g	0.18	U	0.10	0.06	0.45		0.17	0.18	0.27	J	0.12	0.06	-0.0031	U	0.006	0.070	0.21	J	0.11	0.04
B-1IR-25b	IR1-B-25b	BIASED	15-587	12/13/2007	2.5	3	pCi/g	0.54	J	0.16	0.08	0.45		0.19	0.34	0.51	J	0.16	0.07	0.011	U	0.027	0.056	0.55	J	0.16	0.06
1IR-19-05a	IR1-19-05a	RANDOM	15-538	12/13/2007	2	2.6	pCi/g	0.28	J	0.16	0.13	0.43		0.29	0.41	0.25	J	0.13	0.09	0.016	U	0.041	0.086	0.33	J	0.15	0.08
1IR-23-03b	IR1-23-03b	RANDOM	15-576	12/13/2007	2.5	3	pCi/g	0.28	U	0.11	0.05	0.19	U	0.19	0.30	0.40	J	0.15	0.06	0.012	U	0.031	0.065	0.26	J	0.11	0.03
1IR-23-04a	IR1-23-04a	RANDOM	15-577	12/13/2007	0	0.5	pCi/g	0.59	J	0.18	0.06	0.19	U	0.23	0.38	0.41	J	0.14	0.07	0.015	U	0.029	0.039	0.44	J	0.15	0.05
1IR-19-05b	IR1-19-05b	RANDOM	15-539	12/13/2007	2.6	3	pCi/g	0.44	J	0.15	0.06	0.0	U	0.23	0.43	0.37	J	0.13	0.05	-0.0026	U	0.005	0.058	0.43	J	0.14	0.06
1IR-23-04b	IR1-23-04b	RANDOM	15-578	12/13/2007	0.5	1	pCi/g	0.16	U	0.10	0.08	0.33		0.22	0.31	0.36	J	0.14	0.06	-0.0057	U	0.008	0.074	0.35	J	0.13	0.03
1IR-25-02a	IR1-25-02a	RANDOM	15-588	12/13/2007	2	2.5	pCi/g	0.46	J	0.15	0.06	0.29	U	0.22	0.33	0.49	J	0.15	0.07	0.054	J	0.054	0.037	0.42	J	0.14	0.05
1IR-23-05a	IR1-23-05a	RANDOM	15-579	12/13/2007	2	2.5	pCi/g	0.43	J	0.14	0.08	0.40		0.14	0.18	0.24	J	0.11	0.07	0.011	U	0.029	0.060	0.36	J	0.13	0.05
1IR-25-02b	IR1-25-02b	RANDOM	15-589	12/13/2007	2.5	3	pCi/g	0.29	J	0.12	0.06	0.35		0.20	0.28	0.29	J	0.12	0.06	0.042	U	0.056	0.078	0.36	J	0.14	0.03
1IR-19-06a	IR1-19-06a	RANDOM	15-540	12/13/2007	0	0.5	pCi/g	0.61	J	0.20	0.04	0.36		0.12	0.17	0.46	J	0.17	0.06	-0.0069	U	0.009	0.090	0.37	J	0.15	0.04
1IR-23-05b	IR1-23-05b	RANDOM	15-580	12/13/2007	2.5	3	pCi/g	0.44	U	0.14	0.05	0.37		0.11	0.20	0.33	J	0.12	0.06	0.022	U	0.034	0.051	0.39	J	0.13	0.05
1IR-25-03a	IR1-25-03a	RANDOM	15-590	12/13/2007	2	2.5	pCi/g	0.30	J	0.12	0.06	0.22		0.15	0.22	0.27	J	0.12	0.08	-0.0027	U	0.005	0.062	0.30	J	0.12	0.05
1IR-19-06b	IR1-19-06b	RANDOM	15-541	12/13/2007	0.5	1	pCi/g	0.44	J	0.20	0.1	0.36		0.14	0.25	0.42	J	0.16	0.04	0.054	J	0.062	0.048	0.31	J	0.14	0.07
1IR-25-03b	IR1-25-03b	RANDOM	15-591	12/13/2007	2.5	3	pCi/g	0.34	U	0.13	0.05	0.34		0.16	0.29	0.074	U	0.062	0.062	-0.0027	U	0.005	0.061	0.31	J	0.12	0.05
1IR-25-04a	IR1-25-04a	RANDOM	15-592	12/13/2007	2	2.5	pCi/g	0.39	U	0.14	0.08	0.31		0.20	0.27	0.30	J	0.12	0.07	0.028	U	0.040	0.038	0.22	J	0.10	0.05
1IR-25-04b	IR1-25-04b	RANDOM	15-593	12/13/2007	2.5	3	pCi/g	0.30	U	0.12	0.03	0.36		0.16	0.27	0.24	J	0.11	0.07	-0.0053	U	0.007	0.070	0.26	J	0.11	0.05
1IR-19-07a	IR1-19-07a	RANDOM	15-542	12/13/2007	2	2.6	pCi/g	0.35	J	0.12	0.04	0.49		0.22	0.25	0.39	J	0.15	0.06	0.060	U	0.064	0.067	0.44	J	0.15	0.03
1IR-25-05a	IR1-25-05a	RANDOM	15-594	12/13/2007	2	2.5	pCi/g	0.71	J	0.26	0.14	0.57		0.24	0.28	0.40	J	0.17	0.09	0.050	U	0.073	0.11	0.53	J	0.19	0.07
1IR-25-05b	IR1-25-05b	RANDOM	15-595	12/13/2007	2.5	3	pCi/g	0.65	J	0.18	0.08	0.49	U	0.40	0.60	0.54	J	0.15	0.04	0.047	U	0.050	0.053	0.60	J	0.16	0.05
B-1IR-26Ba	IR1-B-26-Ba	BIASED	15-596	12/13/2007	2	2.5	pCi/g	0.29	U	0.12	0.03	0.29	U	0.23	0.34	0.112	U	0.079	0.063	-0.009	U	0.010	0.087	0.31	J	0.13	0.06
B-1IR-26Bb	IR1-B-26-Bb	BIASED	15-597	12/13/2007	2.5	3	pCi/g	0.29	U	0.13	0.09	0.40		0.13	0.21	0.30	J	0.13	0.06	0.046	J	0.053	0.041	0.31	J	0.13	0.05
1IR-19-07b	IR1-19-07b	RANDOM	15-543	12/13/2007	2.6	3	pCi/g	0.47	J	0.14	0.06	0.42		0.16	0.23	0.31	J	0.13	0.04	0.029	U	0.046	0.069	0.35	J	0.14	0.04
1IR-26B-01a	IR1-26B-01a	RANDOM	15-598	12/13/2007	0	0.5	pCi/g	0.35	J	0.13	0.06	0.32		0.14	0.23	0.27	J	0.12	0.07	0.046	J	0.053	0.041	0.20	J	0.10	0.06
1IR-26B-01b	IR1-26B-01b	RANDOM	15-599	12/13/2007	0.5	1	pCi/g	0.61	J	0.18	0.03	0.34		0.19	0.25	0.37	J	0.13	0.05	0.0	U	0.012	0.037	0.28	J	0.11	0.05
1IR-19-08a	IR1-19-08a	RANDOM	15-544	12/13/2007	2	2.6	pCi/g	0.51	J	0.15	0.05	0.26	U	0.16	0.30	0.55	J	0.19	0.1	0.035	U	0.049	0.047	0.33	J	0.14	0.1
1IR-26B-02a	IR1-26B-02a	RANDOM	15-600	12/13/2007	0	0.5	pCi/g	0.26	U	0.11	0.05	0.42		0.24	0.35	0.206	U	0.099	0.067	0.022	U	0.039	0.066	0.22	J	0.10	0.06
1IR-19-08b	IR1-19-08b	RANDOM	15-545	12/13/2007	2.6	3	pCi/g	0.36	J	0.13	0.05	0.31	U	0.22	0.31	0.38	J	0.14	0.03	0.040	U	0.049	0.060	0.43	J	0.15	0.07
1IR-26B-02b	IR1-26B-02b	RANDOM	15-601	12/13/2007	0.5	1	pCi/g	0.38	U	0.14	0.08	0.47		0.19	0.23	0.28	J	0.12	0.06	0.014	U	0.029	0.039	0.26	J	0.11	0.05
B-1IR-A28a	IR1-B-A28a	BIASED	15-602	12/13/2007	2	2.5	pCi/g	0.41	J	0.15	0.03	0.28		0.19	0.26	0.40	J	0.13	0.06	0.008	U	0.027	0.063	0.31	J	0.12	0.06
B-1IR-A28b	IR1-B-A28b	BIASED	15-603	12/13/2007	2.5	3	pCi/g	0.70	U	0.19	0.08	0.25	U	0.24	0.38	0.51	J	0.15	0.06	-0.0025	U	0.004	0.056	0.58	J	0.16	0.04
1IR-19-09a	IR1-19-09a	RANDOM	15-546	12/13/2007	2	2.6	pCi/g	0.58	J	0.18	0.06	0.24	U	0.21	0.32	0.50	J	0.16	0.07	0.01	U	0.031	0.075	0.47	J	0.16	0.07
1IR-19-09b	IR1-19-09b	RANDOM	15-547	12/13/2007	2.6	3	pCi/g	0.37	J	0.15	0.08	0.33		0.12	0.20	0.28	J	0.13	0.09	0.10	J	0.082	0.045	0.42	J	0.16	0.08
1IR-A28-01a	IR1-28A-01a	RANDOM	15-605	12/13/2007	0	0.5	pCi/g	0.43	U	0.15	0.06	0.37		0.15	0.27	0.38	J	0.14	0.06	0.025	U	0.040	0.059	0.37	J	0.13	0.05
1IR-19-10a	IR1-19-10a	RANDOM	15-548	12/13/2007	2	2.6	pCi/g	0.56	J	0.23	0.16	0.47		0.21	0.24	0.35	J	0.15	0.08	0.011	U	0.037	0.088	0.38	J	0.15	0.08
1IR-A28-01b	IR1-28A-01b	RANDOM	15-606	12/13/2007	0.5	1	pCi/g	0.48	U	0.15	0.03	0.19	U	0.20	0.31	0.30	J	0.12	0.08	-0.0023	U	0.004	0.053	0.29	J	0.11	0.07
1IR-19-10b	IR1-19-10b	RANDOM	15-549	12/13/2007	2.6	3	pCi/g	0.59	J	0.19	0.04	0.33		0.20	0.26	0.48	J	0.17	0.07	-0.0031	U	0.006	0.070	0.55	J	0.18	0.06
1IR-A28-02a	IR1-28A-02a	RANDOM	15-607	12/13/2007	0	0.5	pCi/g	0.48	U	0.15	0.05	0.23		0.16	0.23	0.36	J	0.13	0.05	0.0	U	0.011	0.035	0.30	J	0.11	0.04
1IR-A28-02b	IR1-28A-02b	RANDOM	15-608	12/13/2007	0.5	1	pCi/g	0.44	U	0.14	0.07	0.01	U	0.15	0.29	0.33	J	0.13	0.06	0.036	U	0.049	0.068	0.26	J	0.11	0.05
1IR-A28-03a	IR1-28A-03a	RANDOM	15-609	12/13/2007	0	0.5	pCi/g	0.31	U	0.12	0.03	0.13	U	0.20	0.33	0.27	J	0.11	0.07	-0.0025	U	0.005	0.057	0.216	J	0.098	0.029
1IR-A28-03b	IR1-28A-03b	RANDOM	15-610	12/13/2007	0.5	1	pCi/g	0.32	U	0.12	0.05	0.28		0.11	0.20	0.27	J	0.11	0.06	0.01	U	0.025	0.051	0.26	J	0.10	0.05
1IR-A28-04a	IR1-28A-04a	RANDOM	15-611	12/13/2007	0	0.5	pCi/g	0.43	U	0.16	0.07	0.32		0.12	0.20	0.23	J	0.10	0.05	0.036	U	0.045	0.054	0.33	J	0.12	0.06
1IR-A28-04b	IR1-28A-04b	RANDOM	15-612	12/13/2007	0.5	1	pCi/g	0.37	J	0.15	0.07	0.36		0.11	0.12	0.24	J	0.10	0.05	0.0	U	0.011	0.035	0.37	J	0.13	0.04
1IR-A28-05a	IR1-28A-05a	RANDOM	15-613	12/13/2007	0	0.5	pCi/g	0.44	J	0.16	0.08	0.28		0.13	0.25	0.28	J	0.11	0.07	-0.0025	U	0.004	0.056	0.27	J	0.11	0.03
1IR-A28-05b	IR1-28A-05b	RANDOM	15-614	12/13/2007	0.5	1	pCi/g	0.35	J	0.13	0.05	0.27		0.17	0.23	0.140	J	0.077	0.057	-0.0023	U	0.004	0.052	0.29	J	0.11	0.05
B-2IR-1a	IR2-B-1a	BIASED	15-648	12/13/2007	2	2.5	pCi/g	0.41	U	0.14	0.05	0.37		0.22	0.30	0.37	J	0.13	0.05	-0.0048	U	0.006	0.063	0.47	J	0.14	0.05
B-2IR-1b	IR2-B-1b	BIASED	15-649	12/13/2007	2.5	3	pCi/g	0.32	U	0.13	0.06	0.43		0.25	0.35	0.40	J	0.13	0.03	0.0	U	0.011	0.036	0.52	J	0.16	0.05
B-2IR-2a	IR2-B-2a	BIASED	15-650	12/13/2007	2	2.5	pCi/g	0.40	U	0.13	0.04	0.30		0.14	0.24	0.46	J	0.15	0.05	-0.0026	U	0.005	0.059	0.28	J	0.11	0.03
B-2IR-2b	IR2-B-2b	BIASED	15-651	12/13/2007	2.5	3	pCi/g	0.43	U	0.14	0.03	0.41		0.22	0.29	0.30	J	0.12	0.06	-0.0027	U	0.005	0.061	0.40	J	0.14	0.05
B-2IR-3a	IR2-B-3a	BIASED	15-652	12/13/2007	2	2.5	pCi/g	0.40	U	0.14	0.05	0.31	U	0.27	0.42	0.44	J	0.14	0.03	0.047	U	0.050	0.052	0.45	J	0.14	0.03
B-2IR-3b	IR2-B-3b	BIASED	15-653	12/13/2007	2.5	3	pCi/g	0.45	U	0.17	0.04	0.38		0.22	0.32	0.42	J	0.14	0.06	-0.0050	U	0.007	0.066	0.38	J	0.14	0.07
B-1IR-93a	IR1-B-93a	BIASED	15-637	12/13/2007	3.5	4	pCi/g	0.62	J	0.19	0.06	0.62		0.19	0.29	0.28	J	0.12	0.07	-0.0030	U	0.006	0.068	0.40	J	0.15	0.05
B-1IR-93b	IR1-B-93b	BIASED	15-638	12/13/2007	4	4.5	pCi/g	0.50	J	0.18	0.08	0.42		0.14	0.26	0.22	J	0.12	0.11	0.014	U	0.035	0.073	0.17	J	0.11	0.1
B-2IR-4a	IR2-B-4a	BIASED	15-654	12/13/2007	2	2.5	pCi/g	0.61	U	0.20	0.06	0.24	U	0.21	0.32	0.45	J	0.15	0.07	0.013	U	0.027	0.036	0.39	J	0.14	0.07
B-1IR-92a	IR1-B-92a	BIASED	15-615	12/13/2007	2	2.5	pCi/g	0.58	J	0.18	0.05	0.44		0.16	0.24	0.45	J	0.15	0.05	0.024	U	0.038	0.057	0.48	J	0.15	0.06
B-1IR-92b	IR1-B-92b	BIASED	15-616	12/13/2007	2.5	3	pCi/g	0.39	J	0.17	0.05	0.32	U	0.27	0.40	0.36	J	0.12	0.05	0.032	U	0.043	0.060	0.42	J	0.13	0.05

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-2IR-4b	IR2-B-4b	BIASED	15-655	12/13/2007	2.5	3	pCi/g	0.43	U	0.14	0.06	0.22	U	0.20	0.30	0.43	J	0.14	0.06	-0.0022	U	0.004	0.051	0.31	J	0.11	0.05
B-2IR-5a	IR2-B-5a	BIASED	15-656	12/13/2007	2	2.5	pCi/g	0.70	U	0.19	0.06	0.21		0.10	0.12	0.40	J	0.14	0.07	0.019	U	0.038	0.070	0.34	J	0.13	0.09
B-2IR-5b	IR2-B-5b	BIASED	15-657	12/13/2007	2.5	3	pCi/g	0.97	U	0.24	0.06	0.45		0.16	0.25	0.47	J	0.15	0.06	-0.0051	U	0.007	0.066	0.28	J	0.12	0.06
B-1IR-97a	IR1-B-97a	BIASED	15-639	12/14/2007	2	2.5	pCi/g	0.78	U	0.21	0.06	0.52		0.14	0.23	0.42	J	0.14	0.05	0.022	U	0.035	0.053	0.238	J	0.099	0.027
B-2IR-6a	IR2-B-6a	BIASED	15-658	12/14/2007	2	2.5	pCi/g	0.55	J	0.17	0.08	0.45		0.20	0.23	0.29	J	0.12	0.06	0.008	U	0.027	0.065	0.31	J	0.12	0.06
B-1IR-97b	IR1-B-97b	BIASED	15-640	12/14/2007	2.5	3	pCi/g	0.42	U	0.15	0.05	0.25	U	0.23	0.37	0.31	J	0.12	0.05	0.011	U	0.028	0.058	0.42	J	0.14	0.05
B-2IR-6b	IR2-B-6b	BIASED	15-659	12/14/2007	2.5	3	pCi/g	0.48	J	0.15	0.03	0.25	U	0.20	0.30	0.36	J	0.13	0.06	-0.0026	U	0.005	0.059	0.28	J	0.11	0.05
B-2IR-7a	IR2-B-7a	BIASED	15-660	12/14/2007	2	2.5	pCi/g	1.01		0.24	0.05	0.85		0.22	0.26	0.83	J	0.21	0.08	0.094	J	0.073	0.059	0.86	J	0.21	0.08
B-2IR-7b	IR2-B-7b	BIASED	15-661	12/14/2007	2.5	3	pCi/g	0.56	U	0.17	0.08	0.45		0.15	0.21	0.43	J	0.14	0.05	0.067	J	0.060	0.036	0.62	J	0.17	0.05
B-2IR-8a	IR2-B-8a	BIASED	15-662	12/14/2007	2	2.5	pCi/g	0.94	J	0.22	0.03	0.47		0.26	0.36	0.64	J	0.18	0.06	0.048	U	0.054	0.066	0.53	J	0.16	0.05
B-2IR-8b	IR2-B-8b	BIASED	15-663	12/14/2007	2.5	3	pCi/g	0.72	J	0.19	0.06	0.29	U	0.23	0.35	0.42	J	0.14	0.07	0.011	U	0.028	0.058	0.48	J	0.15	0.03
B-1IR-114a	IR1-B-114a	BIASED	15-641	12/14/2007	2	2.5	pCi/g	0.46	U	0.15	0.07	0.19	U	0.36	0.60	0.28	J	0.11	0.03	0.035	U	0.043	0.052	0.34	J	0.12	0.03
B-2IR-10a	IR2-B-B-10a	BIASED	15-664	12/14/2007	2	2.5	pCi/g	0.38	U	0.13	0.05	0.44		0.15	0.16	0.30	J	0.12	0.07	-0.0026	U	0.005	0.059	0.34	J	0.13	0.05
B-2IR-10b	IR2-B-10b	BIASED	15-665	12/14/2007	2.5	3	pCi/g	0.24	U	0.10	0.06	0.29		0.18	0.26	0.26	J	0.10	0.05	-0.0023	U	0.004	0.052	0.208	J	0.094	0.057
B-1IR-114b	IR1-B-114b	BIASED	15-642	12/14/2007	2.5	3	pCi/g	0.58	U	0.17	0.03	0.23	U	0.22	0.35	0.32	J	0.12	0.07	0.009	U	0.028	0.067	0.26	J	0.11	0.07
B-1IR-AB1a	IR1-B-AB1a	BIASED	15-643	12/14/2007	1	1.5	pCi/g	0.51	U	0.17	0.09	0.35		0.21	0.28	0.27	J	0.11	0.07	0.038	J	0.044	0.035	0.37	J	0.13	0.06
B-1IR-AB1b	IR1-B-AB1b	BIASED	15-644	12/14/2007	1.5	2	pCi/g	0.49	U	0.15	0.05	0.29	U	0.24	0.36	0.28	J	0.11	0.06	0.010	U	0.026	0.055	0.25	J	0.11	0.06
1IR-92-01a	IR1-92-01a	RANDOM	15-617	12/14/2007	0	0.5	pCi/g	0.77	J	0.22	0.11	0.27	U	0.20	0.29	0.45	J	0.15	0.07	0.026	U	0.041	0.061	0.35	J	0.13	0.03
1IR-AB1-02a	IR1-1AB-02a	RANDOM	15-645	12/14/2007	0	0.5	pCi/g	0.43	U	0.14	0.03	0.57		0.16	0.15	0.44	J	0.15	0.07	0.006	U	0.028	0.073	0.47	J	0.15	0.09
1IR-92-01b	IR1-92-01b	RANDOM	15-618	12/14/2007	0.5	1	pCi/g	0.36	J	0.13	0.05	0.33		0.10	0.16	0.33	J	0.13	0.06	0.054	U	0.057	0.060	0.37	J	0.13	0.07
1IR-AB1-02b	IR1-1AB-02b	RANDOM	15-646	12/14/2007	0.5	1	pCi/g	0.43	U	0.15	0.06	0.29		0.13	0.22	0.27	J	0.11	0.06	0.035	U	0.047	0.065	0.30	J	0.12	0.06
1IR-92-02a	IR1-92-02a	RANDOM	15-619	12/14/2007	0	0.5	pCi/g	0.57	J	0.17	0.06	0.35		0.14	0.27	0.22	J	0.15	0.11	-0.011	U	0.015	0.14	0.24	J	0.15	0.11
1IR-92-02b	IR1-92-02b	RANDOM	15-620	12/14/2007	0.5	1	pCi/g	0.50	J	0.16	0.05	0.34		0.17	0.20	0.26	J	0.11	0.03	0.027	U	0.039	0.037	0.28	J	0.11	0.05
2IR-10-01a	IR2-10-01a	RANDOM	15-666	12/14/2007	0	0.5	pCi/g	0.56	J	0.17	0.05	0.20		0.14	0.19	0.39	J	0.13	0.05	-0.0047	U	0.006	0.062	0.27	J	0.11	0.05
2IR-10-01b	IR2-10-01b	RANDOM	15-667	12/14/2007	0.5	1	pCi/g	0.32	U	0.12	0.03	0.35		0.22	0.31	0.39	J	0.14	0.03	0.014	U	0.028	0.038	0.32	J	0.12	0.05
1IR-92-03a	IR1-92-03a	RANDOM	15-621	12/14/2007	0	0.5	pCi/g	0.54	J	0.16	0.06	0.49		0.19	0.31	0.44	J	0.14	0.05	0.011	U	0.027	0.056	0.38	J	0.13	0.03
1IR-92-03b	IR1-92-03b	RANDOM	15-622	12/14/2007	0.5	1	pCi/g	0.51	J	0.15	0.05	0.47		0.17	0.25	0.51	J	0.16	0.05	0.024	U	0.038	0.057	0.59	J	0.17	0.05
2IR-10-2a	IR2-10-02a	RANDOM	15-668	12/14/2007	0	0.5	pCi/g	0.62	J	0.17	0.03	0.78		0.25	0.44	0.54	J	0.16	0.05	0.025	U	0.039	0.058	0.59	J	0.17	0.03
1IR-92-04a	IR1-92-04a	RANDOM	15-623	12/14/2007	0	0.5	pCi/g	0.48	J	0.15	0.03	0.32	U	0.17	0.39	0.51	J	0.15	0.03	0.010	U	0.026	0.054	0.37	J	0.13	0.03
2IR-10-2b	IR2-10-02b	RANDOM	15-669	12/14/2007	0.5	1	pCi/g	0.62	J	0.17	0.05	0.95		0.26	0.38	0.50	J	0.15	0.05	0.011	U	0.027	0.056	0.62	J	0.17	0.04
1IR-92-04b	IR1-92-04b	RANDOM	15-624	12/14/2007	0.5	1	pCi/g	0.84	J	0.20	0.05	0.057		0.024	0.027	0.56	J	0.16	0.06	0.021	U	0.038	0.065	0.62	J	0.17	0.07
1IR-92-05a	IR1-92-05a	RANDOM	15-625	12/14/2007	0	0.5	pCi/g	0.43	J	0.14	0.03	0.45		0.12	0.16	0.37	J	0.13	0.07	0.013	U	0.025	0.034	0.30	J	0.12	0.06
1IR-92-05b	IR1-92-05b	RANDOM	15-626	12/14/2007	0.5	1	pCi/g	0.61	J	0.18	0.03	0.52		0.14	0.22	0.54	J	0.16	0.07	0.011	U	0.028	0.058	0.49	J	0.15	0.06
2IR-10-3a	IR2-10-03a	RANDOM	15-670	12/14/2007	0	0.5	pCi/g	0.46	J	0.14	0.03	0.24	U	0.20	0.29	0.37	J	0.13	0.03	0.011	U	0.029	0.060	0.29	J	0.12	0.03
1IR-92-06A	IR1-92-06a	RANDOM	15-627	12/14/2007	0	0.5	pCi/g	0.36	J	0.12	0.03	0.60		0.16	0.16	0.40	J	0.14	0.08	0.0	U	0.012	0.037	0.31	J	0.12	0.05
2IR-10-3b	IR2-10-03b	RANDOM	15-671	12/14/2007	0.5	1	pCi/g	0.38	U	0.13	0.04	0.26	U	0.21	0.31	0.23	J	0.10	0.06	0.035	U	0.047	0.065	0.28	J	0.12	0.07
1IR-92-06B	IR1-92-06b	RANDOM	15-628	12/14/2007	0.5	1	pCi/g	0.59	J	0.17	0.06	0.36		0.13	0.23	0.52	J	0.15	0.06	0.034	U	0.042	0.051	0.44	J	0.13	0.05
2IR-10-4a	IR2-10-04a	RANDOM	15-672	12/14/2007	0	0.5	pCi/g	0.43	J	0.14	0.06	0.35		0.12	0.19	0.25	J	0.10	0.06	0.012	U	0.024	0.032	0.27	J	0.11	0.06
B-2IR-232a	IR2-B-232a	BIASED	15-779	12/14/2007	2.5	3	pCi/g	0.43	U	0.15	0.07	0.34		0.13	0.24	0.36	J	0.13	0.06	-0.0024	U	0.004	0.055	0.34	J	0.12	0.04
1IR-92-07A	IR1-92-07a	RANDOM	15-629	12/14/2007	0	0.5	pCi/g	0.41	J	0.14	0.07	0.32		0.18	0.24	0.128	U	0.071	0.046	0.021	U	0.033	0.050	0.218	J	0.094	0.055
2IR-10-4b	IR2-10-04b	RANDOM	15-673	12/14/2007	0.5	1	pCi/g	0.51	J	0.15	0.05	0.18	U	0.18	0.29	0.39	J	0.13	0.06	0.024	U	0.037	0.056	0.37	J	0.13	0.06
B-2IR-232b	IR2-B-232b	BIASED	15-780	12/14/2007	3	3.5	pCi/g	0.53	U	0.16	0.03	0.18	U	0.16	0.24	0.28	J	0.12	0.07	0.043	U	0.054	0.066	0.31	J	0.13	0.05
1IR-92-07B	IR1-92-07b	RANDOM	15-630	12/14/2007	0.5	1	pCi/g	0.51	J	0.15	0.05	0.28		0.15	0.21	0.228	U	0.095	0.045	0.019	U	0.033	0.057	0.42	J	0.13	0.05
2IR-10-5a	IR2-10-05a	RANDOM	15-674	12/14/2007	0	0.5	pCi/g	0.49	J	0.15	0.05	0.30		0.19	0.27	0.30	J	0.12	0.07	0.019	U	0.039	0.072	0.31	J	0.12	0.09
2IR-10-5b	IR2-10-05b	RANDOM	15-675	12/14/2007	0.5	1	pCi/g	0.53	J	0.17	0.08	0.48		0.17	0.29	0.38	J	0.13	0.06	0.035	U	0.047	0.066	0.37	J	0.13	0.06
1IR-92-08A	IR1-92-08a	RANDOM	15-631	12/14/2007	0	0.5	pCi/g	0.54	J	0.16	0.05	0.37		0.18	0.19	0.40	J	0.13	0.03	0.0	U	0.011	0.034	0.25	J	0.10	0.05
1IR-92-08B	IR1-92-08b	RANDOM	15-632	12/14/2007	0.5	1	pCi/g	0.48	J	0.14	0.04	0.19	U	0.17	0.25	0.41	J	0.13	0.05	0.022	U	0.035	0.052	0.34	J	0.12	0.03
1IR-92-09A	IR1-92-09a	RANDOM	15-633	12/14/2007	0	0.5	pCi/g	0.72	J	0.19	0.06	0.51		0.11	0.05	0.247	U	0.097	0.044	0.020	U	0.032	0.047	0.33	J	0.11	0.04
1IR-92-09B	IR1-92-09b	RANDOM	15-634	12/14/2007	0.5	1	pCi/g	0.50	J	0.15	0.04	0.27		0.16	0.21	0.31	J	0.11	0.03	-0.0023	U	0.004	0.051	0.35	J	0.12	0.03
B-2IR-11Aa	IR2-B-11Aa	BIASED	15-676	12/14/2007	2	2.5	pCi/g	0.50	J	0.15	0.05	0.28		0.17	0.24	0.38	J	0.13	0.06	0.024	U	0.038	0.056	0.39	J	0.13	0.05
1IR-92-10A	IR1-92-10a	RANDOM	15-635	12/14/2007	0	0.5	pCi/g	0.43	J	0.14	0.03	0.66		0.18	0.22	0.48	J	0.15	0.07	0.037	J	0.043	0.034	0.38	J	0.13	0.07
B-2IR-11Ab	IR2-B-11Ab	BIASED	15-677	12/14/2007	2.5	3	pCi/g	0.83	J	0.20	0.03	0.36		0.16	0.27	0.54	J	0.16	0.06	0.053	U	0.056	0.059	0.40	J	0.14	0.05
1IR-92-10B	IR1-92-10b	RANDOM	15-636	12/14/2007	0.5	1	pCi/g	0.56	J	0.16	0.05	0.55		0.20	0.24	0.35	J	0.13	0.07	0.013	U	0.026	0.035	0.37	J	0.13	0.06
2IR-11A-01a	IR2-11A-01a	RANDOM	15-679	12/14/2007	2	2.5	pCi/g	0.66	J	0.18	0.07	0.50		0.16	0.27	0.46	J	0.14	0.03	0.025	U	0.035	0.034	0.48	J	0.15	0.05
2IR-11A-01b	IR2-11A-01b	RANDOM	15-680	12/14/2007	2.5	3	pCi/g	0.44	J	0.15	0.06	0.03	U	0.21	0.38	0.45	J	0.15	0.07	0.026	U	0.037	0.035	0.44	J	0.14	0.07
B-2IR-188a	IR2-B-188a	BIASED	15-740	12/14/2007	2	2.5	pCi/g	0.47	J	0.15	0.07	0.32	U	0.23	0.32	0.43	J	0.15	0.07	0.023	U	0.036	0.053	0.27	J	0.11	0.03
B-2IR-188b	IR2-B-188b	BIASED	15-741	12/14/2007	2.5	3	pCi/g	0.50	J	0.15	0.05	0.17	U	0.19	0.30	0.41	J	0.14	0.06	0.022	U	0.035	0.053	0.43	J	0.15	0.07
2IR-11A-02a	IR2-11A-02a	RANDOM	15-681	12/14/2007	2	2.5	pCi/g	0.43	J	0.14	0.05	0.49		0.27	0.35	0.41	J	0.15	0.07	-0.0027	U	0.005	0.062	0.38	J	0.14	0.06
2IR-11A-02b	IR2-11A-02b	RANDOM	15-682	12/14/2007	2.5	3	pCi/g	0.43	J	0.13	0.05	0.46		0.14	0.23	0.40	J	0.14	0.08	0.006	U	0.029	0.075	0.44	J	0.15	0.09
B-2IR-278a	IR2-B-278a	BIASED	15-782	12/14/2007	2	2.5	pCi/g	0.41	U	0.14	0.06	0.48		0.18	0.27	0.39	J	0.13	0.05	0.059	J	0.055	0.052	0.32	J	0.12	0.04
B-2IR-278b	IR2-B-278b	BIASED	15-783	12/14/2007	2.5	3	pCi/g	0.38	U	0.14	0.03	0.24	U	0.25	0.39	0.32	J	0.12	0.08	0.024	U	0.038	0.056	0.39	J	0.14	0.07
B-2IR-11Ba	IR2-B-11Ba	BIASED	15-683	12/14/2007	2	2.5	pCi/g	0.57	J	0.18	0.06	0.35		0.20	0.28	0.32	J	0.12	0.06	0.022	U	0.039	0.066	0.35	J	0.13	0.06
B-2IR-11Bb	IR2-B-11Bb	BIASED	15-684	12/14/2007	2.5	3	pCi/g	0.48	J	0.15	0.04	0.51		0.18	0.23	0.35	J	0.12	0.05	-0.0023	U	0.004	0.053	0.41	J	0.13	0.04
2IR-11B-01a	IR2-11B-01a	RANDOM	15-685	12/14/2007	2	2.5	pCi/g	0.55	J	0.16	0.05	0.49		0.22	0.28	0.34	J	0.13	0.06	0.025	U	0.039	0.059	0.42	J	0.14	0.05
2IR-11B-01b	IR2-11B-01b	RANDOM	15-686	12/14/2007	2.5	3	pCi/g	0.50	J	0.16	0.03	0.51		0.27	0.36	0.34	J	0.13	0.08	0.037	U	0.046	0.056	0.46	J	0.15	0.07
B-2IR-190a	IR2-B-190a	BIASED	15-743	12/14/2007	2	2.5	pCi/g	0.42	J	0.14	0.08	0.55		0.13	0.13	0.38	J	0.13	0.05	-0.0046	U	0.006	0.060	0.31	J	0.12	0.05
B-2IR-190b	IR2-B-190b	BIASED	15-744	12/14/2007	2.5	3	pCi/g	0.68	J	0.18	0.06	0.36		0.21	0.28	0.50	J	0.15	0.03	0.024	U	0.034	0.033	0.35	J	0.13	0.05
2IR-278-01a	IR2-278-01a	RANDOM	15-784	12/14/2007	0	0.5	pCi/g	0.57	U	0.16	0.03	0.43		0.19	0.25	0.41	J	0.14	0.05	0.053	J	0.053	0.036	0.43	J	0.14	0.04
2IR-11B-02a	IR2-11B-02a	RANDOM	15-687	12/14/2007	2	2.5	pCi/g	0.64	J	0.17	0.04	0.54		0.18	0.26	0.35	J	0.12	0.05	0.038	J	0.045	0.035	0.49	J	0.15	0.04
2IR-278-01b	IR2-278-01b	RANDOM	15-785	12/14/2007	0.5	1	pCi/g	0.76	U	0.20	0.03	0.58		0.18	0.27	0.51	J	0.16	0.06	0.022	U	0.039	0.067	0.42	J	0.14	0.05

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
2IR-11B-02b	IR2-11B-02b	RANDOM	15-688	12/14/2007	0.5	1	pCi/g	0.43	J	0.16	0.09	0.23	U	0.17	0.24	0.47	J	0.15	0.08	0.034	U	0.049	0.075	0.30	J	0.12	0.09
2IR-278-02a	IR2-278-02a	RANDOM	15-786	12/14/2007	0	0.5	pCi/g	0.79	U	0.20	0.07	0.86		0.29	0.40	0.45	J	0.14	0.06	0.011	U	0.027	0.056	0.55	J	0.16	0.03
B-2IR-200a	IR2-B-200a	BIASED	15-745	12/14/2007	2	2.5	pCi/g	0.88	J	0.32	0.07	0.64		0.24	0.22	0.47	J	0.16	0.06	0.011	U	0.028	0.058	0.45	J	0.15	0.03
2IR-278-02b	IR2-278-02b	RANDOM	15-787	12/14/2007	0.5	1	pCi/g	0.76	U	0.20	0.06	0.50		0.19	0.34	0.37	J	0.13	0.06	0.011	U	0.027	0.057	0.54	J	0.16	0.05
B-2IR-200b	IR2-B-200b	BIASED	15-746	12/14/2007	2.5	3	pCi/g	0.69	J	0.19	0.05	0.52		0.15	0.25	0.57	J	0.17	0.06	-0.0025	U	0.005	0.056	0.48	J	0.16	0.05
2IR-200-01a	IR2-200-01a	RANDOM	15-747	12/14/2007	0	0.5	pCi/g	0.63	J	0.18	0.09	0.25	U	0.24	0.37	0.45	J	0.15	0.03	0.023	U	0.036	0.054	0.40	J	0.14	0.03
2IR-200-01b	IR2-200-01b	RANDOM	15-748	12/14/2007	0.5	1	pCi/g	0.73	J	0.20	0.05	0.60		0.28	0.36	0.61	J	0.18	0.07	0.036	U	0.048	0.066	0.48	J	0.16	0.08
B-2IR-12a	IR2-B-12a	BIASED	15-689	12/14/2007	2	2.5	pCi/g	0.41	J	0.15	0.07	0.34		0.17	0.23	0.31	J	0.12	0.06	0.022	U	0.040	0.067	0.39	J	0.14	0.06
2IR-278-03a	IR2-278-03a	RANDOM	15-788	12/14/2007	0	0.5	pCi/g	0.69	U	0.19	0.06	0.48		0.14	0.14	0.46	J	0.15	0.05	0.051	U	0.054	0.057	0.42	J	0.14	0.06
B-2IR-12b	IR2-B-12b	BIASED	15-690	12/14/2007	2.5	3	pCi/g	0.49	J	0.15	0.06	0.30		0.19	0.25	0.223	J	0.099	0.056	0.011	U	0.026	0.055	0.195	J	0.092	0.044
2IR-278-03b	IR2-278-03b	RANDOM	15-789	12/14/2007	0.5	1	pCi/g	0.73	U	0.21	0.1	0.41		0.15	0.26	0.66	J	0.18	0.05	0.009	U	0.029	0.068	0.43	J	0.14	0.05
2IR-12-01a	IR2-12-01a	RANDOM	15-691	12/14/2007	0	0.5	pCi/g	0.38	J	0.14	0.08	0.33		0.13	0.21	0.35	J	0.13	0.06	0.012	U	0.030	0.062	0.31	J	0.12	0.05
2IR-278-04a	IR2-278-04a	RANDOM	15-790	12/14/2007	0	0.5	pCi/g	0.56	U	0.17	0.06	0.45		0.14	0.23	0.29	J	0.11	0.03	0.0	U	0.011	0.034	0.34	J	0.12	0.05
2IR-12-01b	IR2-12-01b	RANDOM	15-692	12/14/2007	0.5	1	pCi/g	0.43	J	0.15	0.06	0.22	U	0.22	0.35	0.43	J	0.15	0.08	0.011	U	0.027	0.057	0.27	J	0.11	0.08
2IR-200-02a	IR2-200-02a	RANDOM	15-749	12/14/2007	0	0.5	pCi/g	0.54	J	0.17	0.07	0.52		0.26	0.30	0.38	J	0.14	0.08	0.013	U	0.027	0.036	0.39	J	0.14	0.08
2IR-278-04b	IR2-278-04b	RANDOM	15-791	12/14/2007	0.5	1	pCi/g	0.54	J	0.16	0.06	0.48		0.16	0.25	0.45	J	0.13	0.04	0.021	U	0.033	0.049	0.41	J	0.13	0.02
2IR-20-02a	IR2-200-02b	RANDOM	15-750	12/14/2007	2.5	3	pCi/g	0.64	J	0.17	0.05	0.53		0.27	0.34	0.32	J	0.11	0.05	0.032	J	0.037	0.029	0.38	J	0.12	0.04
2IR-278-05a	IR2-278-05a	RANDOM	15-792	12/14/2007	0	0.5	pCi/g	0.68	J	0.20	0.07	0.63		0.12	0.06	0.47	J	0.14	0.04	0.032	U	0.039	0.048	0.31	J	0.11	0.04
2IR-12-02a	IR2-12-02a	RANDOM	15-693	12/14/2007	0	0.5	pCi/g	0.59	J	0.18	0.03	0.42		0.20	0.33	0.49	J	0.16	0.06	0.028	U	0.040	0.038	0.39	J	0.14	0.05
2IR-200-03a	IR2-200-03a	RANDOM	15-751	12/14/2007	0	0.5	pCi/g	0.58	U	0.16	0.03	0.34		0.23	0.33	0.50	J	0.14	0.05	0.046	U	0.047	0.055	0.50	J	0.14	0.04
2IR-200-03b	IR2-200-03b	RANDOM	15-752	12/14/2007	0.5	1	pCi/g	0.74	J	0.19	0.05	0.83		0.25	0.20	0.52	J	0.14	0.07	0.051	J	0.045	0.027	0.56	J	0.14	0.04
2IR-278-05b	IR2-278-05b	RANDOM	15-793	12/14/2007	0.5	1	pCi/g	0.63	J	0.19	0.06	0.65		0.19	0.24	0.49	J	0.15	0.03	-0.0025	U	0.004	0.056	0.32	J	0.12	0.03
2IR-12-02b	IR2-12-02b	RANDOM	15-694	12/14/2007	0.5	1	pCi/g	0.41	J	0.15	0.06	0.24		0.11	0.18	0.34	J	0.13	0.06	0.023	U	0.040	0.068	0.33	J	0.13	0.05
2IR-200-04a	IR2-200-04a	RANDOM	15-753	12/14/2007	0	0.5	pCi/g	0.54	U	0.16	0.07	0.48		0.17	0.26	0.38	J	0.16	0.10	0.014	U	0.039	0.086	0.44	J	0.17	0.04
2IR-200-04b	IR2-200-04b	RANDOM	15-754	12/14/2007	0.5	1	pCi/g	0.62	J	0.17	0.03	0.30	U	0.23	0.33	0.45	J	0.12	0.05	0.016	U	0.026	0.041	0.278	J	0.093	0.038
2IR-12-03a	IR2-12-03a	RANDOM	15-695	12/14/2007	0	0.5	pCi/g	0.57	J	0.17	0.08	0.63		0.17	0.25	0.35	J	0.13	0.07	0.011	U	0.027	0.056	0.45	J	0.14	0.03
2IR-12-03b	IR2-12-03b	RANDOM	15-696	12/14/2007	0.5	1	pCi/g	0.47	J	0.15	0.05	0.47		0.18	0.27	0.32	J	0.12	0.06	0.022	U	0.034	0.051	0.219	J	0.095	0.047
2IR-278-06a	IR2-278-06a	RANDOM	15-794	12/14/2007	0	0.5	pCi/g	0.45	J	0.15	0.06	0.22	U	0.17	0.24	0.37	J	0.13	0.07	0.036	J	0.042	0.033	0.32	J	0.12	0.07
2IR-12-04a	IR2-12-04a	RANDOM	15-697	12/14/2007	0	0.5	pCi/g	0.51	J	0.16	0.06	0.36		0.15	0.25	0.48	J	0.15	0.05	-0.0025	U	0.005	0.056	0.34	J	0.13	0.06
2IR-200-05a	IR2-200-05a	RANDOM	15-755	12/14/2007	0	0.5	pCi/g	0.62	J	0.17	0.05	0.43		0.18	0.31	0.43	J	0.12	0.05	0.005	U	0.021	0.053	0.35	J	0.11	0.06
2IR-200-05b	IR2-200-05b	RANDOM	15-756	12/14/2007	0.5	1	pCi/g	0.64	J	0.18	0.05	0.37		0.12	0.19	0.36	J	0.11	0.06	0.009	U	0.019	0.025	0.36	J	0.11	0.05
2IR-278-06b	IR2-278-06b	RANDOM	15-795	12/14/2007	0.5	1	pCi/g	0.50	J	0.15	0.05	0.43		0.16	0.28	0.43	J	0.14	0.06	0.022	U	0.039	0.067	0.36	J	0.13	0.06
2IR-12-04b	IR2-12-04b	RANDOM	15-698	12/14/2007	0.5	1	pCi/g	0.32	J	0.12	0.04	0.19	U	0.17	0.25	0.32	J	0.12	0.07	0.013	U	0.026	0.035	0.22	J	0.10	0.07
2IR-12-05a	IR2-12-05a	RANDOM	15-699	12/14/2007	0	0.5	pCi/g	0.66	J	0.17	0.03	0.46		0.20	0.24	0.46	J	0.15	0.07	0.031	U	0.046	0.070	0.34	J	0.13	0.09
2IR-12-05b	IR2-12-05b	RANDOM	15-700	12/14/2007	0.5	1	pCi/g	0.45	J	0.14	0.04	0.39		0.14	0.21	0.31	J	0.12	0.06	0.021	U	0.037	0.063	0.32	J	0.12	0.06
2IR-278-07a	IR2-278-07a	RANDOM	15-796	12/14/2007	0	0.5	pCi/g	0.33	J	0.13	0.03	0.52		0.15	0.21	0.35	J	0.12	0.06	0.012	U	0.024	0.033	0.32	J	0.12	0.06
2IR-278-07b	IR2-278-07b	RANDOM	15-797	12/14/2007	0.5	1	pCi/g	0.67	J	0.22	0.07	0.27	U	0.22	0.33	0.34	J	0.12	0.06	0.022	U	0.035	0.052	0.25	J	0.10	0.05
2IR-278-08a	IR2-278-08a	RANDOM	15-798	12/14/2007	0	0.5	pCi/g	0.51	J	0.16	0.07	0.24	U	0.14	0.32	0.45	J	0.14	0.06	0.063	J	0.058	0.063	0.42	J	0.13	0.08
B-2IR-13a	IR2-B-13a	BIASED	15-701	12/14/2007	2	2.5	pCi/g	0.50	J	0.15	0.07	0.39	U	0.26	0.39	0.43	J	0.13	0.05	0.01	U	0.024	0.050	0.44	J	0.13	0.04
B-2IR-13b	IR2-B-13b	BIASED	15-702	12/14/2007	2.5	3	pCi/g	0.46	J	0.15	0.05	0.33		0.17	0.21	0.225	J	0.096	0.052	0.01	U	0.024	0.051	0.36	J	0.12	0.04
2IR-278-08b	IR2-278-08b	RANDOM	15-799	12/14/2007	0.5	1	pCi/g	0.62	J	0.18	0.06	0.55		0.15	0.16	0.31	J	0.11	0.05	0.020	U	0.036	0.061	0.33	J	0.12	0.06
2IR-13-01a	IR2-13-01a	RANDOM	15-704	12/14/2007	0	0.5	pCi/g	0.52	J	0.16	0.06	0.20	U	0.16	0.24	0.33	J	0.13	0.09	-0.0026	U	0.005	0.060	0.31	J	0.12	0.08
B-2IR-230a	IR2-B-230a	BIASED	15-757	12/14/2007	2	2.5	pCi/g	0.74	J	0.18	0.05	0.27		0.16	0.23	0.56	J	0.14	0.05	-0.0024	U	0.004	0.045	0.63	J	0.15	0.05
2IR-13-01b	IR2-13-01b	RANDOM	15-705	12/14/2007	0.5	1	pCi/g	0.40	J	0.14	0.07	0.15	U	0.17	0.27	0.205	J	0.093	0.049	0.037	J	0.043	0.034	0.29	J	0.11	0.04
B-2IR-230b	IR2-B-230b	BIASED	15-758	12/14/2007	2.5	3	pCi/g	0.43	U	0.14	0.06	0.24		0.14	0.18	0.37	J	0.11	0.06	0.012	U	0.028	0.057	0.42	J	0.12	0.07
2IR-230-01a	IR2-230-01a	RANDOM	15-759	12/14/2007	0	0.5	pCi/g	0.30	U	0.11	0.04	0.18	U	0.17	0.26	0.272	J	0.096	0.045	0.005	U	0.020	0.051	0.37	J	0.11	0.05
2IR-230-01b	IR2-230-01b	RANDOM	15-760	12/14/2007	0.5	1	pCi/g	0.46	J	0.15	0.03	0.179		0.098	0.13	0.39	J	0.13	0.03	0.026	U	0.037	0.035	0.27	J	0.11	0.05
2IR-13-02a	IR2-13-02a	RANDOM	15-706	12/14/2007	2	2.5	pCi/g	0.53	J	0.16	0.05	0.15	U	0.14	0.21	0.44	J	0.15	0.06	0.009	U	0.028	0.067	0.41	J	0.14	0.05
2IR-230-02a	IR2-230-02a	RANDOM	15-761	12/14/2007	0	0.5	pCi/g	0.31	J	0.12	0.05	0.22	U	0.17	0.25	0.27	U	0.10	0.05	0.009	U	0.024	0.049	0.248	J	0.099	0.039
2IR-13-02b	IR2-13-02b	RANDOM	15-707	12/14/2007	2.5	3	pCi/g	0.36	J	0.13	0.03	0.0	U	0.071	0.15	0.29	J	0.12	0.07	0.011	U	0.029	0.060	0.214	J	0.099	0.030
2IR-278-09a	IR2-278-09a	RANDOM	15-800	12/14/2007	0	0.5	pCi/g	0.42	J	0.14	0.06	0.37		0.14	0.19	0.26	J	0.10	0.05	0.009	U	0.024	0.049	0.28	J	0.10	0.04
2IR-230-02b	IR2-230-02b	RANDOM	15-762	12/14/2007	0.5	1	pCi/g	0.42	J	0.14	0.07	0.06	U	0.14	0.24	0.43	J	0.13	0.05	0.022	U	0.034	0.051	0.35	J	0.12	0.04
2IR-278-09b	IR2-278-09b	RANDOM	15-801	12/14/2007	0.5	1	pCi/g	0.66	J	0.18	0.08	0.44		0.16	0.26	0.35	J	0.13	0.06	0.023	U	0.037	0.054	0.37	J	0.13	0.04
2IR-230-03a	IR2-230-03a	RANDOM	15-763	12/14/2007	0	0.5	pCi/g	0.46	J	0.15	0.06	0.22	U	0.22	0.35	0.24	J	0.10	0.07	0.012	U	0.024	0.033	0.34	J	0.12	0.05
2IR-230-03b	IR2-230-03b	RANDOM	15-764	12/14/2007	0.5	1	pCi/g	0.32	J	0.12	0.08	0.19	U	0.20	0.33	0.31	J	0.12	0.03	0.026	U	0.037	0.035	0.32	J	0.12	0.05
2IR-278-10a	IR2-278-10a	RANDOM	15-802	12/14/2007	0	0.5	pCi/g	0.53	J	0.15	0.05	0.39		0.15	0.25	0.46	J	0.14	0.07	0.022	U	0.035	0.052	0.30	J	0.11	0.07
2IR-278-10b	IR2-278-10b	RANDOM	15-803	12/14/2007	0.5	1	pCi/g	0.59	J	0.17	0.03	0.46		0.17	0.30	0.59	J	0.17	0.05	0.014	U	0.027	0.037	0.43	J	0.14	0.05
B-2IR-160a	IR2-B-160a	BIASED	15-708	12/14/2007	2	2.5	pCi/g	0.35	J	0.13	0.04	0.38		0.20	0.28	0.37	J	0.13	0.06	-0.0024	U	0.004	0.054	0.36	J	0.13	0.05
2IR-230-04a	IR2-230-04a	RANDOM	15-765	12/14/2007	0	0.5	pCi/g	0.62	J	0.19	0.07	0.33		0.13	0.17	0.46	J	0.14	0.05	0.045	U	0.048	0.050	0.30	J	0.11	0.04
B-2IR-160b	IR2-B-160b	BIASED	15-709	12/14/2007	2.5	3	pCi/g	0.45	J	0.14	0.07	0.13	U	0.13	0.20	0.37	J	0.13	0.05	0.038	U	0.047	0.057	0.44	J	0.14	0.06
2IR-230-04b	IR2-230-04b	RANDOM	15-766	12/14/2007	0.5	1	pCi/g	0.68	J	0.19	0.03	0.39		0.13	0.18	0.32	J	0.12	0.06	0.01	U	0.024	0.051	0.39	J	0.13	0.05
2IR-230-05a	IR2-230-05a	RANDOM	15-767	12/14/2007	0	0.5	pCi/g	0.50	J	0.16	0.05	0.23		0.16	0.23	0.33	J	0.12	0.05	0.022	U	0.034	0.051	0.28	J	0.11	0.06
2IR-230-05b	IR2-230-05b	RANDOM	15-768	12/14/2007	0.5	1	pCi/g	0.33	J	0.13	0.09	0.18	U	0.14	0.21	0.28	J	0.11	0.05	-0.0045	U	0.006	0.059	0.30	J	0.11	0.05
2IR-230-06a	IR2-230-06a	RANDOM	15-769	12/14/2007	0	0.5	pCi/g	0.52	J	0.16	0.05	0.20	U	0.18	0.27	0.29	J	0.11	0.03	0.012	U	0.025	0.033	0.174	J	0.085	0.048
2IR-230-06b	IR2-230-06b	RANDOM	15-770	12/14/2007	0.5	1	pCi/g	0.46	J	0.15	0.08	0.38		0.18	0.24	0.41	J	0.13	0.06	-0.0023	U	0.004	0.053	0.232	J	0.099	0.053
B-2IR-171a	IR2-B-171a	BIASED	15-710	12/14/2007	2	2.5	pCi/g	0.37	J	0.13	0.03	0.14	U	0.17	0.27	0.26	J	0.11	0.05	0.021	U	0.037	0.062	0.32	J	0.12	0.05
2IR-230-07a	IR2-230-07a	RANDOM	15-771	12/14/2007	0	0.5	pCi/g	0.52	J	0.15	0.06	0.26	U	0.18	0.26	0.31	J	0.12	0.06	0.008	U	0.028	0.066	0.38	J	0.13	0.06
B-2IR-171b	IR2-B-171b	BIASED	15-711	12/14/2007	2.5	3	pCi/g	0.53	J	0.16	0.05	0.37		0.17	0.18	0.37	J	0.13	0.03	0.056	J	0.057	0.038	0.42	J	0.14	0.06
2IR-230-07b	IR2-230-07b	RANDOM	15-772	12/14/2007	0.5	1	pCi/g	0.40	J	0.14	0.06	0.1	U	0.16	0.28	0.41	J	0.14	0.06	-0.0050	U	0.007	0.065	0.42	J	0.14	0.06
2IR-230-08a	IR2-230-08a	RANDOM	15-773	12/14/2007	0	0.5	pCi/g	0.54	J	0.15	0.05	0.37		0.12	0.16	0.28	J	0.11	0.05	-0.0022	U	0.004	0.051	0.42	J	0.13	0.04

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-2IR-172a	IR2-B-172a	BIASED	15-712	12/14/2007	2	2.5	pCi/g	0.56	J	0.17	0.06	0.50		0.12	0.06	0.36	J	0.13	0.05	0.010	U	0.026	0.055	0.30	J	0.11	0.03
2IR-230-08b	IR2-230-08b	RANDOM	15-774	12/14/2007	0.5	1	pCi/g	0.64	J	0.18	0.08	0.17	U	0.21	0.34	0.54	J	0.16	0.08	0.047	U	0.050	0.052	0.42	J	0.14	0.07
B-2IR-172b	IR2-B-172b	BIASED	15-713	12/14/2007	2.5	3	pCi/g	0.45	J	0.14	0.06	0.24	U	0.13	0.24	0.37	J	0.13	0.06	0.025	U	0.040	0.059	0.28	J	0.11	0.05
2IR-230-09a	IR2-230-09a	RANDOM	15-775	12/14/2007	0	0.5	pCi/g	0.51	J	0.15	0.05	0.28		0.18	0.26	0.25	U	0.11	0.08	0.0	U	0.011	0.033	0.24	J	0.10	0.05
2IR-230-09b	IR2-230-09b	RANDOM	15-776	12/14/2007	0.5	1	pCi/g	0.38	J	0.13	0.03	0.17	U	0.14	0.22	0.41	J	0.13	0.06	0.023	U	0.036	0.053	0.24	J	0.10	0.03
2IR-230-10a	IR2-230-10a	RANDOM	15-777	12/14/2007	0	0.5	pCi/g	0.43	J	0.14	0.06	0.34		0.23	0.32	0.31	J	0.11	0.06	0.022	U	0.035	0.052	0.29	J	0.11	0.05
2IR-230-10b	IR2-230-10b	RANDOM	15-778	12/14/2007	0.5	1	pCi/g	0.38	J	0.13	0.08	0.29		0.20	0.27	0.37	J	0.12	0.05	-0.0045	U	0.006	0.058	0.32	J	0.11	0.05
B-2IR-182a	IR2-B-182a	BIASED	15-714	12/17/2007	2	2.5	pCi/g	0.63	J	0.18	0.03	0.42		0.18	0.22	0.52	J	0.16	0.06	0.011	U	0.027	0.057	0.42	J	0.14	0.05
B-2IR-182b	IR2-B-182b	BIASED	15-715	12/17/2007	2.5	3	pCi/g	0.50	J	0.16	0.06	0.39		0.20	0.22	0.28	J	0.12	0.08	0.025	U	0.039	0.059	0.40	J	0.14	0.08
B-2IR-183a	IR2-B-183a	BIASED	15-716	12/17/2007	2	2.5	pCi/g	0.58	J	0.16	0.03	0.21	U	0.21	0.32	0.29	J	0.12	0.05	0.026	U	0.037	0.036	0.38	J	0.13	0.05
B-2IR-183b	IR2-B-183b	BIASED	15-717	12/17/2007	2.5	3	pCi/g	0.30	U	0.13	0.04	0.38		0.12	0.20	0.26	J	0.11	0.06	0.009	U	0.029	0.068	0.44	J	0.15	0.05
B-2IR-187a	IR2-B-187a	BIASED	15-718	12/17/2007	2	2.5	pCi/g	0.43	U	0.14	0.08	0.18	U	0.18	0.28	0.34	J	0.13	0.08	0.0	U	0.012	0.037	0.41	J	0.14	0.05
B-2IR-187b	IR2-B-187b	BIASED	15-719	12/17/2007	2.5	3	pCi/g	0.77	J	0.20	0.07	0.36		0.18	0.23	0.47	J	0.13	0.05	0.015	U	0.030	0.054	0.45	J	0.13	0.05
B-2IR-187-02a	IR2-B-187-02a	BIASED	15-722	12/17/2007	0	0.5	pCi/g	0.61	J	0.16	0.06	0.50		0.16	0.20	0.34	J	0.11	0.05	0.018	U	0.029	0.046	0.44	J	0.13	0.04
B-2IR-187-02b	IR2-B-187-02b	BIASED	15-723	12/17/2007	0.5	1	pCi/g	0.59	J	0.17	0.07	0.43		0.15	0.19	0.39	J	0.12	0.06	0.007	U	0.019	0.043	0.33	J	0.11	0.06
2IR-187-03a	IR2-187-03a	RANDOM	15-724	12/17/2007	0	0.5	pCi/g	0.70	J	0.20	0.08	0.48		0.27	0.35	0.44	J	0.14	0.06	-0.0023	U	0.004	0.053	0.28	J	0.11	0.05
2IR-187-03b	IR2-187-03b	RANDOM	15-725	12/17/2007	0.5	1	pCi/g	0.70	J	0.19	0.06	0.51		0.19	0.35	0.46	J	0.14	0.05	0.008	U	0.025	0.060	0.37	J	0.13	0.06
2IR-187-04a	IR2-187-04a	RANDOM	15-726	12/17/2007	0	0.5	pCi/g	0.57	J	0.17	0.08	0.39		0.12	0.17	0.31	J	0.11	0.05	-0.0023	U	0.004	0.051	0.49	J	0.14	0.04
2IR-187-04b	IR2-187-04b	RANDOM	15-727	12/17/2007	0.5	1	pCi/g	0.50	J	0.16	0.06	0.35		0.15	0.25	0.34	J	0.12	0.05	0.034	U	0.043	0.052	0.39	J	0.13	0.04
2IR-187-05a	IR2-187-05a	RANDOM	15-728	12/17/2007	0	0.5	pCi/g	0.61	J	0.17	0.03	0.51		0.19	0.29	0.43	J	0.14	0.08	0.011	U	0.027	0.056	0.48	J	0.15	0.08
2IR-187-05b	IR2-187-05b	RANDOM	15-729	12/17/2007	0.5	1	pCi/g	0.77	J	0.21	0.05	0.58		0.22	0.41	0.57	J	0.15	0.05	0.012	U	0.024	0.032	0.55	J	0.15	0.04
2IR-187-06a	IR2-187-06a	RANDOM	15-730	12/17/2007	0	0.5	pCi/g	0.54	J	0.16	0.05	0.22	U	0.22	0.35	0.34	J	0.12	0.06	0.021	U	0.038	0.064	0.24	J	0.10	0.05
2IR-187-06b	IR2-187-06b	RANDOM	15-731	12/17/2007	0.5	1	pCi/g	0.57	J	0.18	0.04	0.40		0.12	0.15	0.27	J	0.11	0.07	0.024	U	0.034	0.032	0.35	J	0.12	0.05
2IR-187-07a	IR2-187-07a	RANDOM	15-732	12/17/2007	0	0.5	pCi/g	0.82	J	0.22	0.06	0.45		0.22	0.29	0.43	J	0.14	0.07	0.011	U	0.028	0.059	0.54	J	0.16	0.03
2IR-187-07b	IR2-187-07b	RANDOM	15-733	12/17/2007	0.5	1	pCi/g	0.47	J	0.17	0.08	0.37		0.23	0.30	0.56	J	0.16	0.06	0.010	U	0.026	0.053	0.58	J	0.16	0.05
2IR-187-08a	IR2-187-08a	RANDOM	15-734	12/17/2007	0	0.5	pCi/g	0.34	U	0.14	0.06	0.56		0.19	0.31	0.32	J	0.12	0.05	-0.0023	U	0.004	0.052	0.35	J	0.12	0.06
2IR-187-08b	IR2-187-08b	RANDOM	15-735	12/17/2007	0.5	1	pCi/g	0.51	J	0.18	0.08	0.34		0.13	0.18	0.41	J	0.13	0.05	0.031	U	0.042	0.059	0.45	J	0.14	0.05
2IR-187-09a	IR2-187-09a	RANDOM	15-736	12/17/2007	0	0.5	pCi/g	0.50	J	0.16	0.03	0.23	U	0.17	0.24	0.32	J	0.12	0.03	0.027	U	0.039	0.037	0.37	J	0.13	0.05
2ir-187-09B	IR2-187-09b	RANDOM	15-737	12/17/2007	0.5	1	pCi/g	0.36	U	0.13	0.04	0.34		0.19	0.25	0.36	J	0.12	0.05	0.010	U	0.025	0.053	0.45	J	0.14	0.03
2IR-187-10a	IR2-187-10a	RANDOM	15-738	12/17/2007	0	0.5	pCi/g	0.71	J	0.19	0.03	0.19	U	0.19	0.29	0.43	J	0.13	0.05	0.032	U	0.040	0.049	0.28	J	0.10	0.04
2IR-187-10b	IR2-187-10b	RANDOM	15-739	12/17/2007	0.5	1	pCi/g	0.46	J	0.16	0.06	0.25	U	0.19	0.27	0.38	J	0.13	0.03	-0.0023	U	0.004	0.052	0.30	J	0.11	0.03
B-2IR-341a	IR2-B-341a	BIASED	15-818	12/17/2007	1	1.5	pCi/g	0.72	J	0.19	0.06	0.25		0.16	0.24	0.52	J	0.16	0.07	0.011	U	0.028	0.059	0.46	J	0.15	0.06
B-2IR-341b	IR2-B-341b	BIASED	15-819	12/17/2007	1.5	2	pCi/g	0.82	J	0.22	0.09	0.44		0.24	0.32	0.43	J	0.15	0.08	0.006	U	0.031	0.079	0.46	J	0.16	0.1
1IR-18-ABC-04b	IR1-18ABC-04b	RANDOM	15-892	12/17/2007	2.5	3	pCi/g	0.54	J	0.16	0.07	0.44		0.23	0.31	0.74	J	0.18	0.05	0.035	U	0.043	0.052	0.68	J	0.18	0.06
B-2IR-342a	IR2-B-342a	BIASED	15-821	12/17/2007	1	1.5	pCi/g	0.39	J	0.13	0.03	0.31		0.18	0.23	0.23	J	0.11	0.06	0.038	U	0.051	0.071	0.41	J	0.14	0.07
B-2IR-342b	IR2-B-342b	BIASED	15-822	12/17/2007	1.5	2	pCi/g	0.53	J	0.16	0.05	0.40		0.14	0.20	0.50	J	0.16	0.06	0.011	U	0.028	0.059	0.42	J	0.14	0.05
2IR-342-01a	IR2-342-01a	RANDOM	15-823	12/17/2007	0	0.5	pCi/g	0.60	J	0.17	0.07	0.33	U	0.24	0.36	0.43	J	0.15	0.06	-0.0028	U	0.005	0.063	0.72	J	0.20	0.05
2IR-342-01b	IR2-342-01b	RANDOM	15-824	12/17/2007	0.5	1	pCi/g	0.64	J	0.18	0.05	0.29		0.13	0.21	0.45	J	0.15	0.09	0.054	U	0.057	0.060	0.40	J	0.14	0.08
2IR-342-02a	IR2-342-02a	RANDOM	15-825	12/17/2007	0	0.5	pCi/g	0.50	J	0.15	0.06	0.42		0.16	0.29	0.46	J	0.15	0.05	0.013	U	0.026	0.036	0.50	J	0.15	0.04
2IR-342-02b	IR2-342-02b	RANDOM	15-826	12/17/2007	0.5	1	pCi/g	0.47	J	0.15	0.07	0.54		0.12	0.17	0.65	J	0.18	0.06	0.022	U	0.040	0.068	0.48	J	0.15	0.05
2IR-342-03a	IR2-342-03a	RANDOM	15-827	12/17/2007	0	0.5	pCi/g	0.57	J	0.17	0.06	0.47		0.16	0.29	0.40	J	0.14	0.07	0.037	U	0.046	0.056	0.56	J	0.16	0.03
2IR-342-03b	IR2-342-03b	RANDOM	15-828	12/17/2007	0.5	1	pCi/g	0.54	U	0.16	0.06	0.69		0.21	0.11	0.45	J	0.15	0.08	0.028	U	0.040	0.039	0.33	J	0.13	0.07
2IR-342-04a	IR2-342-04a	RANDOM	15-829	12/17/2007	0	0.5	pCi/g	0.70	U	0.20	0.05	0.52		0.16	0.19	0.37	J	0.14	0.08	0.006	U	0.030	0.076	0.38	J	0.14	0.09
2IR-342-04b	IR2-342-04b	RANDOM	15-830	12/17/2007	0.5	1	pCi/g	0.59	U	0.18	0.08	0.33		0.19	0.26	0.29	J	0.12	0.06	0.024	U	0.043	0.073	0.44	J	0.15	0.07
2IR-342-05a	IR2-342-05a	RANDOM	15-831	12/17/2007	0	0.5	pCi/g	0.56	U	0.17	0.03	0.0	U	0.14	0.25	0.45	J	0.15	0.06	0.011	U	0.028	0.058	0.38	J	0.13	0.05
2IR-342-05b	IR2-342-05b	RANDOM	15-832	12/17/2007	0.5	1	pCi/g	0.56	U	0.23	0.11	0.38		0.23	0.32	0.31	J	0.14	0.08	0.014	U	0.035	0.074	0.50	J	0.17	0.06
2IR-342-06a	IR2-342-06a	RANDOM	15-833	12/17/2007	0	0.5	pCi/g	0.51	U	0.20	0.09	0.48		0.23	0.29	0.35	J	0.13	0.08	0.037	U	0.046	0.056	0.32	J	0.12	0.08
2IR-342-06b	IR2-342-06b	RANDOM	15-834	12/17/2007	0.5	1	pCi/g	0.55	U	0.17	0.06	0.51		0.14	0.16	0.42	J	0.14	0.05	0.014	U	0.027	0.037	0.32	J	0.12	0.05
2IR-342-07a	IR2-342-07a	RANDOM	15-835	12/17/2007	0	0.5	pCi/g	0.53	U	0.16	0.06	0.40		0.22	0.30	0.38	J	0.14	0.07	0.009	U	0.030	0.072	0.30	J	0.12	0.06
2IR-342-07b	IR2-342-07b	RANDOM	15-836	12/17/2007	0.5	1	pCi/g	0.53	U	0.16	0.05	0.62		0.18	0.22	0.49	J	0.16	0.08	0.014	U	0.027	0.037	0.35	J	0.13	0.05
B-2IR-279a	IR2-B-279a	BIASED	15-804	12/17/2007	1.5	2	pCi/g	0.77	J	0.21	0.08	0.34	U	0.17	0.36	0.34	J	0.12	0.06	0.034	U	0.045	0.063	0.62	J	0.17	0.05
2IR-342-08a	IR2-342-08a	RANDOM	15-837	12/17/2007	0	0.5	pCi/g	0.67	U	0.19	0.05	0.79		0.23	0.19	0.54	J	0.18	0.09	0.014	U	0.035	0.074	0.46	J	0.16	0.04
B-2IR-279b	IR2-B-279b	BIASED	15-805	12/17/2007	2	2.5	pCi/g	0.79	J	0.20	0.06	1.24		0.25	0.34	0.57	J	0.16	0.06	0.077	J	0.065	0.056	0.47	J	0.15	0.05
2IR-342-08b	IR2-342-08b	RANDOM	15-838	12/17/2007	0.5	1	pCi/g	0.42	J	0.14	0.08	0.45		0.15	0.21	0.32	J	0.12	0.07	0.0	U	0.011	0.035	0.42	J	0.14	0.07
2IR-342-09a	IR2-342-09a	RANDOM	15-839	12/17/2007	0	0.5	pCi/g	0.56	J	0.17	0.06	0.41		0.16	0.26	0.35	J	0.12	0.07	0.031	U	0.044	0.068	0.30	J	0.12	0.08
2IR-342-09b	IR2-342-09b	RANDOM	15-840	12/17/2007	0.5	1	pCi/g	0.44	J	0.14	0.05	0.66		0.13	0.15	0.54	J	0.16	0.06	0.036	U	0.048	0.067	0.45	J	0.15	0.06
2IR-342-10a	IR2-342-10a	RANDOM	15-841	12/17/2007	0	0.5	pCi/g	0.44	J	0.14	0.05	0.40		0.20	0.25	0.38	J	0.13	0.06	0.008	U	0.026	0.061	0.28	J	0.11	0.06
2IR-342-10b	IR2-342-10b	RANDOM	15-842	12/17/2007	0.5	1	pCi/g	0.57	J	0.16	0.05	0.40		0.15	0.27	0.46	J	0.15	0.06	0.011	U	0.027	0.056	0.46	J	0.15	0.05
B-2IR-343a	IR2-B-343a	BIASED	15-843	12/17/2007	1.5	2	pCi/g	0.40	J	0.13	0.04	0.25	U	0.22	0.35	0.42	J	0.14	0.08	0.024	U	0.038	0.057	0.55	J	0.16	0.08
B-2IR-343b	IR2-B-343b	BIASED	15-844	12/17/2007	2	2.5	pCi/g	0.52	J	0.16	0.05	0.43		0.22	0.29	0.38	J	0.14	0.07	0.009	U	0.030	0.070	0.45	J	0.15	0.06
B-2IR-282a	IR2-B-282a	BIASED	15-806	12/17/2007	1	1.5	pCi/g	0.38	J	0.13	0.05	0.28		0.17	0.22	0.27	J	0.11	0.05	0.011	U	0.027	0.056	0.30	J	0.12	0.06
B-2IR-282b	IR2-B-282b	BIASED	15-807	12/17/2007	1.5	2	pCi/g	0.62	J	0.17	0.06	0.57		0.17	0.25	0.31	J	0.12	0.05	0.008	U	0.027	0.065	0.31	J	0.12	0.05
2IR-343-01a	IR2-343-01a	RANDOM	15-845	12/17/2007	0	0.5	pCi/g	0.39	J	0.13	0.03	0.39		0.15	0.26	0.47	J	0.15	0.05	0.040	J	0.046	0.036	0.53	J	0.16	0.05
2IR-343-01b	IR2-343-01b	RANDOM	15-846	12/17/2007	0.5	1	pCi/g	0.47	J	0.15	0.05	0.42		0.21	0.39	0.43	J	0.14	0.07	0.039	U	0.049	0.059	0.39	J	0.14	0.03
2IR-282-01a	IR2-282-01a	RANDOM	15-808	12/17/2007	0	0.5	pCi/g	0.34	J	0.12	0.03	0.37		0.17	0.20	0.32	J	0.12	0.03	0.026	U	0.037	0.035	0.23	J	0.10	0.05
2IR-343-02a	IR2-343-02a	RANDOM	15-847	12/17/2007	0	0.5	pCi/g	0.42	J	0.13	0.04	0.33		0.21	0.29	0.52	J	0.16	0.06	-0.0025	U	0.005	0.057	0.38	J	0.13	0.05
2IR-343-02b	IR2-343-02b	RANDOM	15-848	12/17/2007	0.5	1	pCi/g	0.50	U	0.25	0.08	0.29	U	0.22	0.32	0.40	J	0.13	0.05	0.021	U	0.034	0.050	0.33	J	0.12	0.04
2IR-282-01b	IR2-282-01b	RANDOM	15-809	12/17/2007	0.5	1	pCi/g	0.50	J	0.15	0.05	0.31		0.19	0.24	0.42	J	0.19	0.10	-0.0048	U	0.009	0.11	0.53	J	0.21	0.06
2IR-343-03a	IR2-343-03a	RANDOM	15-849	12/17/2007	0	0.5	pCi/g	0.59	J	0.17	0.05	0.37		0.16	0.31	0.46	J	0.16	0.06	0.013	U	0.034	0.070	0.39	J	0.15	0.08
2IR-343-03b	IR2-343-03b	RANDOM	15-850	12/17/2007	0.5	1	pCi/g	0.55	U	0.16	0.03	0.50		0.15	0.21	0.31	J	0.12	0.05	0.036	U	0.049	0.068	0.46	J	0.15	0.05

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
2IR-282-02a	IR2-282-02a	RANDOM	15-810	12/17/2007	0	0.5	pCi/g	0.40	J	0.14	0.08	0.33		0.20	0.27	0.57	J	0.17	0.06	0.041	U	0.051	0.062	0.41	J	0.14	0.05
2IR-282-02b	IR2-282-02b	RANDOM	15-811	12/17/2007	0.5	1	pCi/g	0.36	J	0.12	0.03	0.38		0.14	0.15	0.223	J	0.095	0.026	0.01	U	0.025	0.051	0.213	J	0.092	0.026
2IR-343-04a	IR2-343-04a	RANDOM	15-851	12/17/2007	0	0.5	pCi/g	0.66	U	0.19	0.05	0.45		0.24	0.33	0.44	J	0.15	0.03	0.0	U	0.013	0.041	0.34	J	0.13	0.06
2IR-282-03a	IR2-282-03a	RANDOM	15-812	12/17/2007	0	0.5	pCi/g	0.37	J	0.13	0.05	0.24	U	0.18	0.26	0.46	J	0.14	0.06	0.033	U	0.044	0.062	0.35	J	0.13	0.06
2IR-343-04b	IR2-343-04b	RANDOM	15-852	12/17/2007	0.5	1	pCi/g	0.57	U	0.22	0.13	0.57		0.25	0.29	0.37	J	0.14	0.06	-0.0028	U	0.005	0.064	0.45	J	0.15	0.03
2IR-282-03b	IR2-282-03b	RANDOM	15-813	12/17/2007	0.5	1	pCi/g	0.51	J	0.16	0.05	0.43		0.19	0.25	0.33	J	0.12	0.07	0.013	U	0.026	0.035	0.37	J	0.13	0.07
2IR-282-04a	IR2-282-04a	RANDOM	15-814	12/17/2007	0	0.5	pCi/g	0.54	J	0.16	0.03	0.43		0.14	0.20	0.33	J	0.12	0.06	0.008	U	0.026	0.061	0.45	J	0.14	0.06
2IR-282-04b	IR2-282-04b	RANDOM	15-815	12/17/2007	0.5	1	pCi/g	0.33	U	0.13	0.05	0.35		0.20	0.26	0.211	J	0.097	0.066	0.025	U	0.035	0.033	0.27	J	0.11	0.06
2IR-282-05a	IR2-282-05a	RANDOM	15-816	12/17/2007	0	0.5	pCi/g	0.49	J	0.16	0.07	0.26	U	0.23	0.36	0.35	J	0.12	0.06	0.010	U	0.026	0.053	0.43	J	0.14	0.05
2IR-282-05b	IR2-282-05b	RANDOM	15-817	12/17/2007	0.5	1	pCi/g	0.41	J	0.14	0.06	0.31		0.18	0.20	0.40	J	0.13	0.07	0.017	U	0.035	0.065	0.30	J	0.12	0.08
2IR-343-05a	IR2-343-05a	RANDOM	15-853	12/19/2007	0	0.5	pCi/g	0.44	J	0.15	0.09	0.46		0.22	0.28	0.31	J	0.11	0.05	0.012	U	0.024	0.033	0.35	J	0.12	0.04
2IR-343-05b	IR2-343-05b	RANDOM	15-854	12/19/2007	0.5	1	pCi/g	0.59	J	0.19	0.08	0.38		0.14	0.23	0.31	J	0.12	0.06	0.008	U	0.027	0.064	0.31	J	0.12	0.05
B-2IR-344a	IR2-B-344a	BIASED	15-865	12/19/2007	2	2.5	pCi/g	0.51	J	0.15	0.05	0.42		0.16	0.26	0.32	J	0.12	0.05	0.049	U	0.055	0.067	0.34	J	0.13	0.05
2IR-343-06a	IR2-343-06a	RANDOM	15-855	12/19/2007	0	0.5	pCi/g	0.62	J	0.17	0.06	0.47		0.17	0.29	0.24	J	0.11	0.08	0.0	U	0.011	0.035	0.36	J	0.13	0.05
B-2IR-344b	IR2-B-344b	BIASED	15-866	12/19/2007	2.5	3	pCi/g	0.50	J	0.15	0.05	0.46		0.20	0.25	0.49	J	0.15	0.06	-0.0048	U	0.006	0.063	0.44	J	0.14	0.07
2IR-343-06b	IR2-343-06b	RANDOM	15-856	12/19/2007	0.5	1	pCi/g	0.96	J	0.22	0.06	0.45		0.19	0.23	0.53	J	0.16	0.06	0.024	U	0.037	0.055	0.72	J	0.18	0.03
2IR-343-07a	IR2-343-07a	RANDOM	15-857	12/19/2007	0	0.5	pCi/g	0.55	J	0.18	0.09	0.26	U	0.25	0.39	0.46	J	0.14	0.06	0.022	U	0.035	0.053	0.54	J	0.15	0.05
2IR-343-07b	IR2-343-07b	RANDOM	15-858	12/19/2007	0.5	1	pCi/g	0.45	J	0.15	0.06	0.57		0.20	0.30	0.36	J	0.13	0.05	0.010	U	0.025	0.053	0.41	J	0.13	0.06
2IR-343-08a	IR2-343-08a	RANDOM	15-859	12/19/2007	0	0.5	pCi/g	0.58	J	0.17	0.03	0.67		0.14	0.06	0.39	J	0.13	0.05	0.020	U	0.035	0.060	0.45	J	0.14	0.05
2IR-343-08b	IR2-343-08b	RANDOM	15-860	12/19/2007	0.5	1	pCi/g	0.37	J	0.13	0.07	0.46		0.20	0.25	0.30	J	0.11	0.03	0.026	U	0.036	0.035	0.25	J	0.11	0.05
2IR-343-09a	IR2-343-09a	RANDOM	15-861	12/19/2007	0	0.5	pCi/g	0.65	J	0.18	0.06	0.41		0.25	0.35	0.49	J	0.14	0.05	0.034	U	0.043	0.052	0.40	J	0.13	0.03
2IR-343-09b	IR2-343-09b	RANDOM	15-862	12/19/2007	0.5	1	pCi/g	0.70	J	0.19	0.08	0.61		0.25	0.32	0.34	J	0.12	0.05	0.010	U	0.026	0.054	0.43	J	0.14	0.04
2IR-343-10a	IR2-343-10a	RANDOM	15-863	12/19/2007	0	0.5	pCi/g	0.58	J	0.17	0.06	0.72		0.27	0.33	0.51	J	0.15	0.03	0.010	U	0.026	0.054	0.53	J	0.15	0.03
2IR-343-10b	IR2-343-10b	RANDOM	15-864	12/19/2007	0.5	1	pCi/g	0.54	J	0.15	0.05	0.52		0.16	0.21	0.39	J	0.13	0.08	0.026	U	0.037	0.036	0.46	J	0.15	0.07
B-2IR-348a	IR2-B-348a	BIASED	15-868	12/19/2007	2	2.5	pCi/g	0.40	J	0.14	0.05	0.29	U	0.21	0.29	0.28	J	0.11	0.05	0.061	J	0.057	0.054	0.31	J	0.12	0.04
B-2IR-348b	IR2-B-348b	BIASED	15-869	12/19/2007	2.5	3	pCi/g	0.32	J	0.12	0.04	0.61		0.12	0.06	0.33	J	0.11	0.03	-0.0022	U	0.004	0.049	0.222	J	0.093	0.025
B-2IR-349a	IR2-B-349a	BIASED	15-870	12/19/2007	2	2.5	pCi/g	0.32	J	0.12	0.03	0.39		0.13	0.22	0.37	J	0.13	0.07	0.013	U	0.025	0.034	0.27	J	0.11	0.06
B-2IR-349b	IR2-B-349b	BIASED	15-871	12/19/2007	2.5	3	pCi/g	0.62	J	0.18	0.07	0.36		0.15	0.25	0.32	J	0.12	0.06	0.023	U	0.037	0.055	0.39	J	0.13	0.06
2IR-349-01a	IR2-349-01a	RANDOM	15-872	12/19/2007	0	0.5	pCi/g	0.45	J	0.14	0.03	0.14	U	0.15	0.24	0.214	J	0.097	0.067	0.005	U	0.026	0.066	0.37	J	0.13	0.08
2IR-349-01b	IR2-349-01b	RANDOM	15-873	12/19/2007	0.5	1	pCi/g	0.58	J	0.16	0.04	0.28	U	0.16	0.28	0.38	J	0.13	0.06	0.022	U	0.040	0.067	0.44	J	0.15	0.06
2IR-349-02a	IR2-349-02a	RANDOM	15-874	12/19/2007	0	0.5	pCi/g	0.34	J	0.12	0.06	0.09	U	0.16	0.28	0.47	J	0.15	0.06	0.011	U	0.028	0.059	0.40	J	0.14	0.05
2IR-349-02b	IR2-349-02b	RANDOM	15-875	12/19/2007	0.5	1	pCi/g	0.53	J	0.16	0.08	0.30		0.20	0.29	0.31	J	0.12	0.06	0.008	U	0.026	0.062	0.32	J	0.12	0.06
2IR-349-03a	IR2-349-03a	RANDOM	15-876	12/19/2007	0	0.5	pCi/g	0.62	J	0.17	0.05	0.30		0.18	0.25	0.24	U	0.10	0.06	0.008	U	0.028	0.066	0.30	U	0.12	0.06
2IR-349-03b	IR2-349-03b	RANDOM	15-877	12/19/2007	0.5	1	pCi/g	0.60	J	0.17	0.03	0.30		0.15	0.19	0.43	U	0.14	0.06	-0.0023	U	0.004	0.052	0.31	U	0.11	0.05
2IR-349-04a	IR2-349-04a	RANDOM	15-878	12/19/2007	0	0.5	pCi/g	0.40	J	0.13	0.05	0.30		0.21	0.29	0.29	U	0.12	0.07	0.018	U	0.037	0.069	0.46	U	0.15	0.08
2IR-349-04b	IR2-349-04b	RANDOM	15-879	12/19/2007	0.5	1	pCi/g	0.50	J	0.15	0.06	0.23	U	0.20	0.30	0.32	U	0.12	0.05	0.057	U	0.056	0.060	0.44	U	0.14	0.06
2IR-349-05a	IR2-349-05a	RANDOM	15-880	12/19/2007	0	0.5	pCi/g	0.62	J	0.17	0.05	0.62		0.15	0.11	0.48	U	0.14	0.05	0.033	U	0.041	0.050	0.40	U	0.13	0.04
2IR-349-05b	IR2-349-05b	RANDOM	15-881	12/19/2007	0.5	1	pCi/g	0.48	J	0.15	0.06	0.35		0.16	0.19	0.28	U	0.11	0.06	0.011	U	0.027	0.057	0.32	U	0.12	0.05
2IR-349-06a	IR2-349-06a	RANDOM	15-882	12/19/2007	0	0.5	pCi/g	0.72	J	0.18	0.05	0.56		0.22	0.24	0.43	U	0.14	0.07	-0.0023	U	0.004	0.052	0.29	U	0.11	0.07
2IR-349-06b	IR2-349-06b	RANDOM	15-883	12/19/2007	0.5	1	pCi/g	0.67	J	0.18	0.05	0.19	U	0.17	0.27	0.51	U	0.15	0.05	0.0	U	0.011	0.034	0.39	U	0.13	0.04
2IR-349-07a	IR2-349-07a	RANDOM	15-884	12/19/2007	0	0.5	pCi/g	0.49	J	0.15	0.03	0.29		0.17	0.25	0.28	U	0.11	0.03	0.023	U	0.036	0.054	0.37	U	0.13	0.03
2IR-349-07b	IR2-349-07b	RANDOM	15-885	12/19/2007	0.5	1	pCi/g	0.36	J	0.13	0.04	0.35		0.10	0.15	0.23	J	0.10	0.06	0.008	U	0.026	0.062	0.42	J	0.14	0.06
2IR-349-08a	IR2-349-08a	RANDOM	15-886	12/19/2007	0	0.5	pCi/g	0.50	J	0.15	0.05	0.28		0.17	0.25	0.31	J	0.11	0.06	-0.0022	U	0.004	0.050	0.33	J	0.12	0.05
2IR-349-08b	IR2-349-08b	RANDOM	15-887	12/19/2007	0.5	1	pCi/g	0.38	J	0.14	0.05	0.31		0.18	0.25	0.27	J	0.11	0.07	0.017	U	0.035	0.064	0.24	J	0.10	0.08
2IR-349-09a	IR2-349-09a	RANDOM	15-888	12/19/2007	0	0.5	pCi/g	0.35	J	0.13	0.03	0.23	U	0.17	0.25	0.32	J	0.12	0.05	0.007	U	0.025	0.059	0.30	J	0.11	0.06
2IR-349-09b	IR2-349-09b	RANDOM	15-889	12/19/2007	0.5	1	pCi/g	0.65	J	0.18	0.05	0.11	U	0.14	0.23	0.35	J	0.12	0.05	0.01	U	0.024	0.051	0.38	J	0.12	0.04
2IR-349-10a	IR2-349-10a	RANDOM	15-890	12/19/2007	0	0.5	pCi/g	0.41	J	0.13	0.03	0.40		0.16	0.27	0.42	J	0.14	0.05	0.023	U	0.036	0.054	0.35	J	0.12	0.04
2IR-349-10b	IR2-349-10b	RANDOM	15-891	12/19/2007	0.5	1	pCi/g	0.45	J	0.15	0.05	0.39		0.15	0.17	0.25	J	0.11	0.07	0.046	U	0.049	0.051	0.29	J	0.11	0.07
1IR-AB1-01b	IR1-1AB-01b	RANDOM	15-902	12/20/2007	2.5	3	pCi/g	0.34	U	0.13	0.05	0.53		0.23	0.33	0.50	J	0.16	0.08	0.034	U	0.050	0.076	0.39	J	0.14	0.09
1IR-13B-01b	IR1-13B-01b	RANDOM	15-893	12/20/2007	2.5	3	pCi/g	0.33	U	0.12	0.06	0.26	U	0.21	0.31	0.27	J	0.11	0.05	0.035	U	0.044	0.054	0.31	J	0.12	0.04
1IR-13A-01b	IR1-13A-01b	RANDOM	15-894	12/20/2007	2.5	3	pCi/g	0.35	U	0.12	0.03	0.217		0.089	0.14	0.35	J	0.13	0.05	0.022	U	0.039	0.067	0.48	J	0.15	0.05
1IR-15-01b	IR1-15-01b	RANDOM	15-895	12/20/2007	2.5	3	pCi/g	0.43	J	0.14	0.04	0.37		0.13	0.19	0.40	J	0.14	0.03	0.027	U	0.038	0.036	0.35	J	0.13	0.05
1IR-17-01b	IR1-17-01b	RANDOM	15-896	12/20/2007	2.5	3	pCi/g	0.28	U	0.11	0.03	0.43		0.17	0.19	0.41	J	0.14	0.05	-0.0025	U	0.005	0.057	0.37	J	0.13	0.03
1IR-21-01b	IR1-21-01b	RANDOM	15-897	12/20/2007	2.5	3	pCi/g	0.46	J	0.14	0.04	0.23	U	0.23	0.37	0.40	J	0.14	0.06	0.040	U	0.050	0.061	0.41	J	0.14	0.05
1IR-22-01b	IR1-22-01b	RANDOM	15-898	12/20/2007	2.5	3	pCi/g	0.32	U	0.12	0.07	0.26	U	0.21	0.31	0.36	J	0.13	0.03	0.024	U	0.037	0.056	0.38	J	0.13	0.03
1IR-23-01b	IR1-23-01b	RANDOM	15-899	12/20/2007	2.5	3	pCi/g	0.43	J	0.15	0.09	0.39		0.11	0.14	0.35	J	0.13	0.06	0.034	U	0.046	0.064	0.29	J	0.12	0.07
1IR-24-01b	IR1-24-01b	RANDOM	15-900	12/20/2007	2.5	3	pCi/g	0.37	U	0.13	0.06	0.27		0.18	0.25	0.21	J	0.10	0.07	0.014	U	0.028	0.037	0.20	J	0.10	0.07
1IR-25-01b	IR1-25-01b	RANDOM	15-901	12/20/2007	2.5	3	pCi/g	0.54	J	0.19	0.11	0.21	U	0.19	0.30	0.35	J	0.14	0.08	-0.0030	U	0.006	0.069	0.55	J	0.18	0.07
B-1IR-B-3Aa	IR1-B-3Aa	BIASED	15-903	12/20/2007	2	2.5	pCi/g	0.52	J	0.16	0.03	0.46		0.16	0.22	0.73	J	0.20	0.06	0.039	U	0.052	0.072	0.60	J	0.18	0.07
B-1IR-B-3Ab	IR1-B-3Ab	BIASED	15-904	12/20/2007	2.5	3	pCi/g	0.37	U	0.13	0.05	0.47		0.25	0.32	0.55	J	0.16	0.06	0.025	U	0.039	0.059	0.40	J	0.14	0.05
B-1IR-3Ba	IR1-B-3Ba	BIASED	15-905	12/20/2007	2	2.5	pCi/g	0.38	U	0.14	0.06	0.39		0.24	0.32	0.43	J	0.16	0.07	0.013	U	0.034	0.070	0.55	J	0.18	0.06
B-1IR-3Bb	IR1-B-3Bb	BIASED	15-906	12/20/2007	2.5	3	pCi/g	0.51	J	0.17	0.03	0.39		0.12	0.17	0.44	J	0.16	0.09	0.058	U	0.061	0.065	0.32	J	0.13	0.09
1IR-19-01a	IR1-19-01a	RANDOM	15-907	12/20/2007	2	2.5	pCi/g	0.31	U	0.12	0.04	0.0	U	0.11	0.21	0.36	J	0.13	0.05	0.0	U	0.011	0.035	0.34	J	0.12	0.04
1IR-19-01b	IR1-19-01b	RANDOM	15-908	12/20/2007	2.5	3	pCi/g	0.37	U	0.13	0.05	0.38		0.21	0.28	0.38	J	0.14	0.07	-0.0054	U	0.007	0.071	0.34	J	0.13	0.06
B-32IR-113a	IR32-B-111a	BIASED	15-909	1/22/2008	2	2.5	pCi/g	0.35	U	0.12	0.03	0.41		0.22	0.27	0.39	J	0.14	0.09	0.012	U	0.029	0.060	0.29	J	0.12	0.08
B-32IR-113b	IR32-B-111b	BIASED	15-910	1/22/2008	2.5	3	pCi/g	0.59	J	0.17	0.07	0.36		0.20	0.29	0.39	J	0.13	0.03	0.014	U	0.027	0.037	0.41	J	0.14	0.05
B-32IR-114a	IR32-B-112a	BIASED	15-912	1/22/2008	2	2.5	pCi/g	0.60	J	0.16	0.03	0.26	U	0.22	0.34	0.39	J	0.14	0.09	0.012	U	0.030	0.064	0.34	J	0.14	0.09
B-32IR-114b	IR32-B-112b	BIASED	15-913	1/22/2008	2.5	3	pCi/g	0.53	J	0.16	0.06	0.31		0.16	0.20	0.39	J	0.13	0.05	0.010	U	0.026	0.055	0.44	J	0.14	0.04
B-32IR-108a	IR32-B-108a	BIASED	15-914	1/22/2008	2	2.5	pCi/g	0.47	U	0.15	0.05	0.23	U	0.24	0.37	0.45	J	0.14	0.03	0.01	U	0.024	0.051	0.38	J	0.12	0.03
B-32IR-108b	IR32-B-108b	BIASED	15-915	1/22/2008	2.5	3	pCi/g	0.42	U	0.14	0.06	0.36		0.19	0.23	0.27	J	0.10	0.05	0.009	U	0.023	0.048	0.37	J	0.12	0.04

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-32IR-109a	IR32-B-109a	BIASED	15-916	1/22/2008	2	2.5	pCi/g	0.30	U	0.12	0.05	0.25		0.14	0.20	0.34	J	0.13	0.06	0.041	U	0.051	0.063	0.36	J	0.14	0.05
B-32IR-109b	IR32-B-109b	BIASED	15-917	1/22/2008	2.5	3	pCi/g	0.54	J	0.16	0.05	0.40		0.14	0.27	0.27	J	0.11	0.05	0.027	U	0.038	0.036	0.34	J	0.12	0.05
B-32IR-1a	IR32-B-1a	BIASED	15-918	1/22/2008	2	2.5	pCi/g	0.52	J	0.16	0.03	0.46		0.15	0.17	0.39	J	0.13	0.07	0.024	U	0.038	0.056	0.33	J	0.12	0.06
B-32IR-1b	IR32-B-1b	BIASED	15-919	1/22/2008	2.5	3	pCi/g	0.58	J	0.17	0.05	0.37		0.19	0.25	0.29	J	0.12	0.07	0.006	U	0.027	0.070	0.26	J	0.11	0.09
B-32IR-2a	IR32-B-2a	BIASED	15-920	1/22/2008	2	2.5	pCi/g	0.71	J	0.18	0.03	0.48		0.31	0.46	0.53	J	0.15	0.05	0.008	U	0.026	0.060	0.52	J	0.15	0.06
B-32IR-2b	IR32-B-2b	BIASED	15-921	1/22/2008	2.5	3	pCi/g	0.68	J	0.20	0.06	0.49		0.20	0.36	0.57	J	0.16	0.06	0.062	J	0.058	0.055	0.77	J	0.19	0.04
32IR-121a	IR32-121a	RANDOM	15-922	1/22/2008	2	2.5	pCi/g	0.37	U	0.13	0.07	0.24	U	0.24	0.37	0.28	J	0.11	0.06	0.038	U	0.047	0.057	0.30	J	0.12	0.05
BRA2-1	BRA2-1	RANDOM	15-934	1/30/2008	0	0.5	pCi/g	0.54	UJ	0.16	0.07	0.50		0.17	0.29	0.46	J	0.15	0.06	0.022	U	0.039	0.066	0.52	J	0.16	0.06
BRA2-2	BRA2-2	RANDOM	15-935	1/30/2008	0	0.5	pCi/g	0.77	UJ	0.20	0.06	0.37	U	0.26	0.38	0.55	J	0.15	0.05	0.059	J	0.055	0.052	0.48	J	0.14	0.04
BRA2-3	BRA2-3	RANDOM	15-936	1/30/2008	0	0.5	pCi/g	0.50	UJ	0.16	0.08	0.48		0.16	0.27	0.56	J	0.17	0.08	-0.0026	U	0.005	0.058	0.52	J	0.16	0.08
BRA2-4	BRA2-4	RANDOM	15-937	1/30/2008	0	0.5	pCi/g	0.60	UJ	0.17	0.06	0.48		0.21	0.39	0.68	J	0.18	0.05	0.027	U	0.038	0.036	0.53	J	0.16	0.05
BRA2-5	BRA2-5	RANDOM	15-938	1/30/2008	0	0.5	pCi/g	0.64	UJ	0.17	0.03	0.50		0.27	0.35	0.60	J	0.17	0.07	0.009	U	0.029	0.069	0.57	J	0.17	0.06
BRA2-6	BRA2-6	RANDOM	15-939	1/30/2008	0	0.5	pCi/g	0.47	UJ	0.15	0.08	0.36		0.15	0.18	0.72	J	0.19	0.07	0.011	U	0.028	0.058	0.49	J	0.15	0.03
BRA2-7	BRA2-7	RANDOM	15-940	1/30/2008	0	0.5	pCi/g	0.61	UJ	0.17	0.05	0.49		0.17	0.29	0.61	J	0.17	0.06	0.011	U	0.027	0.057	0.63	J	0.17	0.05
BRA2-8	BRA2-8	RANDOM	15-941	1/30/2008	0	0.5	pCi/g	0.61	UJ	0.16	0.05	0.50		0.26	0.32	0.64	J	0.17	0.05	0.049	U	0.052	0.055	0.60	J	0.17	0.06
BRA2-9	BRA2-9	RANDOM	15-942	1/30/2008	0	0.5	pCi/g	0.62	UJ	0.18	0.05	0.52		0.17	0.28	0.62	J	0.17	0.05	0.044	U	0.049	0.060	0.36	J	0.12	0.05
BRA2-10	BRA2-10	RANDOM	15-943	1/30/2008	0	0.5	pCi/g	0.45	UJ	0.14	0.03	0.37		0.16	0.31	0.68	J	0.18	0.03	0.054	J	0.054	0.036	0.66	J	0.18	0.05
BRA3-1	BRA3-1	RANDOM	15-944	1/30/2008	0	0.5	pCi/g	0.75	UJ	0.19	0.05	0.59		0.22	0.35	0.65	J	0.18	0.05	0.025	U	0.039	0.059	0.72	J	0.19	0.03
BRA3-2	BRA3-2	RANDOM	15-945	1/30/2008	0	0.5	pCi/g	0.78	UJ	0.20	0.03	0.74		0.32	0.37	0.75	J	0.19	0.05	0.050	U	0.053	0.056	0.51	J	0.15	0.04
BRA3-3	BRA3-3	RANDOM	15-946	1/30/2008	0	0.5	pCi/g	0.65	UJ	0.24	0.13	0.85		0.26	0.25	0.72	J	0.18	0.03	0.047	U	0.050	0.053	0.61	J	0.16	0.03
BRA3-4	BRA3-4	RANDOM	15-947	1/30/2008	0	0.5	pCi/g	0.69	UJ	0.20	0.06	0.40		0.25	0.34	0.57	J	0.16	0.06	-0.0048	U	0.006	0.063	0.56	J	0.16	0.07
BRA3-5	BRA3-5	RANDOM	15-948	1/30/2008	0	0.5	pCi/g	0.47	UJ	0.16	0.07	0.48		0.17	0.28	0.73	J	0.19	0.07	0.013	U	0.026	0.035	0.65	J	0.18	0.07
BRA3-6	BRA3-6	RANDOM	15-949	1/30/2008	0	0.5	pCi/g	0.56	J	0.16	0.06	0.48		0.22	0.41	0.75	J	0.20	0.07	0.057	U	0.060	0.064	0.62	J	0.18	0.06
BRA3-7	BRA3-7	RANDOM	15-950	1/30/2008	0	0.5	pCi/g	0.58	J	0.18	0.05	0.57		0.18	0.32	0.43	J	0.18	0.09	0.034	U	0.060	0.10	0.47	J	0.19	0.1
BRA3-8	BRA3-8	RANDOM	15-951	1/30/2008	0	0.5	pCi/g	0.57	J	0.16	0.05	0.49		0.17	0.23	0.43	J	0.31	0.30	-0.024	U	0.033	0.31	0.36	J	0.30	0.32
BRA3-9	BRA3-9	RANDOM	15-952	1/30/2008	0	0.5	pCi/g	0.60	J	0.24	0.06	0.62		0.23	0.37	0.64	J	0.18	0.06	0.041	U	0.051	0.062	0.50	J	0.16	0.05
BRA3-10	BRA3-10	RANDOM	15-953	1/30/2008	0	0.5	pCi/g	0.72	J	0.27	0.12	0.58		0.23	0.26	0.69	J	0.20	0.1	0.061	U	0.065	0.069	0.52	J	0.17	0.09
BRA1-1	BRA1-1	RANDOM	15-924	1/30/2008	0	0.5	pCi/g	0.61	J	0.18	0.08	0.53		0.23	0.25	0.28	J	0.12	0.06	0.0	U	0.014	0.044	0.41	J	0.15	0.06
BRA1-2	BRA1-2	RANDOM	15-925	1/30/2008	0	0.5	pCi/g	0.32	J	0.12	0.05	0.45		0.13	0.18	0.28	J	0.12	0.07	-0.0055	U	0.007	0.071	0.36	J	0.13	0.06
BRA1-3	BRA1-3	RANDOM	15-926	1/30/2008	0	0.5	pCi/g	0.36	J	0.13	0.06	0.54		0.19	0.18	0.35	J	0.13	0.07	-0.0026	U	0.005	0.058	0.40	J	0.14	0.03
BRA1-4	BRA1-4	RANDOM	15-927	1/30/2008	0	0.5	pCi/g	0.57	J	0.17	0.08	0.43		0.21	0.27	0.44	J	0.15	0.07	0.040	U	0.049	0.060	0.46	J	0.15	0.06
BRA1-5	BRA1-5	RANDOM	15-928	1/30/2008	0	0.5	pCi/g	0.67	J	0.18	0.06	0.30		0.16	0.20	0.22	J	0.15	0.13	0.022	U	0.055	0.12	0.27	J	0.16	0.12
BRA1-6	BRA1-6	RANDOM	15-929	1/30/2008	0	0.5	pCi/g	0.40	J	0.19	0.1	0.43		0.19	0.23	0.43	J	0.15	0.06	0.024	U	0.043	0.073	0.39	J	0.14	0.06
BRA1-7	BRA1-7	RANDOM	15-930	1/30/2008	0	0.5	pCi/g	0.36	J	0.17	0.08	0.42		0.15	0.17	0.185	J	0.097	0.033	0.015	U	0.031	0.042	0.21	J	0.10	0.06
BRA1-8	BRA1-8	RANDOM	15-931	1/30/2008	0	0.5	pCi/g	0.57	J	0.25	0.17	0.07	U	0.14	0.24	0.28	J	0.11	0.05	0.011	U	0.028	0.058	0.36	J	0.13	0.03
BRA1-9	BRA1-9	RANDOM	15-932	1/30/2008	0	0.5	pCi/g	0.43	J	0.15	0.03	0.37	U	0.26	0.38	0.37	J	0.13	0.05	-0.0024	U	0.004	0.054	0.31	J	0.12	0.04
BRA1-10	BRA1-10	RANDOM	15-933	1/30/2008	0	0.5	pCi/g	0.53	J	0.18	0.07	0.34		0.14	0.18	0.45	J	0.15	0.03	0.038	U	0.048	0.058	0.34	J	0.13	0.03
B-32IR-3a	IR32-B-3a	BIASED	15-954	3/27/2008	2	2.5	pCi/g	0.66	U	0.18	0.06	0.23		0.15	0.18	0.53	J	0.16	0.05	0.013	U	0.026	0.036	0.40	J	0.14	0.06
B-32IR-3b	IR32-B-3b	BIASED	15-955	3/27/2008	2.5	3	pCi/g	0.56	J	0.16	0.03	0.42		0.16	0.25	0.49	J	0.15	0.05	0.025	U	0.040	0.059	0.53	J	0.16	0.05
B-32IR-4Aa	IR32-B-4Aa	BIASED	15-957	3/27/2008	2	2.5	pCi/g	0.56	U	0.16	0.05	0.39		0.13	0.18	0.53	J	0.16	0.06	0.040	J	0.047	0.036	0.44	J	0.14	0.05
B-32IR-4Ab	IR32-B-4Ab	BIASED	15-958	3/27/2008	2.5	3	pCi/g	0.48	U	0.15	0.06	0.49		0.21	0.20	0.53	J	0.16	0.06	0.026	U	0.037	0.036	0.46	J	0.15	0.07
B-32IR-4Ba	IR32-B-4Ba	BIASED	15-959	3/27/2008	2	2.5	pCi/g	0.74	U	0.20	0.06	0.29	U	0.15	0.29	0.40	J	0.13	0.05	0.037	J	0.043	0.033	0.44	J	0.14	0.04
B-32IR-4Bb	IR32-B-4Bb	BIASED	15-960	3/27/2008	2.5	3	pCi/g	0.52	U	0.16	0.05	0.46		0.11	0.17	0.37	J	0.13	0.07	0.014	U	0.028	0.038	0.47	J	0.15	0.05
B-32IR-7a	IR32-B-7a	BIASED	15-961	3/27/2008	2	2.5	pCi/g	0.57	U	0.16	0.03	0.41		0.17	0.20	0.44	J	0.14	0.05	0.027	U	0.038	0.036	0.30	J	0.12	0.06
B-32IR-7b	IR32-B-7b	BIASED	15-962	3/27/2008	2.5	3	pCi/g	0.43	U	0.14	0.03	0.13	U	0.15	0.25	0.209	J	0.094	0.043	0.013	U	0.025	0.034	0.27	J	0.11	0.04
B-32IR-36a	IR32-B-36a	BIASED	15-963	3/27/2008	2	2.5	pCi/g	0.47	U	0.15	0.05	0.31		0.20	0.27	0.29	J	0.12	0.07	0.024	U	0.038	0.056	0.31	J	0.12	0.06
B-32IR-36b	IR32-B-36b	BIASED	15-964	3/27/2008	2.5	3	pCi/g	0.43	U	0.14	0.06	0.49		0.22	0.24	0.36	J	0.15	0.06	0.011	U	0.037	0.089	0.39	J	0.15	0.06
B-32IR-37a	IR32-B-37a	BIASED	15-965	3/27/2008	2	2.5	pCi/g	0.32	U	0.15	0.05	0.40		0.15	0.18	0.32	J	0.12	0.06	0.070	J	0.063	0.038	0.35	J	0.13	0.06
B-32IR-37b	IR32-B-37b	BIASED	15-966	3/27/2008	2.5	3	pCi/g	0.20	U	0.13	0.09	0.29		0.19	0.28	0.47	J	0.15	0.04	0.050	U	0.053	0.056	0.50	J	0.15	0.04
B-32IR-41a	IR32-B-41a	BIASED	15-967	3/27/2008	2	2.5	pCi/g	0.50	J	0.15	0.06	0.16	U	0.18	0.30	0.32	J	0.12	0.06	0.005	U	0.026	0.066	0.29	J	0.11	0.08
B-32IR-41b	IR32-B-41b	BIASED	15-968	3/27/2008	2.5	3	pCi/g	0.46	U	0.14	0.04	0.38		0.20	0.27	0.20	J	0.10	0.08	0.028	U	0.040	0.038	0.46	J	0.15	0.06
B-32IR-43a	IR32-B-43a	BIASED	15-969	3/27/2008	2	2.5	pCi/g	0.44	UJ	0.14	0.04	0.50		0.17	0.26	0.33	J	0.12	0.08	0.010	U	0.026	0.054	0.31	J	0.12	0.04
B-32IR-43b	IR32-B-43b	BIASED	15-970	3/27/2008	2.5	3	pCi/g	0.56	J	0.16	0.07	0.43		0.20	0.25	0.44	J	0.14	0.04	-0.0023	U	0.004	0.052	0.40	J	0.13	0.04
B-32IR-47a	IR32-B-47a	BIASED	15-971	3/27/2008	2	2.5	pCi/g	0.74	U	0.19	0.06	0.35		0.24	0.34	0.50	J	0.15	0.05	0.012	U	0.025	0.034	0.227	J	0.097	0.042
B-32IR-47b	IR32-B-47b	BIASED	15-972	3/27/2008	2.5	3	pCi/g	0.62	J	0.19	0.06	0.38		0.22	0.30	0.43	J	0.14	0.08	0.066	J	0.060	0.036	0.48	J	0.15	0.06
32IR-48	IR32-48	RANDOM	15-973	3/27/2008	2	2.5	pCi/g	0.68	U	0.19	0.03	0.29		0.11	0.14	0.36	J	0.13	0.05	0.040	U	0.050	0.061	0.38	J	0.14	0.05
32IR-50	IR32-50	RANDOM	15-974	3/27/2008	2	2.5	pCi/g	0.45	U	0.20	0.10	0.42		0.16	0.26	0.55	J	0.17	0.05	0.014	U	0.029	0.039	0.63	J	0.18	0.05
32IR-51	IR32-51	RANDOM	15-975	3/27/2008	2	2.5	pCi/g	0.43	U	0.17	0.09	0.41		0.17	0.31	0.56	J	0.17	0.07	0.040	U	0.050	0.060	0.47	J	0.15	0.06
B-32IR-54a	IR32-B-54a	BIASED	15-976	3/27/2008	2	2.5	pCi/g	0.76	J	0.22	0.04	0.35		0.14	0.23	0.42	J	0.14	0.06	0.044	J	0.050	0.039	0.58	J	0.17	0.05
B-32IR-54b	IR32-B-54b	BIASED	15-977	3/27/2008	2.5	3	pCi/g	0.65	J	0.19	0.03	0.34		0.20	0.24	0.36	J	0.15	0.09	0.057	U	0.068	0.090	0.49	J	0.17	0.04
B-32IR-56a	IR32-B-56a	BIASED	15-978	3/27/2008	2	2.5	pCi/g	0.57	U	0.18	0.08	0.25		0.18	0.25	0.29	J	0.12	0.05	0.015	U	0.030	0.041	0.26	J	0.12	0.07
B-32IR-56b	IR32-B-56b	BIASED	15-979	3/27/2008	2.5	3	pCi/g	0.54	U	0.20	0.05	0.33		0.12	0.20	0.43	J	0.15	0.06	0.016	U	0.032	0.044	0.35	J	0.14	0.06
B-32IR-60a	IR32-B-60a	BIASED	15-980	3/27/2008	2	2.5	pCi/g	0.57	U	0.17	0.05	0.34		0.14	0.27	0.49	J	0.17	0.09	0.014	U	0.036	0.075	0.46	J	0.17	0.08
B-32IR-60b	IR32-B-60b	BIASED	15-981	3/27/2008	2.5	3	pCi/g	0.56	U	0.18	0.04	0.31		0.19	0.27	0.50	J	0.20	0.08	0.014	U	0.048	0.11	0.33	J	0.16	0.08
B-32IR-61a	IR32-B-61a	BIASED	15-982	3/27/2008	2	2.5	pCi/g	0.28	U	0.17	0.14	0.22	U	0.23	0.36	0.36	J	0.17	0.11	0.0	U	0.020	0.061	0.20	J	0.12	0.08
B-32IR-61b	IR32-B-61b	BIASED	15-983	3/27/2008	2.5	3	pCi/g	0.47	U	0.20	0.06	0.24	U	0.14	0.32	0.44	J	0.15	0.05	0.015	U	0.030	0.040	0.30	J	0.12	0.06
B-32IR-62a	IR32-B-62a	BIASED	15-984	3/27/2008	2	2.5	pCi/g	0.45	U	0.17	0.09	0.45		0.25	0.32	0.189	J	0.094	0.048	0.014	U	0.028	0.038	0.177	J	0.091	0.048
B-32IR-62b	IR32-B-62b	BIASED	15-985	3/27/2008	2.5	3	pCi/g	0.32	U	0.14	0.07	0.05	U	0.20	0.36	0.23	J	0.10	0.05	0.027	U	0.039	0.037	0.27	J	0.11	0.05
B-32IR-63a	IR32-B-63a	BIASED	15-986	3/27/2008	2	2.5	pCi/g	0.60	J	0.17	0.05	0.54		0.13	0.09	0.37	J	0.14	0.08	0.044	U	0.055	0.067	0.31	J	0.13	0.07
B-32IR-63b	IR32-B-63b	BIASED	15-987	3/27/2008	2.5	3	pCi/g	0.53	U	0.18	0.08	0.33		0.14	0.25	0.34	J	0.14	0.06	0.010	U	0.034	0.080	0.23	J	0.11	0.06

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-32IR-65a	IR32-B-65a	BIASED	15-988	3/27/2008	2	2.5	pCi/g	0.48	U	0.18	0.08	0.31		0.20	0.29	0.33	J	0.14	0.06	0.035	U	0.049	0.047	0.39	J	0.15	0.06
B-32IR-65b	IR32-B-65b	BIASED	15-989	3/27/2008	2.5	3	pCi/g	0.47	U	0.19	0.05	0.25	U	0.17	0.25	0.22	J	0.11	0.05	0.031	U	0.044	0.042	0.33	J	0.13	0.05
32IR-66	IR32-66	RANDOM	15-990	3/27/2008	2	2.5	pCi/g	0.43	U	0.20	0.06	0.31		0.13	0.17	0.30	J	0.13	0.08	-0.0031	U	0.006	0.071	0.30	J	0.13	0.07
B-32IR-67a	IR32-B-67a	BIASED	15-991	3/27/2008	2	2.5	pCi/g	0.45	U	0.16	0.05	0.38		0.19	0.26	0.45	J	0.16	0.06	0.011	U	0.036	0.086	0.39	J	0.15	0.06
B-32IR-67b	IR32-B-67b	BIASED	15-992	3/27/2008	2.5	3	pCi/g	0.36	U	0.15	0.09	0.44		0.24	0.32	0.34	J	0.14	0.06	0.016	U	0.032	0.043	0.51	J	0.17	0.05
B-32IR-69a	IR32-B-69a	BIASED	15-993	3/31/2008	2	2.5	pCi/g	0.52	J	0.15	0.06	0.22		0.14	0.19	0.37	J	0.14	0.07	0.029	U	0.040	0.039	0.36	J	0.13	0.06
B-32IR-69b	IR32-B-69b	BIASED	15-994	3/31/2008	2.5	3	pCi/g	0.58	J	0.17	0.03	0.19	U	0.19	0.30	0.32	J	0.12	0.05	0.013	U	0.027	0.036	0.30	J	0.12	0.05
B-32IR-71a	IR32-B-71a	BIASED	15-996	3/31/2008	2	2.5	pCi/g	0.46	J	0.14	0.04	0.47		0.23	0.28	0.41	J	0.14	0.06	0.026	U	0.037	0.035	0.38	J	0.13	0.04
B-32IR-71b	IR32-B-71b	BIASED	15-997	3/31/2008	2.5	3	pCi/g	0.63	J	0.17	0.07	0.54		0.26	0.36	0.36	J	0.12	0.04	0.025	U	0.035	0.033	0.40	J	0.13	0.05
B-32IR-73a	IR32-B-73a	BIASED	15-998	3/31/2008	2	2.5	pCi/g	0.48	J	0.15	0.03	0.28	U	0.27	0.42	0.27	J	0.11	0.05	0.013	U	0.027	0.036	0.36	J	0.13	0.05
B-32IR-73b	IR32-B-73b	BIASED	15-999	3/31/2008	2.5	3	pCi/g	0.38	U	0.13	0.03	0.17	U	0.18	0.28	0.25	J	0.11	0.06	-0.0024	U	0.004	0.055	0.24	J	0.10	0.06
B-32IR-75a	IR32-B-75a	BIASED	15-1000	3/31/2008	2	2.5	pCi/g	0.68	J	0.18	0.05	0.40		0.14	0.17	0.57	J	0.16	0.05	0.022	U	0.038	0.065	0.66	J	0.18	0.05
B-32IR-75b	IR32-B-75b	BIASED	15-1001	3/31/2008	2.5	3	pCi/g	0.70	J	0.19	0.06	0.39		0.13	0.18	0.49	J	0.15	0.05	0.013	U	0.027	0.036	0.44	J	0.14	0.05
B-32IR-76a	IR32-B-76a	BIASED	15-1002	3/31/2008	2	2.5	pCi/g	0.42	U	0.13	0.04	0.51		0.32	0.49	0.44	J	0.14	0.06	0.027	U	0.038	0.037	0.48	J	0.15	0.06
B-32IR-76b	IR32-B-76b	BIASED	15-1003	3/31/2008	2.5	3	pCi/g	0.38	U	0.13	0.05	0.24		0.15	0.22	0.41	J	0.14	0.05	0.025	U	0.039	0.058	0.42	J	0.14	0.05
B-32IR-79a	IR32-B-79a	BIASED	15-1004	3/31/2008	2	2.5	pCi/g	0.36	U	0.13	0.03	0.27	U	0.20	0.30	0.35	J	0.13	0.06	0.033	U	0.048	0.073	0.32	J	0.13	0.08
B-32IR-79b	IR32-B-79b	BIASED	15-1005	3/31/2008	2.5	3	pCi/g	0.40	U	0.13	0.04	0.30		0.13	0.24	0.31	J	0.12	0.08	0.054	J	0.054	0.036	0.37	J	0.13	0.06
B-32IR-80a	IR32-B-80a	BIASED	15-1006	3/31/2008	2	2.5	pCi/g	0.35	U	0.12	0.03	0.30		0.19	0.24	0.30	J	0.12	0.08	-0.0025	U	0.005	0.058	0.27	J	0.11	0.05
B-32IR-80b	IR32-B-80b	BIASED	15-1007	3/31/2008	2.5	3	pCi/g	0.54	J	0.16	0.03	0.44		0.18	0.33	0.32	J	0.12	0.04	0.022	U	0.035	0.052	0.40	J	0.13	0.04
B-32IR-81a	IR32-B-81a	BIASED	15-1008	3/31/2008	2	2.5	pCi/g	0.55	J	0.17	0.07	0.62		0.14	0.11	0.40	J	0.14	0.05	0.013	U	0.027	0.036	0.30	J	0.12	0.05
B-32IR-81b	IR32-B-81b	BIASED	15-1009	3/31/2008	2.5	3	pCi/g	0.42	U	0.14	0.06	0.31		0.16	0.20	0.38	J	0.13	0.05	0.077	J	0.066	0.057	0.35	J	0.13	0.05
B-32IR-84a	IR32-B-84a	BIASED	15-1010	3/31/2008	2	2.5	pCi/g	0.64	J	0.18	0.06	0.30		0.18	0.24	0.72	J	0.19	0.07	0.028	U	0.040	0.038	0.57	J	0.17	0.06
B-32IR-84b	IR32-B-84b	BIASED	15-1011	3/31/2008	2.5	3	pCi/g	0.52	J	0.15	0.04	0.41		0.16	0.19	0.41	J	0.13	0.06	0.013	U	0.025	0.034	0.39	J	0.13	0.06
B-32IR-6a	IR32-B-6a	BIASED	15-1012	3/31/2008	2	2.5	pCi/g	0.71	J	0.20	0.07	0.48		0.18	0.27	0.49	J	0.15	0.05	0.013	U	0.027	0.036	0.43	J	0.14	0.05
B-32IR-6b	IR32-B-6a	BIASED	15-1013	3/31/2008	2.5	3	pCi/g	0.56	J	0.16	0.06	0.36		0.17	0.21	0.55	J	0.16	0.06	0.013	U	0.026	0.035	0.34	J	0.12	0.04
B-32IR-5a	IR32-B-5a	BIASED	15-1014	3/31/2008	2	2.5	pCi/g	0.43	J	0.14	0.03	0.28		0.11	0.12	0.45	J	0.15	0.06	0.027	U	0.039	0.037	0.27	J	0.11	0.05
B-32IR-5b	IR32-B-5b	BIASED	15-1015	3/31/2008	2.5	3	pCi/g	0.41	J	0.14	0.06	0.42		0.14	0.25	0.38	J	0.13	0.05	0.013	U	0.025	0.034	0.36	J	0.13	0.04
B-IR1-134a	IR1-B-134a	BIASED	15-1016	3/31/2008	2	2.5	pCi/g	0.60	J	0.17	0.04	0.37		0.15	0.27	0.39	J	0.14	0.07	0.015	U	0.029	0.039	0.43	J	0.15	0.05
B-IR1-134b	IR1-B-134b	BIASED	15-1017	3/31/2008	2.5	3	pCi/g	0.40	J	0.13	0.04	0.29		0.17	0.23	0.42	J	0.13	0.04	0.008	U	0.026	0.061	0.28	J	0.11	0.04
B-IR1-135a	IR1-B-135a	BIASED	15-1018	3/31/2008	2	2.5	pCi/g	0.54	J	0.16	0.06	0.42		0.15	0.25	0.48	J	0.15	0.04	0.038	J	0.044	0.034	0.47	J	0.14	0.04
B-IR1-135b	IR1-B-135b	BIASED	15-1019	3/31/2008	2.5	3	pCi/g	0.42	J	0.13	0.06	0.46		0.26	0.35	0.33	J	0.12	0.05	0.014	U	0.028	0.037	0.43	J	0.14	0.05
B-32IR-85a	IR32-B-85a	BIASED	15-1020	4/1/2008	2	2.5	pCi/g	0.44	J	0.14	0.03	0.30	U	0.13	0.34	0.57	J	0.17	0.05	0.024	U	0.043	0.073	0.45	J	0.15	0.05
B-32IR-85b	IR32-B-85b	BIASED	15-1021	4/1/2008	2.5	3	pCi/g	0.64	J	0.18	0.05	0.45		0.12	0.17	0.49	J	0.15	0.06	0.028	U	0.040	0.038	0.48	J	0.15	0.06
B-32IR-86a	IR32-B-86a	BIASED	15-1022	4/1/2008	2	2.5	pCi/g	0.46	J	0.15	0.03	0.40		0.15	0.26	0.30	J	0.12	0.05	-0.0025	U	0.005	0.058	0.30	J	0.12	0.05
B-32IR-86b	IR32-B-86b	BIASED	15-1023	4/1/2008	2.5	3	pCi/g	0.39	J	0.14	0.05	0.21	U	0.19	0.28	0.32	J	0.12	0.06	0.019	U	0.039	0.072	0.35	J	0.13	0.08
B-32IR-87a	IR32-B-87a	BIASED	15-1024	4/1/2008	2	2.5	pCi/g	0.34	J	0.13	0.06	0.37		0.15	0.24	0.33	J	0.13	0.08	0.0	U	0.012	0.038	0.33	J	0.13	0.06
B-32IR-87b	IR32-B-87b	BIASED	15-1025	4/1/2008	2.5	3	pCi/g	0.57	J	0.16	0.05	0.36		0.15	0.30	0.29	J	0.12	0.08	-0.0025	U	0.005	0.057	0.39	J	0.13	0.05
B-32IR-88a	IR32-B-88a	BIASED	15-1026	4/1/2008	2	2.5	pCi/g	0.54	J	0.16	0.05	0.40		0.14	0.23	0.30	U	0.11	0.04	0.010	U	0.026	0.055	0.31	J	0.12	0.04
B-32IR-88b	IR32-B-88b	BIASED	15-1027	4/1/2008	2.5	3	pCi/g	0.63	J	0.18	0.07	0.30		0.13	0.22	0.39	J	0.13	0.05	0.013	U	0.026	0.036	0.31	J	0.12	0.05
B-32IR-89a	IR32-B-89a	BIASED	15-1028	4/1/2008	2	2.5	pCi/g	0.52	J	0.16	0.03	0.29	U	0.23	0.34	0.30	J	0.12	0.04	0.024	U	0.038	0.056	0.41	J	0.14	0.04
B-32IR-89b	IR32-B-89b	BIASED	15-1029	4/1/2008	2.5	3	pCi/g	0.51	J	0.15	0.03	0.32		0.16	0.32	0.28	J	0.12	0.07	0.014	U	0.028	0.038	0.30	J	0.12	0.05
B-32IR-90a	IR32-B-90a	BIASED	15-1031	4/1/2008	2	2.5	pCi/g	0.49	J	0.15	0.06	0.34		0.23	0.32	0.28	J	0.12	0.07	0.0	U	0.013	0.040	0.27	J	0.12	0.07
B-32IR-90b	IR32-B-90b	BIASED	15-1032	4/1/2008	2.5	3	pCi/g	0.46	J	0.14	0.03	0.35		0.13	0.22	0.35	J	0.12	0.05	0.039	J	0.045	0.035	0.45	J	0.14	0.04
B-32IR-91a	IR32-B-91a	BIASED	15-1033	4/1/2008	2	2.5	pCi/g	0.50	J	0.15	0.06	0.29	U	0.21	0.29	0.38	J	0.14	0.07	0.014	U	0.028	0.038	0.49	J	0.15	0.05
B-32IR-91b	IR32-B-91b	BIASED	15-1034	4/1/2008	2.5	3	pCi/g	0.45	J	0.14	0.03	0.48		0.22	0.25	0.34	J	0.12	0.05	0.027	U	0.038	0.036	0.38	J	0.13	0.06
B-32IR-92a	IR32-B-92a	BIASED	15-1035	4/1/2008	2	2.5	pCi/g	0.51	U	0.15	0.03	0.56		0.16	0.19	0.38	J	0.13	0.04	0.013	U	0.025	0.034	0.33	J	0.12	0.04
B-32IR-92b	IR32-B-92b	BIASED	15-1036	4/1/2008	2.5	3	pCi/g	0.140	U	0.076	0.027	0.42		0.18	0.20	0.33	J	0.12	0.07	0.011	U	0.027	0.057	0.31	J	0.12	0.06
B-32IR-93a	IR32-B-93a	BIASED	15-1037	4/1/2008	2	2.5	pCi/g	0.67	J	0.17	0.06	0.35		0.20	0.26	0.54	J	0.16	0.05	0.022	U	0.039	0.066	0.58	J	0.17	0.05
B-32IR-93b	IR32-B-93b	BIASED	15-1038	4/1/2008	2.5	3	pCi/g	0.42	U	0.14	0.03	0.47		0.20	0.26	0.31	J	0.12	0.07	0.013	U	0.027	0.036	0.30	J	0.12	0.05
B-32IR-94a	IR32-B-94a	BIASED	15-1039	4/1/2008	2	2.5	pCi/g	0.56	J	0.30	0.16	0.32		0.20	0.27	0.43	J	0.14	0.04	0.025	U	0.036	0.034	0.25	J	0.10	0.05
B-32IR-94b	IR32-B-94b	BIASED	15-1040	4/1/2008	2.5	3	pCi/g	0.42	U	0.14	0.03	0.47		0.16	0.22	0.33	J	0.12	0.04	0.012	U	0.025	0.034	0.30	J	0.11	0.04
B-32IR-95a	IR32-B-95a	BIASED	15-1041	4/1/2008	2	2.5	pCi/g	0.59	J	0.17	0.06	0.14	U	0.27	0.45	0.46	J	0.15	0.05	0.0	U	0.012	0.036	0.32	J	0.12	0.05
B-32IR-95b	IR32-B-95b	BIASED	15-1042	4/1/2008	2.5	3	pCi/g	0.42	U	0.14	0.06	0.41		0.20	0.21	0.31	J	0.12	0.07	0.038	U	0.047	0.057	0.23	J	0.10	0.06
B-32IR-96a	IR32-B-96a	BIASED	15-1043	4/1/2008	2	2.5	pCi/g	0.38	U	0.13	0.06	0.28		0.13	0.17	0.42	J	0.14	0.05	-0.0050	U	0.007	0.065	0.23	J	0.10	0.05
B-32IR-96b	IR32-B-96b	BIASED	15-1044	4/1/2008	2.5	3	pCi/g	0.63	J	0.18	0.06	0.36		0.21	0.30	0.31	J	0.12	0.05	0.0	U	0.011	0.036	0.26	J	0.11	0.05
B-32IR-97a	IR32-B-97a	BIASED	15-1045	4/1/2008	2	2.5	pCi/g	0.52	U	0.16	0.03	0.35		0.21	0.29	0.41	J	0.14	0.07	-0.0075	U	0.008	0.072	0.37	J	0.13	0.03
B-32IR-97b	IR32-B-97b	BIASED	15-1046	4/1/2008	2.5	3	pCi/g	0.38	U	0.13	0.03	0.29		0.15	0.19	0.27	J	0.11	0.06	0.013	U	0.025	0.034	0.30	J	0.11	0.04
B-32IR-98a	IR32-B-98a	BIASED	15-1047	4/1/2008	2	2.5	pCi/g	0.35	U	0.12	0.03	0.26	U	0.21	0.32	0.22	J	0.10	0.05	0.027	U	0.038	0.036	0.25	J	0.11	0.06
B-32IR-98b	IR32-B-98b	BIASED	15-1048	4/1/2008	2.5	3	pCi/g	0.33	U	0.12	0.07	0.31		0.17	0.23	0.31	J	0.12	0.05	0.0	U	0.012	0.039	0.42	J	0.14	0.05
B-32IR-99a	IR32-B-99a	BIASED	15-1049	4/1/2008	2	2.5	pCi/g	0.61	J	0.17	0.03	0.46		0.20	0.23	0.51	J	0.16	0.07	0.011	U	0.028	0.058	0.32	J	0.12	0.06
B-32IR-99b	IR32-B-99b	BIASED	15-1050	4/1/2008	2.5	3	pCi/g	0.72	J	0.19	0.05	0.60		0.20	0.23	0.40	J	0.14	0.05	0.036	U	0.049	0.068	0.40	J	0.14	0.05
B-32IR-100a	IR32-B-100a	BIASED	15-1051	4/1/2008	2	2.5	pCi/g	0.54	U	0.15	0.05	0.48		0.17	0.28	0.38	J	0.13	0.04	0.026	U	0.037	0.035	0.39	J	0.13	0.04
B-32IR-100b	IR32-B-100b	BIASED	15-1052	4/1/2008	2.5	3	pCi/g	0.65	J	0.17	0.06	0.47		0.16	0.27	0.36	J	0.13	0.05	0.0	U	0.012	0.037	0.36	J	0.13	0.05
B-32IR-101a	IR32-B-101a	BIASED	15-1053	4/1/2008	2	2.5	pCi/g	0.75	J	0.19	0.05	0.67		0.14	0.05	0.49	J	0.16	0.08	0.006	U	0.029	0.074	0.50	J	0.15	0.03
B-32IR-101b	IR32-B-101b	BIASED	15-1054	4/1/2008	2.5	3	pCi/g	0.65	J	0.17	0.03	0.35		0.14	0.24	0.44	J	0.15	0.07	0.027	U	0.039	0.037	0.45	J	0.15	0.05
B-32IR-102a	IR32-B-102a	BIASED	15-1055	4/2/2008	2	2.5	pCi/g	0.36	J	0.29	0.29	0.39		0.13	0.18	0.34	J	0.12	0.05	0.014	U	0.027	0.037	0.39	J	0.13	0.05
B-32IR-102b	IR32-B-102b	BIASED	15-1056	4/2/2008	2.5	3	pCi/g	0.60	J	0.21	0.05	0.55		0.17	0.17	0.41	J	0.13	0.06	0.035	U	0.043	0.053	0.48	J	0.15	0.05
B-32IR-103a	IR32-B-103a	BIASED	15-1057	4/2/2008	2	2.5	pCi/g	0.70	J	0.20	0.06	0.43		0.14	0.21	0.40	J	0.13	0.04	0.018	U	0.033	0.056	0.44	J	0.13	0.04
B-32IR-103b	IR32-B-103b	BIASED	15-1058	4/2/2008	2.5	3	pCi/g	0.56	J	0.24	0.12	0.57		0.17	0.20	0.32	J	0.12	0.05	0.041	J	0.047	0.037	0.36	J	0.13	0.05
B-32IR-104a	IR32-B-104a	BIASED	15-1059	4/2/2008	2	2.5	pCi/g	0.62	J	0.22	0.11	0.50		0.16	0.23	0.44	J	0.15	0.07	0.019	U	0.039	0.072	0.46	J	0.14	0.03

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-32IR-104b	IR32-B-104b	BIASED	15-1060	4/2/2008	2.5	3	pCi/g	0.79	J	0.23	0.04	0.57		0.16	0.21	0.52	J	0.15	0.06	0.013	U	0.025	0.034	0.33	J	0.12	0.04
B-32IR-105a	IR32-B-105a	BIASED	15-1061	4/2/2008	2	2.5	pCi/g	0.48	J	0.22	0.07	0.38		0.23	0.33	0.41	J	0.14	0.04	0.0	U	0.011	0.035	0.50	J	0.15	0.06
B-32IR-105b	IR32-B-105b	BIASED	15-1062	4/2/2008	2.5	3	pCi/g	0.70	J	0.20	0.08	0.59		0.16	0.20	0.41	J	0.13	0.04	0.048	J	0.048	0.033	0.36	J	0.12	0.04
B-32IR-106a	IR32-B-106a	BIASED	15-1063	4/2/2008	2	2.5	pCi/g	0.59	J	0.19	0.07	0.41		0.13	0.20	0.41	J	0.14	0.05	0.013	U	0.027	0.036	0.51	J	0.15	0.05
B-32IR-106b	IR32-B-106b	BIASED	15-1064	4/2/2008	2.5	3	pCi/g	0.41	J	0.16	0.06	0.53		0.17	0.25	0.35	J	0.13	0.06	0.023	U	0.037	0.055	0.38	J	0.13	0.06
B-32IR-107a	IR32-B-107a	BIASED	15-1065	4/2/2008	2	2.5	pCi/g	0.39	J	0.23	0.09	0.36		0.15	0.26	0.37	J	0.13	0.05	0.022	U	0.039	0.067	0.40	J	0.14	0.05
B-32IR-107b	IR32-B-107b	BIASED	15-1066	4/2/2008	2.5	3	pCi/g	0.58	J	0.17	0.06	0.41		0.14	0.22	0.34	J	0.13	0.06	0.042	J	0.049	0.038	0.37	J	0.13	0.05
B-32IR-113a	IR32-B-113a	BIASED	15-1067	4/2/2008	2	2.5	pCi/g	0.49	J	0.17	0.08	0.44		0.18	0.33	0.32	J	0.12	0.07	-0.0071	U	0.008	0.068	0.50	J	0.15	0.03
B-32IR-113b	IR32-B-113b	BIASED	15-1068	4/2/2008	2.5	3	pCi/g	0.46	J	0.16	0.05	0.44		0.11	0.16	0.32	J	0.12	0.06	0.038	J	0.043	0.034	0.30	J	0.11	0.04
B-32IR-114a	IR32-B-114a	BIASED	15-1069	4/2/2008	2	2.5	pCi/g	0.45	J	0.16	0.07	0.38		0.14	0.22	0.39	J	0.13	0.05	0.0	U	0.011	0.036	0.27	J	0.11	0.06
B-32IR-114b	IR32-B-114b	BIASED	15-1070	4/2/2008	2.5	3	pCi/g	0.63	J	0.19	0.04	0.14	U	0.14	0.23	0.42	J	0.14	0.04	0.025	U	0.036	0.034	0.31	J	0.12	0.04
B-32IR-115a	IR32-B-115a	BIASED	15-1071	4/2/2008	2	2.5	pCi/g	0.31	J	0.16	0.09	0.63		0.20	0.25	0.45	J	0.14	0.04	0.026	U	0.037	0.035	0.30	J	0.12	0.04
B-32IR-115b	IR32-B-115b	BIASED	15-1072	4/2/2008	2.5	3	pCi/g	0.57	J	0.16	0.05	0.61		0.19	0.27	0.44	J	0.15	0.07	0.024	U	0.038	0.057	0.36	J	0.13	0.06
B-32IR-116a	IR32-B-116a	BIASED	15-1073	4/2/2008	2	2.5	pCi/g	0.60	J	0.17	0.06	0.51		0.16	0.24	0.42	J	0.14	0.05	-0.0049	U	0.007	0.065	0.42	J	0.14	0.05
B-32IR-116b	IR32-B-116b	BIASED	15-1074	4/2/2008	2.5	3	pCi/g	0.70	J	0.19	0.03	0.48		0.14	0.17	0.51	J	0.15	0.05	0.039	J	0.045	0.035	0.47	J	0.15	0.04
B-32IR-118a	IR32-B-118a	BIASED	15-1075	4/2/2008	2	2.5	pCi/g	0.64	J	0.18	0.06	0.39		0.15	0.24	0.49	J	0.16	0.05	0.015	U	0.030	0.040	0.44	J	0.15	0.06
B-32IR-118b	IR32-B-118b	BIASED	15-1076	4/2/2008	2.5	3	pCi/g	0.57	J	0.16	0.05	0.29	U	0.20	0.30	0.41	J	0.14	0.05	0.015	U	0.029	0.040	0.49	J	0.16	0.05
B-32IR-119a	IR32-B-119a	BIASED	15-1077	4/2/2008	2	2.5	pCi/g	0.61	J	0.17	0.06	0.46		0.20	0.23	0.50	J	0.15	0.06	0.010	U	0.026	0.054	0.41	J	0.13	0.05
B-32IR-119b	IR32-B-119b	BIASED	15-1078	4/2/2008	2.5	3	pCi/g	0.63	J	0.18	0.07	0.33		0.13	0.22	0.45	J	0.14	0.05	0.035	U	0.047	0.065	0.37	J	0.13	0.05
B-32IR-120a	IR32-B-120a	BIASED	15-1079	4/2/2008	2	2.5	pCi/g	0.47	J	0.14	0.05	0.47		0.16	0.28	0.33	J	0.13	0.08	0.011	U	0.029	0.060	0.32	J	0.12	0.05
B-32IR-120b	IR32-B-120b	BIASED	15-1080	4/2/2008	2.5	3	pCi/g	0.55	J	0.17	0.06	0.48		0.13	0.13	0.47	J	0.15	0.05	0.056	U	0.059	0.062	0.35	J	0.13	0.05
B-32IR-126a	IR32-B-126a	BIASED	15-1082	4/2/2008	2	2.5	pCi/g	0.45	J	0.14	0.06	0.24	U	0.17	0.25	0.37	J	0.13	0.05	0.028	U	0.039	0.038	0.48	J	0.15	0.05
B-32IR-126b	IR32-B-126b	BIASED	15-1083	4/2/2008	2.5	3	pCi/g	0.42	J	0.15	0.06	0.24		0.11	0.15	0.38	J	0.14	0.07	0.026	U	0.041	0.061	0.41	J	0.14	0.06
B-32IR-129a	IR32-B-129a	BIASED	15-1084	4/2/2008	2	2.5	pCi/g	0.48	J	0.15	0.06	0.157	U	0.079	0.43	0.33	J	0.12	0.05	0.035	U	0.047	0.066	0.29	J	0.11	0.05
B-32IR-129b	IR32-B-129b	BIASED	15-1085	4/2/2008	2.5	3	pCi/g	0.68	J	0.18	0.06	0.34		0.20	0.27	0.40	J	0.14	0.07	0.027	U	0.038	0.036	0.25	J	0.11	0.05
B-32IR-131a	IR32-B-131a	BIASED	15-1086	4/2/2008	2	2.5	pCi/g	0.49	J	0.15	0.05	0.21	U	0.19	0.29	0.45	J	0.14	0.04	0.025	U	0.036	0.034	0.47	J	0.14	0.04
B-32IR-131b	IR32-B-131b	BIASED	15-1087	4/2/2008	2.5	3	pCi/g	0.30	J	0.16	0.11	0.27		0.13	0.22	0.42	J	0.14	0.05	0.026	U	0.037	0.035	0.25	J	0.10	0.04
B-32IR-133a	IR32-B-133a	BIASED	15-1088	4/2/2008	2	2.5	pCi/g	0.55	J	0.16	0.03	0.0	U	0.35	0.64	0.33	J	0.12	0.07	0.032	U	0.046	0.071	0.27	J	0.11	0.03
B-32IR-133b	IR32-B-133b	BIASED	15-1089	4/2/2008	2.5	3	pCi/g	0.61	J	0.17	0.05	0.31	U	0.22	0.33	0.30	J	0.12	0.07	0.014	U	0.028	0.037	0.25	J	0.11	0.05
B-32IR-134a	IR32-B-134a	BIASED	15-1090	4/2/2008	2	2.5	pCi/g	0.37	J	0.13	0.07	0.18		0.12	0.18	0.31	J	0.13	0.05	0.045	J	0.052	0.040	0.39	J	0.14	0.06
B-32IR-134b	IR32-B-134b	BIASED	15-1091	4/2/2008	2.5	3	pCi/g	0.61	J	0.17	0.03	0.23	U	0.17	0.26	0.47	J	0.15	0.05	0.053	J	0.053	0.036	0.50	J	0.15	0.05
B-32IR-135a	IR32-B-135a	BIASED	15-1092	4/2/2008	2	2.5	pCi/g	0.42	J	0.14	0.03	0.27	U	0.15	0.28	0.25	J	0.11	0.05	0.028	U	0.040	0.038	0.28	J	0.12	0.05
B-32IR-135b	IR32-B-135b	BIASED	15-1093	4/2/2008	2.5	3	pCi/g	0.30	J	0.11	0.03	0.20	U	0.17	0.25	0.35	J	0.13	0.07	0.025	U	0.039	0.058	0.33	J	0.12	0.06
B-32IR-136a	IR32-B-136a	BIASED	15-1094	4/2/2008	2	2.5	pCi/g	0.33	J	0.15	0.07	0.0	U	0.24	0.44	0.38	J	0.19	0.12	0.030	U	0.059	0.080	0.28	J	0.17	0.13
B-32IR-136b	IR32-B-136b	BIASED	15-1095	4/2/2008	2.5	3	pCi/g	0.33	U	0.12	0.05	0.36		0.22	0.31	0.29	U	0.11	0.05	0.013	U	0.027	0.036	0.30	U	0.12	0.05
B-32IR-137a	IR32-B-137a	BIASED	15-1096	4/2/2008	2	2.5	pCi/g	0.47	U	0.15	0.03	0.21	U	0.24	0.39	0.28	U	0.11	0.06	0.025	U	0.035	0.034	0.32	U	0.12	0.04
B-32IR-137b	IR32-B-137b	BIASED	15-1097	4/2/2008	2.5	3	pCi/g	0.38	U	0.13	0.03	0.39	U	0.29	0.45	0.30	U	0.11	0.04	0.012	U	0.025	0.033	0.211	U	0.094	0.053
B-32IR-138a	IR32-B-138a	BIASED	15-1098	4/2/2008	2	2.5	pCi/g	0.43	U	0.14	0.06	0.121	U	0.072	0.34	0.40	J	0.13	0.05	0.0	U	0.011	0.036	0.27	U	0.11	0.05
B-32IR-138b	IR32-B-138b	BIASED	15-1099	4/2/2008	2.5	3	pCi/g	0.37	U	0.13	0.06	0.22		0.15	0.20	0.167	U	0.089	0.048	0.028	U	0.040	0.038	0.167	U	0.089	0.048
B-32IR-139a	IR32-B-139a	BIASED	15-1100	4/2/2008	2	2.5	pCi/g	0.25	U	0.10	0.03	0.24		0.16	0.24	0.207	J	0.094	0.049	0.0	U	0.011	0.034	0.188	J	0.089	0.043
B-32IR-139b	IR32-B-139b	BIASED	15-1101	4/2/2008	2.5	3	pCi/g	0.61	U	0.17	0.06	0.26	U	0.26	0.41	0.28	U	0.11	0.04	-0.0049	U	0.007	0.064	0.28	U	0.11	0.04
B-32IR-140a	IR32-B-140a	BIASED	15-1102	4/2/2008	2	2.5	pCi/g	0.49	U	0.15	0.05	0.32		0.21	0.29	0.43	J	0.14	0.05	0.013	U	0.026	0.035	0.26	U	0.11	0.04
B-32IR-140b	IR32-B-140b	BIASED	15-1103	4/2/2008	2.5	3	pCi/g	0.38	U	0.13	0.03	0.20	U	0.12	0.31	0.27	U	0.11	0.06	0.017	U	0.034	0.064	0.208	U	0.090	0.026
B-32IR-141a	IR32-B-141a	BIASED	15-1104	4/3/2008	2	2.5	pCi/g	0.49	J	0.14	0.03	0.12	U	0.19	0.32	0.25	J	0.11	0.05	-0.0025	U	0.005	0.056	0.35	J	0.13	0.05
B-32IR-141b	IR32-B-141b	BIASED	15-1105	4/3/2008	2.5	3	pCi/g	0.29	U	0.11	0.05	0.41		0.20	0.27	0.32	J	0.13	0.06	0.030	U	0.043	0.041	0.40	J	0.14	0.07
32IR-142	IR32-142	RANDOM	15-1107	4/3/2008	2	2.5	pCi/g	0.098	U	0.065	0.050	0.183		0.098	0.12	0.104	J	0.076	0.082	0.0	U	0.012	0.038	0.150	J	0.085	0.060
B-32IR-143a	IR32-B-143a	BIASED	15-1108	4/3/2008	2	2.5	pCi/g	0.49	J	0.15	0.05	0.41		0.17	0.31	0.35	J	0.13	0.06	0.030	U	0.043	0.041	0.29	J	0.12	0.05
B-32IR-143b	IR32-B-143b	BIASED	15-1109	4/3/2008	2.5	3	pCi/g	0.48	J	0.15	0.03	0.21		0.14	0.19	0.53	J	0.16	0.05	0.039	U	0.048	0.058	0.37	J	0.13	0.05
B-32IR-144a	IR32-B-144a	BIASED	15-1110	4/3/2008	2	2.5	pCi/g	0.32	J	0.12	0.03	0.32		0.16	0.30	0.45	J	0.15	0.07	0.030	U	0.042	0.040	0.47	J	0.16	0.06
B-32IR-144b	IR32-B-144b	BIASED	15-1111	4/3/2008	2.5	3	pCi/g	0.52	J	0.16	0.05	0.22		0.15	0.20	0.40	J	0.14	0.07	0.042	J	0.048	0.038	0.52	J	0.16	0.07
32IR-149	IR32-149	RANDOM	15-1112	4/3/2008	2	2.5	pCi/g	0.33	J	0.12	0.07	0.18	U	0.17	0.27	0.29	J	0.12	0.06	0.061	J	0.061	0.041	0.23	J	0.11	0.05
B-32IR-150Aa	IR32-B-150Aa	BIASED	15-1113	4/3/2008	2	2.5	pCi/g	0.41	J	0.13	0.03	0.41		0.14	0.16	0.44	J	0.14	0.05	0.040	J	0.046	0.036	0.39	J	0.13	0.06
B-32IR-150Ab	IR32-B-150Ab	BIASED	15-1114	4/3/2008	2.5	3	pCi/g	0.27	U	0.11	0.05	0.27		0.12	0.20	0.201	J	0.097	0.048	0.023	U	0.040	0.069	0.25	J	0.11	0.05
B-32IR-150-Ba	IR32-B-150Ba	BIASED	15-1115	4/3/2008	2	2.5	pCi/g	0.50	J	0.16	0.06	0.69		0.26	0.28	0.35	J	0.13	0.05	0.011	U	0.028	0.059	0.33	J	0.12	0.05
B-32IR-150-Bb	IR32-B-150Bb	BIASED	15-1116	4/3/2008	2.5	3	pCi/g	0.50	J	0.15	0.03	0.040	U	0.096	0.18	0.28	J	0.12	0.08	0.0	U	0.012	0.036	0.45	J	0.14	0.06
B-32IR-151a	IR32-B-151a	BIASED	15-1117	4/3/2008	2	2.5	pCi/g	0.39	J	0.13	0.05	0.28	U	0.20	0.29	0.30	J	0.11	0.04	0.036	U	0.045	0.055	0.175	J	0.087	0.044
B-32IR-151b	IR32-B-151b	BIASED	15-1118	4/3/2008	2.5	3	pCi/g	0.56	J	0.16	0.03	0.39		0.13	0.16	0.35	J	0.13	0.06	0.029	U	0.041	0.039	0.196	J	0.098	0.050
B-32IR-157a	IR32-B-157a	BIASED	15-1119	4/3/2008	3	3.5	pCi/g	0.37	J	0.13	0.03	0.38		0.21	0.29	0.30	J	0.12	0.07	-0.0052	U	0.007	0.068	0.198	J	0.096	0.047
B-32IR-157b	IR32-B-157b	BIASED	15-1120	4/3/2008	3.5	4	pCi/g	0.46	J	0.15	0.05	0.31		0.20	0.28	0.49	J	0.16	0.05	0.123	J	0.090	0.067	0.57	J	0.18	0.05
B-32IR-158a	IR32-B-158a	BIASED	15-1121	4/3/2008	2	2.5	pCi/g	0.63	J	0.17	0.07	0.41		0.16	0.24	0.35	J	0.13	0.05	0.009	U	0.029	0.068	0.33	J	0.12	0.05
B-32IR-158b	IR32-B-158b	BIASED	15-1122	4/3/2008	2.5	3	pCi/g	0.35	J	0.13	0.03	0.26	U	0.15	0.31	0.41	J	0.14	0.07	0.029	U	0.041	0.039	0.30	J	0.12	0.07
B-32IR-159a	IR32-B-159a	BIASED	15-1123	4/3/2008	2	2.5	pCi/g	0.37	J	0.13	0.06	0.43		0.22	0.31	0.43	J	0.14	0.04	0.026	U	0.037	0.036	0.34	J	0.12	0.06
B-32IR-159b	IR32-B-159b	BIASED	15-1124	4/3/2008	2.5	3	pCi/g	0.41	U	0.13	0.05	0.07	U	0.16	0.27	0.56	J	0.17	0.07	0.012	U	0.029	0.061	0.46	J	0.15	0.06
B-32IR-172a	IR32-B-172a	BIASED	15-1125	4/3/2008	2	2.5	pCi/g	0.61	J	0.17	0.05	0.37		0.15	0.28	0.32	J	0.12	0.06	0.027	U	0.038	0.036	0.33	J	0.12	0.06
B-32IR-172b	IR32-B-172b	BIASED	15-1126	4/3/2008	2.5	3	pCi/g	0.44	J	0.15	0.07	0.36		0.19	0.24	0.35	J	0.12	0.04	0.010	U	0.026	0.055	0.39	J	0.13	0.04
B-32IR-32Xa	IR32-B-32Xa	BIASED	15-1127	4/3/2008	2	2.5	pCi/g	0.44	J	0.14	0.03	0.22	U	0.15	0.22	0.29	J	0.12	0.07	-0.0078	U	0.009	0.075	0.28	J	0.12	0.09
B-32IR-32Xb	IR32-B-32Xb	BIASED	15-1128	4/3/2008	2.5	3	pCi/g	0.57	J	0.18	0.05	0.29		0.20	0.26	0.22	J	0.10	0.06	0.028	U	0.040	0.038	0.190	U	0.095	0.064
B-32IR-G5a	IR32-B-G5a	BIASED	15-1129	4/3/2008	2	2.5	pCi/g	0.42	U	0.14	0.06	0.35		0.23	0.33	0.41	J	0.13	0.04	0.022	U	0.035	0.053	0.29	J	0.11	0.04
B-32IR-G5b	IR32-B-G5b	BIASED	15-1130	4/3/2008	2.5	3	pCi/g	0.56	J	0.17	0.03	0.42		0.15	0.24	0.188	J	0.094	0.063	0.033	U	0.048	0.073	0.27	J	0.12	0.08
B-32IR-G6a	IR32-B-G6a	BIASED	15-1131	4/3/2008	2	2.5	pCi/g	0.51	J	0.17	0.06	0.33		0.21	0.29	0.35	J	0.14	0.09	0.015	U	0.031	0.041	0.58	J	0.18	0.07

Table G-1
Post-Excavation Summary Table

Location on COC	Verified Location	Comment	ClientSampleID	Date Collected	Start Depth	End Depth	Result Units	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit	URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
B-32IR-G6b	IR32-B-G6b	BIASED	15-1132	4/3/2008	2.5	3	pCi/g	0.52	J	0.16	0.06	0.36		0.18	0.23	0.35	J	0.13	0.05	0.051	U	0.054	0.057	0.27	J	0.11	0.05
B-32IR-G7a	IR32-B-G7a	BIASED	15-1133	4/3/2008	2	2.5	pCi/g	0.52	J	0.16	0.03	0.32		0.17	0.19	0.51	J	0.17	0.06	0.0	U	0.013	0.042	0.33	J	0.13	0.05
B-32IR-G7b	IR32-B-G7b	BIASED	15-1134	4/3/2008	2.5	3	pCi/g	0.36	U	0.13	0.03	0.31		0.16	0.16	0.32	J	0.12	0.07	0.035	U	0.046	0.065	0.31	J	0.12	0.05
B-32IR-G8a	IR32-B-G8a	BIASED	15-1135	4/3/2008	2	2.5	pCi/g	0.43	J	0.14	0.05	0.39		0.12	0.14	0.43	J	0.14	0.05	0.037	U	0.046	0.056	0.37	J	0.13	0.05
B-32IR-G8b	IR32-B-G8b	BIASED	15-1136	4/3/2008	2.5	3	pCi/g	0.52	J	0.16	0.03	0.27		0.19	0.27	0.55	J	0.17	0.06	0.029	U	0.041	0.039	0.48	J	0.16	0.05
B-32IR-G9a	IR32-B-G9a	BIASED	15-1137	4/3/2008	2	2.5	pCi/g	0.47	J	0.15	0.07	0.27	U	0.20	0.31	0.46	J	0.15	0.07	0.015	U	0.029	0.039	0.43	J	0.15	0.07
B-32IR-G9b	IR32-B-G9b	BIASED	15-1138	4/3/2008	2.5	3	pCi/g	0.44	J	0.15	0.05	0.21	U	0.17	0.26	0.31	J	0.12	0.05	0.041	J	0.047	0.037	0.24	J	0.10	0.05
B-32IR-G10a	IR32-B-G10a	BIASED	15-1139	4/3/2008	2	2.5	pCi/g	0.258	U	0.099	0.044	0.17	U	0.17	0.27	0.32	J	0.13	0.08	0.028	U	0.044	0.065	0.32	J	0.13	0.07
B-32IR-G10b	IR32-B-G10b	BIASED	15-1140	4/3/2008	2.5	3	pCi/g	0.36	U	0.14	0.07	0.23	U	0.23	0.37	0.44	J	0.14	0.05	0.009	U	0.029	0.068	0.54	J	0.16	0.05
B-32IR-G11a	IR32-B-G11a	BIASED	15-1141	4/3/2008	2	2.5	pCi/g	0.33	J	0.13	0.03	0.44		0.17	0.18	0.33	J	0.12	0.06	0.032	U	0.046	0.070	0.49	J	0.15	0.08
B-32IR-G11b	IR32-B-G11b	BIASED	15-1142	4/3/2008	2.5	3	pCi/g	0.32	J	0.14	0.09	0.25	U	0.18	0.25	0.46	J	0.15	0.08	0.028	U	0.040	0.038	0.37	J	0.13	0.06
Analyte not analyzed.																											
Results were flagged due to percent relative standard deviations (RSDs), relative response factors (RRFs) of the initial calibration,																											
Results were flagged due to method blank contamination.																											
Results were flaggged due to tracer compound recoveries out of QC limits.																											
Results were flagged due to laboratory control samples out of QC limits.																											
Results were flagged due to the laboratory duplicate error ratios out of QC limits.																											

Table G-2
Post-Excavation Background Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
BRA2-1	BRA2-1	RANDOM	15-934	1/30/2008	0	0.5	pCi/g	0.50		0.17
BRA2-2	BRA2-2	RANDOM	15-935	1/30/2008	0	0.5	pCi/g	0.37	U	0.26
BRA2-3	BRA2-3	RANDOM	15-936	1/30/2008	0	0.5	pCi/g	0.48		0.16
BRA2-4	BRA2-4	RANDOM	15-937	1/30/2008	0	0.5	pCi/g	0.48		0.21
BRA2-5	BRA2-5	RANDOM	15-938	1/30/2008	0	0.5	pCi/g	0.50		0.27
BRA2-6	BRA2-6	RANDOM	15-939	1/30/2008	0	0.5	pCi/g	0.36		0.15
BRA2-7	BRA2-7	RANDOM	15-940	1/30/2008	0	0.5	pCi/g	0.49		0.17
BRA2-8	BRA2-8	RANDOM	15-941	1/30/2008	0	0.5	pCi/g	0.50		0.26
BRA2-9	BRA2-9	RANDOM	15-942	1/30/2008	0	0.5	pCi/g	0.52		0.17
BRA2-10	BRA2-10	RANDOM	15-943	1/30/2008	0	0.5	pCi/g	0.37		0.16
BRA3-1	BRA3-1	RANDOM	15-944	1/30/2008	0	0.5	pCi/g	0.59		0.22
BRA3-2	BRA3-2	RANDOM	15-945	1/30/2008	0	0.5	pCi/g	0.74		0.32
BRA3-3	BRA3-3	RANDOM	15-946	1/30/2008	0	0.5	pCi/g	0.85		0.26
BRA3-4	BRA3-4	RANDOM	15-947	1/30/2008	0	0.5	pCi/g	0.40		0.25
BRA3-5	BRA3-5	RANDOM	15-948	1/30/2008	0	0.5	pCi/g	0.48		0.17
BRA3-6	BRA3-6	RANDOM	15-949	1/30/2008	0	0.5	pCi/g	0.48		0.22
BRA3-7	BRA3-7	RANDOM	15-950	1/30/2008	0	0.5	pCi/g	0.57		0.18
BRA3-8	BRA3-8	RANDOM	15-951	1/30/2008	0	0.5	pCi/g	0.49		0.17
BRA3-9	BRA3-9	RANDOM	15-952	1/30/2008	0	0.5	pCi/g	0.62		0.23
BRA3-10	BRA3-10	RANDOM	15-953	1/30/2008	0	0.5	pCi/g	0.58		0.23
BRA1-1	BRA1-1	RANDOM	15-924	1/30/2008	0	0.5	pCi/g	0.53		0.23
BRA1-2	BRA1-2	RANDOM	15-925	1/30/2008	0	0.5	pCi/g	0.45		0.13
BRA1-3	BRA1-3	RANDOM	15-926	1/30/2008	0	0.5	pCi/g	0.54		0.19
BRA1-4	BRA1-4	RANDOM	15-927	1/30/2008	0	0.5	pCi/g	0.43		0.21
BRA1-5	BRA1-5	RANDOM	15-928	1/30/2008	0	0.5	pCi/g	0.30		0.16
BRA1-6	BRA1-6	RANDOM	15-929	1/30/2008	0	0.5	pCi/g	0.43		0.19
BRA1-7	BRA1-7	RANDOM	15-930	1/30/2008	0	0.5	pCi/g	0.42		0.15
BRA1-8	BRA1-8	RANDOM	15-931	1/30/2008	0	0.5	pCi/g	0.07	U	0.14
BRA1-9	BRA1-9	RANDOM	15-932	1/30/2008	0	0.5	pCi/g	0.37	U	0.26
BRA1-10	BRA1-10	RANDOM	15-933	1/30/2008	0	0.5	pCi/g	0.34		0.14

Table G-2
Post-Excavation Background Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.29	-0.030	U	0.096	0.16	0.132	J	0.058	0.057	0.007	U	0.055	0.10	-0.03	U
0.38	0.04	U	0.10	0.17	0.083	U	0.064	0.095	0.002	U	0.027	0.065	-0.03	U
0.27	-0.0009	U	0.11	0.19	0.108	J	0.057	0.078	0.006	U	0.048	0.091	0.006	U
0.39	-0.02	U	0.11	0.19	0.078	U	0.072	0.11	0.0	U	0.13	0.24	0.02	U
0.35	0.03	U	0.11	0.18	0.067	U	0.065	0.11	0.034	U	0.072	0.13	-0.04	U
0.18	0.09	U	0.16	0.28	0.060	J	0.041	0.060	-0.008	U	0.040	0.074	-0.034	U
0.29	0.0003	U	0.11	0.20	0.049	U	0.056	0.091	0.0	U	0.012	0.045	0.007	U
0.32	-0.05	U	0.13	0.22	0.075	U	0.074	0.12	-0.002	U	0.051	0.10	0.04	U
0.28	-0.04	U	0.10	0.18	0.050	U	0.046	0.073	0.000007	U	0.035	0.069	-0.02	U
0.31	-0.025	U	0.092	0.16	0.017	U	0.053	0.093	0.029	U	0.047	0.079	-0.012	U
0.35	-0.01	U	0.13	0.22	0.067	U	0.062	0.098	0.004	U	0.057	0.11	-0.03	U
0.37	0.02	U	0.12	0.22	0.073	U	0.071	0.11	0.0	U	0.019	0.068	-0.008	U
0.25	-0.01	U	0.12	0.22	0.169	J	0.051	0.028	0.0	U	0.010	0.038	-0.007	U
0.34	0.08	U	0.11	0.18	0.091	J	0.059	0.081	-0.0006	U	0.056	0.11	-0.02	U
0.28	0.015	U	0.080	0.14	0.084	J	0.056	0.082	0.004	U	0.056	0.10	-0.01	U
0.41	0.03	U	0.12	0.20	0.053	U	0.069	0.11	0.007	U	0.064	0.12	-0.004	U
0.32	0.02	U	0.11	0.19	0.075	U	0.056	0.084	0.004	U	0.053	0.10	-0.006	U
0.23	-0.03	U	0.10	0.17	0.146	J	0.057	0.049	0.013	U	0.049	0.089	0.001	U
0.37	-0.044	U	0.097	0.16	0.114	J	0.066	0.089	0.0	U	0.14	0.25	-0.01	U
0.26	0.06	U	0.11	0.19	0.106	J	0.068	0.10	0.012	U	0.055	0.10	-0.05	U
0.25	0.040	U	0.077	0.13	-0.03	U	1.1	0.1	0.017	U	0.035	0.063	-0.03	U
0.18	0.07	U	0.27	0.46	0.023	U	0.032	0.054	-0.002	U	0.032	0.061	-0.027	U
0.18	-0.004	U	0.088	0.15	0.018	U	0.039	0.067	0.0	U	0.078	0.14	0.019	U
0.27	0.0	U	0.11	0.19	0.140	J	0.056	0.044	0.008	U	0.054	0.10	-0.022	U
0.20	0.007	U	0.082	0.14	0.153	J	0.066	0.088	0.018	U	0.041	0.073	-0.02	U
0.23	0.059	U	0.083	0.14	0.0	U	0.055	0.10	-0.021	U	0.059	0.11	0.014	U
0.17	0.08	U	0.26	0.46	0.025	U	0.029	0.047	-0.01	U	0.038	0.069	-0.0007	U
0.24	0.050	U	0.079	0.13	0.005	U	0.050	0.10	-0.019	U	0.065	0.12	0.013	U
0.38	0.0128	U	0.099	0.17	0.025	U	0.054	0.10	0.023	U	0.055	0.099	0.059	U
0.18	0.04	U	0.27	0.47	0.014	U	0.033	0.057	-0.005	U	0.039	0.073	-0.026	U

Table G-2
Post-Excavation Background Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.19	0.02	U	0.28	0.54	9.9		1.5	1.1	0.55	J	0.14	0.17	
0.13	0.24	-0.02	U	0.47	0.88	10.0		1.9	0.8	0.54	J	0.17	0.13	
0.098	0.18	-0.15	U	0.36	0.63	11.7		1.7	0.4	0.49	J	0.14	0.18	
0.13	0.24	0.08	U	0.43	0.82	10.4		2.0	0.7	0.33	J	0.16	0.22	
0.15	0.27	0.08	U	0.42	0.78	13.1		2.2	0.6	0.70	J	0.16	0.07	0.15
0.082	0.14	-0.12	U	0.30	0.52	9.9		1.3	0.3	0.45	J	0.12	0.15	
0.10	0.18	0.06	U	0.44	0.80	11.9		1.9	0.5	0.67	J	0.18	0.12	
0.12	0.21	0.0	U	0.086	0.32	10.8		1.9	0.6	0.79	J	0.20	0.16	
0.10	0.18	0.1	U	0.33	0.59	11.1		1.6	0.8	0.49	J	0.14	0.17	
0.092	0.17	0.16	U	0.37	0.65	10.3		1.7	0.7	0.68	J	0.17	0.11	
0.16	0.28	-0.12	U	0.41	0.73	15.0		2.0	0.4	0.46	J	0.14	0.18	
0.15	0.27	0.0	U	0.54	1.0	9.8		2.1	1.0	0.71	J	0.20	0.20	
0.10	0.19	0.09	U	0.32	0.58	13.0		1.9	1.0	0.65	J	0.16	0.17	
0.12	0.22	0.0	U	0.085	0.31	11.8		2.0	0.8	0.60	J	0.17	0.13	
0.13	0.23	-0.09	U	0.43	0.76	11.0		1.6	0.8	0.49	J	0.14	0.17	0.25
0.13	0.25	0.11	U	0.39	0.72	13.8		2.3	0.6	0.65	J	0.16	0.11	
0.098	0.18	0.14	U	0.36	0.64	9.9		1.7	0.8	0.58	J	0.13	0.07	
0.091	0.17	0.09	U	0.25	0.46	10.6		1.6	0.9	0.58	J	0.16	0.19	
0.16	0.29	-0.23	U	0.56	0.98	8.3		1.7	1	0.70	J	0.17	0.14	
0.14	0.24	-0.02	U	0.32	0.61	13.1		1.8	0.4	0.65	J	0.17	0.19	
0.13	0.23	-0.01	U	0.34	0.65	9.4		1.7	0.5	0.60	J	0.15	0.12	
0.084	0.15	0.06	U	0.25	0.44	10.4		1.3	0.5	0.49	J	0.11	0.10	
0.082	0.15	0.0	U	0.33	0.63	7.7		1.4	0.9	0.253	J	0.088	0.087	
0.099	0.18	-0.05	U	0.31	0.59	7.9		1.5	0.5	0.42	J	0.13	0.15	
0.10	0.18	0.15	U	0.31	0.55	9.6		1.5	0.9	0.58	J	0.13	0.12	0.11
0.080	0.14	0.09	U	0.31	0.57	10.0		1.6	0.8	0.49	J	0.12	0.07	
0.081	0.15	0.03	U	0.24	0.43	10.1		1.3	0.2	0.306	J	0.099	0.13	
0.096	0.18	-0.11	U	0.46	0.84	10.9		1.9	0.5	0.53	J	0.17	0.13	
0.089	0.15	-0.13	U	0.43	0.77	9.3		1.7	0.5	0.35	J	0.13	0.15	
0.078	0.14	0.0005	U	0.20	0.39	10.2		1.3	0.2	0.359	J	0.097	0.12	

Table G-2
Post-Excavation Background Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.61	J	0.17	0.07	0.54	UJ	0.16	0.07	0.50		0.17	0.29
			0.47	J	0.16	0.09	0.77	UJ	0.20	0.06	0.37	U	0.26	0.38
			0.66	J	0.18	0.08	0.50	UJ	0.16	0.08	0.48		0.16	0.27
			0.73	J	0.19	0.07	0.60	UJ	0.17	0.06	0.48		0.21	0.39
U	0.25	0.43	0.56	J	0.17	0.08	0.64	UJ	0.17	0.03	0.50		0.27	0.35
			0.53	J	0.17	0.11	0.47	UJ	0.15	0.08	0.36		0.15	0.18
			0.59	J	0.16	0.08	0.61	UJ	0.17	0.05	0.49		0.17	0.29
			0.67	J	0.18	0.08	0.61	UJ	0.16	0.05	0.50		0.26	0.32
			0.49	J	0.16	0.1	0.62	UJ	0.18	0.05	0.52		0.17	0.28
			0.39	J	0.14	0.09	0.45	UJ	0.14	0.03	0.37		0.16	0.31
			0.76	J	0.19	0.08	0.75	UJ	0.19	0.05	0.59		0.22	0.35
			0.75	J	0.20	0.09	0.78	UJ	0.20	0.03	0.74		0.32	0.37
			0.67	J	0.24	0.13	0.65	UJ	0.24	0.13	0.85		0.26	0.25
			0.71	J	0.20	0.1	0.69	UJ	0.20	0.06	0.40		0.25	0.34
U	0.33	0.54	0.64	J	0.20	0.10	0.47	UJ	0.16	0.07	0.48		0.17	0.28
			0.59	J	0.17	0.08	0.56	J	0.16	0.06	0.48		0.22	0.41
			0.51	J	0.17	0.11	0.58	J	0.18	0.05	0.57		0.18	0.32
			0.53	J	0.16	0.07	0.57	J	0.16	0.05	0.49		0.17	0.23
			0.55	J	0.23	0.14	0.60	J	0.24	0.06	0.62		0.23	0.37
			0.71	J	0.28	0.18	0.72	J	0.27	0.12	0.58		0.23	0.26
			0.61	J	0.18	0.08	0.61	J	0.18	0.08	0.53		0.23	0.25
			0.48	J	0.15	0.08	0.32	J	0.12	0.05	0.45		0.13	0.18
			0.59	J	0.17	0.08	0.36	J	0.13	0.06	0.54		0.19	0.18
			0.80	J	0.20	0.08	0.57	J	0.17	0.08	0.43		0.21	0.27
U	0.34	0.58	0.85	J	0.21	0.07	0.67	J	0.18	0.06	0.30		0.16	0.20
			0.39	J	0.19	0.17	0.40	J	0.19	0.1	0.43		0.19	0.23
			0.37	J	0.18	0.13	0.36	J	0.17	0.08	0.42		0.15	0.17
			0.27	J	0.19	0.23	0.57	J	0.25	0.17	0.07	U	0.14	0.24
			0.57	J	0.17	0.07	0.43	J	0.15	0.03	0.37	U	0.26	0.38
			0.70	J	0.21	0.11	0.53	J	0.18	0.07	0.34		0.14	0.18

Table G-2
Post-Excavation Background Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.46	J	0.15	0.06	0.022	U	0.039	0.066	0.52	J	0.16	0.06
0.55	J	0.15	0.05	0.059	J	0.055	0.052	0.48	J	0.14	0.04
0.56	J	0.17	0.08	-0.0026	U	0.005	0.058	0.52	J	0.16	0.08
0.68	J	0.18	0.05	0.027	U	0.038	0.036	0.53	J	0.16	0.05
0.60	J	0.17	0.07	0.009	U	0.029	0.069	0.57	J	0.17	0.06
0.72	J	0.19	0.07	0.011	U	0.028	0.058	0.49	J	0.15	0.03
0.61	J	0.17	0.06	0.011	U	0.027	0.057	0.63	J	0.17	0.05
0.64	J	0.17	0.05	0.049	U	0.052	0.055	0.60	J	0.17	0.06
0.62	J	0.17	0.05	0.044	U	0.049	0.060	0.36	J	0.12	0.05
0.68	J	0.18	0.03	0.054	J	0.054	0.036	0.66	J	0.18	0.05
0.65	J	0.18	0.05	0.025	U	0.039	0.059	0.72	J	0.19	0.03
0.75	J	0.19	0.05	0.050	U	0.053	0.056	0.51	J	0.15	0.04
0.72	J	0.18	0.03	0.047	U	0.050	0.053	0.61	J	0.16	0.03
0.57	J	0.16	0.06	-0.0048	U	0.006	0.063	0.56	J	0.16	0.07
0.73	J	0.19	0.07	0.013	U	0.026	0.035	0.65	J	0.18	0.07
0.75	J	0.20	0.07	0.057	U	0.060	0.064	0.62	J	0.18	0.06
0.43	J	0.18	0.09	0.034	U	0.060	0.10	0.47	J	0.19	0.1
0.43	J	0.31	0.30	-0.024	U	0.033	0.31	0.36	J	0.30	0.32
0.64	J	0.18	0.06	0.041	U	0.051	0.062	0.50	J	0.16	0.05
0.69	J	0.20	0.1	0.061	U	0.065	0.069	0.52	J	0.17	0.09
0.28	J	0.12	0.06	0.0	U	0.014	0.044	0.41	J	0.15	0.06
0.28	J	0.12	0.07	-0.0055	U	0.007	0.071	0.36	J	0.13	0.06
0.35	J	0.13	0.07	-0.0026	U	0.005	0.058	0.40	J	0.14	0.03
0.44	J	0.15	0.07	0.040	U	0.049	0.060	0.46	J	0.15	0.06
0.22	J	0.15	0.13	0.022	U	0.055	0.12	0.27	J	0.16	0.12
0.43	J	0.15	0.06	0.024	U	0.043	0.073	0.39	J	0.14	0.06
0.185	J	0.097	0.033	0.015	U	0.031	0.042	0.21	J	0.10	0.06
0.28	J	0.11	0.05	0.011	U	0.028	0.058	0.36	J	0.13	0.03
0.37	J	0.13	0.05	-0.0024	U	0.004	0.054	0.31	J	0.12	0.04
0.45	J	0.15	0.03	0.038	U	0.048	0.058	0.34	J	0.13	0.03

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
IR1-13A	IR1-13A	RANDOM	15-168	10/2/2007			pCi/g			
IR1-13B	IR1-13B	RANDOM	15-169	10/2/2007			pCi/g			
IR1-27B	IR1-27B	RANDOM	15-170	10/2/2007			pCi/g			
IR1-27A	IR1-27A	RANDOM	15-171	10/2/2007			pCi/g			
IR1-26A	IR1-26A	RANDOM	15-172	10/2/2007			pCi/g			
IR1-21	IR1-21	RANDOM	15-173	10/2/2007			pCi/g			
IR1-22-1	IR1-22-1	RANDOM	15-174	10/2/2007			pCi/g			
IR1-22-2	IR1-22-2	RANDOM	15-175	10/5/2007			pCi/g			
IR1-14	IR1-14	RANDOM	15-176	10/5/2007			pCi/g			
IR1-15	IR1-15	RANDOM	15-177	10/5/2007			pCi/g			
IR1-16	IR1-16	RANDOM	15-178	10/5/2007			pCi/g	0.22	U	0.16
IR1-17	IR1-17	RANDOM	15-179	10/5/2007			pCi/g			
IR1-18A	IR1-18A	RANDOM	15-180	10/5/2007			pCi/g			
IR1-20	IR1-20	RANDOM	15-181	10/5/2007			pCi/g			
IR1-23	IR1-23	RANDOM	15-182	10/5/2007			pCi/g			
IR1-24	IR1-24	RANDOM	15-183	10/5/2007			pCi/g			
IR1-25	IR1-25	RANDOM	15-184	10/8/2007			pCi/g			
IR1-AB-1	IR1-AB-1	RANDOM	15-185	10/8/2007			pCi/g			
IR1-2A-1a	IR1-2A-1a	RANDOM	15-191	10/17/2007	0	0.5	pCi/g	0.41		0.19
IR1-3A-1a	IR1-3A-1a	RANDOM	15-192	10/17/2007	0	0.5	pCi/g	0.32		0.16
IR1-3COE-1a	IR1-3CDE-1a	RANDOM	15-193	10/17/2007	0	0.5	pCi/g	0.65		0.23
IR1-4A-1a	IR1-4A-1a	RANDOM	15-194	10/17/2007	0	0.5	pCi/g	0.39		0.23
IR1-2A-1b	IR1-2A-1b	RANDOM	15-195	10/18/2007	2	2.5	pCi/g	0.22	U	0.16
IR1-3A-1b	IR1-3A-1b	RANDOM	15-196	10/18/2007	2	2.5	pCi/g	0.58		0.18
IR1-3COE-1b	IR1-3CDE-1b	RANDOM	15-197	10/18/2007	2.5	3	pCi/g	0.53		0.16
IR1-4A-1b	IR1-4A-1b	RANDOM	15-198	10/18/2007	2.5	3	pCi/g	0.18	U	0.26
IR1-5AB-1a	IR1-5AB-1a	RANDOM	15-199	10/18/2007	2	2.5	pCi/g	0.44		0.24
IR1-5AB-1b	IR1-5AB-1b	RANDOM	15-200	10/18/2007	25	3	pCi/g	0.20	U	0.20
IR1-6A-1a	IR1-6A-1a	RANDOM	15-201	10/18/2007	3	3.5	pCi/g	0.46		0.21
IR1-6A-1b	IR1-6A-1b	RANDOM	15-202	10/18/2007	3.5	4	pCi/g	0.17	U	0.24
IR1-6B-1a	IR1-6B-1a	RANDOM	15-203	10/19/2007	2	2.5	pCi/g	0.26		0.17
IR1-6B-1b	IR1-6B-1b	RANDOM	15-204	10/19/2007	2.5	3	pCi/g	0.37		0.18
IR1-8-A-1a	IR1-8A-1a	RANDOM	15-205	10/19/2007	1	1.5	pCi/g	0.38		0.20
IR1-8A-1b	IR1-8A-1b	RANDOM	15-206	10/19/2007	1.5	2	pCi/g	0.13	U	0.19
IR1-8B-1a	IR1-8B-1a	RANDOM	15-207	10/19/2007	1	1.5	pCi/g	0.32		0.21
IR1-8B-1b	IR1-8B-1b	RANDOM	15-208	10/19/2007	1.5	2	pCi/g	0.27		0.16
IR1-8C-1a	IR1-8C-1a	RANDOM	15-209	10/19/2007	1	1.5	pCi/g	0.21	U	0.18
IR1-8C-1b	IR1-8C-1b	RANDOM	15-210	10/19/2007	1.5	2	pCi/g	0.44		0.19
IR1-8D-1a	IR1-8D-1a	RANDOM	15-211	10/19/2007	1	1.5	pCi/g	0.23	U	0.18
IR1-8D-1b	IR1-8D-1b	RANDOM	15-212	10/19/2007	1.5	2	pCi/g	0.28		0.19
IR1-8E-1a	IR1-8E-1a	RANDOM	15-213	10/19/2007	1	1.5	pCi/g	0.43		0.16
IR1-8E-1b	IR1-8E-1b	RANDOM	15-214	10/19/2007	1.5	2	pCi/g	0.22	U	0.19
IR1-8F-1a	IR1-8F-1a	RANDOM	15-215	10/19/2007	1	1.5	pCi/g	0.20	U	0.15
IR1-8F-1b	IR1-8F-1b	RANDOM	15-216	10/19/2007	1.5	2	pCi/g	0.20	U	0.23
IR1-8G-1a	IR1-8G-1a	RANDOM	15-217	10/19/2007	1	1.5	pCi/g	0.30	U	0.17

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
IR1-8G-1b	IR1-8G-1b	RANDOM	15-218	10/19/2007	1.5	2	pCi/g	0.56		0.23
IR1-8H-1a	IR1-8H-1a	RANDOM	15-219	10/19/2007	1	1.5	pCi/g	0.15	U	0.20
IR1-8H-1b	IR1-8H-1b	RANDOM	15-220	10/19/2007	1.5	2	pCi/g	0.15	U	0.17
IR1-8I-1a	IR1-8I-1a	RANDOM	15-221	10/19/2007	1	1.5	pCi/g	0.31		0.20
IR1-8I-1b	IR1-8I-1b	RANDOM	15-222	10/19/2007	1.5	2	pCi/g	0.11	U	0.21
IR1-8J-1a	IR1-8J-1a	RANDOM	15-223	10/19/2007	1	1.5	pCi/g	0.35		0.20
IR1-8J-1b	IR1-8J-1b	RANDOM	15-224	10/19/2007	1	1.5	pCi/g	0.31		0.17
IR1-8K-1a	IR1-8K-1a	RANDOM	15-225	10/22/2007	1	1.5	pCi/g	0.30		0.14
IR1-8K-1b	IR1-8K-1b	RANDOM	15-226	10/22/2007	1.5	2	pCi/g	0.19	UJ	0.19
IR1-8L-1a	IR1-8L-1a	RANDOM	15-227	10/22/2007	1	1.5	pCi/g	0.13	U	0.15
IR1-8L-1b	IR1-8L-1b	RANDOM	15-228	10/22/2007	1.5	2	pCi/g	0.31		0.19
IR1-8M-1a	IR1-8M-1a	RANDOM	15-229	10/22/2007	1	1.5	pCi/g	0.34	U	0.25
IR1-8M-1b	IR1-8M-1b	RANDOM	15-230	10/22/2007	1.5	2	pCi/g	0.33	U	0.24
IR1-9-1a	IR1-9-1a	RANDOM	15-231	10/22/2007	1	1.5	pCi/g	0.41		0.18
IR1-9-1b	IR1-9-1b	RANDOM	15-232	10/22/2007	1.5	2	pCi/g	0.20	U	0.18
IR1-1AB-1a	IR1-1AB-1a	RANDOM	15-233	10/22/2007	1	1.5	pCi/g	0.41	U	0.28
IR1-1AB-1b	IR1-1AB-1b	RANDOM	15-234	10/22/2007	1.5	2	pCi/g	0.22	UJ	0.28
IR1-11-1a	IR1-11-1a	RANDOM	15-235	10/24/2007	2	2.5	pCi/g	0.16	U	0.21
IR1-11-1b	IR1-11-1b	RANDOM	15-236	10/24/2007	2.5	3	pCi/g	0.35		0.14
IR1-12-1a	IR1-12-1a	RANDOM	15-237	10/24/2007	2	2.5	pCi/g	0.33	U	0.20
IR1-12-1b	IR1-12-1b	RANDOM	15-238	10/24/2007	2.5	3	pCi/g	0.14	U	0.21
B-1IR-B-1ABa	IR1-B-1ABa	BIASED	15-294	12/6/2007	4	4.5	pCi/g	0.33		0.17
B-1IR-B-1ABb	IR1-B-1ABb	BIASED	15-295	12/6/2007	4.5	5	pCi/g	0.38		0.15
B-1IR-B-3CDa	IR1-B-3-CDa	BIASED	15-299	12/6/2007	3	3.5	pCi/g	0.65		0.17
B-1IR-B-3CDb	IR1-B-3-CDb	BIASED	15-300	12/6/2007	3.5	4	pCi/g	0.35		0.20
1IR-3-02a	IR1-3-02a	RANDOM	15-301	12/6/2007	0	0.5	pCi/g	0.32	U	0.24
1IR-3-02b	IR1-3-02b	RANDOM	15-302	12/6/2007	0.5	1	pCi/g	0.34	U	0.24
1IR-3-03a	IR1-3-03a	RANDOM	15-303	12/6/2007	0	0.5	pCi/g	0.42		0.13
1IR-3-03b	IR1-3-03b	RANDOM	15-304	12/6/2007	0.5	1	pCi/g	0.23		0.16
1IR-3-04a	IR1-3-04a	RANDOM	15-305	12/6/2007	0	0.5	pCi/g	0.53		0.15
1IR-3-04b	IR1-3-04b	RANDOM	15-306	12/6/2007	0.5	1	pCi/g	0.55		0.17
1IR-3-05a	IR1-3-05a	RANDOM	15-307	12/6/2007	1	0.5	pCi/g	0.34		0.15
1IR-3-05b	IR1-3-05b	RANDOM	15-308	12/6/2007	0.5	1	pCi/g	0.39	U	0.28
1IR-3-06a	IR1-3-06a	RANDOM	15-309	12/6/2007	0	0.5	pCi/g	0.31	U	0.22
1IR-3-06b	IR1-3-06b	RANDOM	15-310	12/6/2007	0.5	1	pCi/g	0.58		0.16
1IR-3-07a	IR1-3-07a	RANDOM	15-311	12/6/2007	0	0.5	pCi/g	0.30		0.13
1IR-3-07b	IR1-3-07b	RANDOM	15-312	12/6/2007	0.5	1	pCi/g	0.12	U	0.17
1IR-3-08a	IR1-3-08a	RANDOM	15-313	12/6/2007	0	0.5	pCi/g	0.67		0.21
1IR-3-08b	IR1-3-08b	RANDOM	15-314	12/6/2007	0.5	1	pCi/g	0.0	U	0.20
1IR-3-09a	IR1-3-09a	RANDOM	15-315	12/6/2007	0	0.5	pCi/g	0.52		0.17
1IR-3-09b	IR1-3-09b	RANDOM	15-316	12/6/2007	0.5	1	pCi/g	0.46		0.18
1IR-3-10a	IR1-3-10a	RANDOM	15-317	12/6/2007	0	0.5	pCi/g	0.36		0.15
1IR-3-10b	IR1-3-10b	RANDOM	15-318	12/6/2007	0.5	1	pCi/g	0.23	U	0.21
B-1IR-4Aa	IR1-B-4Aa	BIASED	15-319	12/6/2007	2	2.5	pCi/g	0.40		0.15
B-1IR-4Ab	IR1-B-4Ab	BIASED	15-320	12/6/2007	2.5	3	pCi/g	0.21	U	0.16

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-1IR-4BCa	IR1-B-4BCa	BIASED	15-322	12/6/2007	2	2.5	pCi/g	0.36		0.25
B-1IR-4BCb	IR1-B-4BCb	BIASED	15-323	12/6/2007	2.5	3	pCi/g	0.62		0.15
1IR-4-02a	IR1-4-02a	RANDOM	15-324	12/6/2007	0	0.5	pCi/g	0.40		0.18
1IR-4-02b	IR1-4-02b	RANDOM	15-325	12/6/2007	0.5	1	pCi/g	0.53		0.20
1IR-4-03a	IR1-4-03a	RANDOM	15-326	12/6/2007	0	0.5	pCi/g	0.41		0.23
1IR-4-03b	IR1-4-03b	RANDOM	15-327	12/6/2007	0.5	1	pCi/g	0.12	U	0.23
1IR-4-04a	IR1-4-04a	RANDOM	15-328	12/7/2007	0	0.5	pCi/g	0.31		0.14
1IR-4-04b	IR1-4-04b	RANDOM	15-329	12/7/2007	05	1	pCi/g	0.34		0.16
1IR-4-05a	IR1-4-05a	RANDOM	15-330	12/7/2007	0	0.5	pCi/g	0.22	U	0.25
1IR-4-05b	IR1-4-05b	RANDOM	15-331	12/7/2007	05	1	pCi/g	0.48		0.18
1IR-4-06a	IR1-4-06a	RANDOM	15-332	12/7/2007	0	0.5	pCi/g	0.47		0.19
1IR-4-06b	IR1-4-06b	RANDOM	15-333	12/7/2007	0.5	1	pCi/g	0.33		0.20
1IR-4-07a	IR1-4-07a	RANDOM	15-334	12/7/2007	0	0.5	pCi/g	0.32		0.16
1IR-4-07b	IR1-4-07b	RANDOM	15-335	12/7/2007	0.5	1	pCi/g	0.43		0.22
1IR-4-08a	IR1-4-08a	RANDOM	15-336	12/7/2007	0	0.5	pCi/g	0.22	U	0.22
1IR-4-08b	IR1-4-08b	RANDOM	15-337	12/7/2007	0.5	1	pCi/g	0.47		0.22
1IR-4-09a	IR1-4-09a	RANDOM	15-338	12/7/2007	0	0.5	pCi/g	0.38		0.19
1IR-4-09b	IR1-4-09b	RANDOM	15-339	12/7/2007	0.5	1	pCi/g	0.53		0.14
1IR-4-10a	IR1-4-10a	RANDOM	15-340	12/7/2007	0.	0.5	pCi/g	0.35		0.19
1IR-4-10b	IR1-4-10b	RANDOM	15-341	12/7/2007	0.5	1	pCi/g	0.44		0.23
B-1IR-5ABa	IR1-B-5ABa	BIASED	15-342	12/7/2007	0	0.5	pCi/g	0.0	U	0.20
B-1IR-5ABb	IR1-B-5ABb	BIASED	15-343	12/7/2007	0.5	1	pCi/g	0.37		0.19
B-1IR-6Aa	IR1-B-6Aa	BIASED	15-345	12/7/2007	0	0.5	pCi/g	0.61		0.20
B-1IR-6Ab	IR1-B-6Ab	BIASED	15-346	12/7/2007	0.5	1	pCi/g	0.19	U	0.21
1IR-6A-02a	IR1-6A-02a	RANDOM	15-347	12/7/2007	0	0.5	pCi/g	0.29		0.11
1IR-6A-02b	IR1-6A-02b	RANDOM	15-348	12/7/2007	0.5	1	pCi/g	0.41		0.15
1IR-6A-03a	IR1-6A-03a	RANDOM	15-349	12/7/2007	0	0.5	pCi/g	0.26	U	0.25
1IR-6A-03b	IR1-6A-03b	RANDOM	15-350	12/7/2007	0.5	1	pCi/g	0.30	U	0.26
1IR-6A-04a	IR1-6A-04a	RANDOM	15-351	12/7/2007	0	0.5	pCi/g	0.29		0.14
1IR-6A-04b	IR1-6A-04b	RANDOM	15-352	12/7/2007	0.5	1	pCi/g	0.31		0.13
1IR-6A-05a	IR1-6A-05a	RANDOM	15-353	12/7/2007	0	0.5	pCi/g	0.17	U	0.24
1IR-6A-05b	IR1-6A-05b	RANDOM	15-354	12/7/2007	0.5	1	pCi/g	0.37		0.19
B-1IR-6Ba	IR1-B-6B-a	BIASED	15-355	12/10/2007	0	0.5	pCi/g	0.37		0.20
B-1IR-6Bb	IR1-B-6B-b	BIASED	15-356	12/10/2007	0.5	1	pCi/g	0.45		0.15
1IR-6B-02a	IR1-6B-02a	RANDOM	15-359	12/10/2007	0	0.5	pCi/g	0.11	U	0.18
1IR-6B-02b	IR1-6B-02b	RANDOM	15-360	12/10/2007	0.5	1	pCi/g	0.23	U	0.20
1IR-6B-03a	IR1-6B-03a	RANDOM	15-361	12/10/2007	0	0.5	pCi/g	0.16	U	0.19
1IR-6B-03b	IR1-6B-03b	RANDOM	15-362	12/10/2007	0.5	1	pCi/g	0.38		0.12
1IR-6B-04a	IR1-6B-04a	RANDOM	15-363	12/10/2007	0	0.5	pCi/g	0.35		0.14
1IR-6B-04b	IR1-6B-04b	RANDOM	15-364	12/10/2007	0.5	1	pCi/g	0.25	U	0.19
1IR-6B-05a	IR1-6B-05a	RANDOM	15-365	12/10/2007	0	0.5	pCi/g	0.30		0.16
1IR-6B-05b	IR1-6B-05b	RANDOM	15-366	12/10/2007	0.5	1	pCi/g	0.13	U	0.15
1IR-6B-06a	IR1-6B-06a	RANDOM	15-367	12/10/2007	0	0.5	pCi/g	0.42		0.22
1IR-6B-06b	IR1-6B-06b	RANDOM	15-368	12/10/2007	0.5	1	pCi/g	0.37		0.12
1IR-6B-07a	IR1-6B-07a	RANDOM	15-369	12/10/2007	0	0.5	pCi/g	0.18	U	0.15

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
1IR-6B-07b	IR1-6B-07b	RANDOM	15-370	12/10/2007	0.5	1	pCi/g	0.26	U	0.20
1IR-6B-08a	IR1-6B-08a	RANDOM	15-371	12/10/2007	0	0.5	pCi/g	0.43		0.23
1IR-6B-08b	IR1-6B-08b	RANDOM	15-372	12/10/2007	0.5	1	pCi/g	0.42		0.15
1IR-6B-09a	IR1-6B-09a	RANDOM	15-373	12/10/2007	0	0.5	pCi/g	0.61		0.20
1IR-6B-09b	IR1-6B-09b	RANDOM	15-374	12/10/2007	0.5	1	pCi/g	0.29	U	0.22
1IR-6B-10a	IR1-6B-10a	RANDOM	15-375	12/10/2007	0	0.5	pCi/g	0.30	U	0.21
1IR-6B-10b	IR1-6B-10b	RANDOM	15-376	12/10/2007	0.5	1	pCi/g	0.30		0.11
B-1IR-7Aa	IR1-B-7Aa	BIASED	15-377	12/11/2007	3	3.5	pCi/g	0.48		0.15
B-1IR-7Ab	IR1-B-7Ab	BIASED	15-378	12/11/2007	3.5	4	pCi/g	0.49		0.16
B-1IR-7Ba	IR1-B-7Ba	BIASED	15-380	12/11/2007	3	3.5	pCi/g	0.41		0.18
B-1IR-7Bb	IR1-B-7Bb	BIASED	15-381	12/11/2007	3.5	4	pCi/g	0.81		0.23
B-1IR-7Ca	IR1-B-7Ca	BIASED	15-382	12/11/2007	3	3.5	pCi/g	0.56		0.25
B-1IR-7Cb	IR1-B-7Cb	BIASED	15-383	12/11/2007	3.5	4	pCi/g	0.45		0.13
B-1IR-7Da	IR1-B-7Da	BIASED	15-384	12/11/2007	3	3.5	pCi/g	0.48		0.17
B-1IR-7Db	IR1-B-7Db	BIASED	15-385	12/11/2007	3.5	4	pCi/g	0.54		0.19
B-1IR-8Aa	IR1-B-8Aa	BIASED	15-386	12/11/2007	2	2.5	pCi/g	0.32		0.15
B-1IR-8Ab	IR1-B-8Ab	BIASED	15-387	12/11/2007	2.5	3	pCi/g	0.45		0.18
B-1IR-8Ba	IR1-B-8Ba	BIASED	15-388	12/11/2007	2	2.5	pCi/g	0.32		0.16
B-1IR-8Bb	IR1-B-8Bb	BIASED	15-389	12/11/2007	2.5	3	pCi/g	0.36		0.18
1IR-8AB-02a	IR1-8AB-02a	RANDOM	15-390	12/11/2007	0	0.5	pCi/g	0.38		0.16
1IR-8AB-02b	IR1-8AB-02b	RANDOM	15-391	12/11/2007	0.5	1	pCi/g	0.34		0.12
1IR-8AB-03a	IR1-8AB-03a	RANDOM	15-392	12/11/2007	0	0.5	pCi/g	0.24	U	0.14
1IR-8AB-03b	IR1-8AB-03b	RANDOM	15-393	12/11/2007	0.5	1	pCi/g	0.25		0.16
1IR-8AB-04a	IR1-8AB-04a	RANDOM	15-394	12/11/2007	0	0.5	pCi/g	0.38		0.15
1IR-8AB-04b	IR1-8AB-04b	RANDOM	15-395	12/11/2007	0.5	1	pCi/g	0.24	U	0.18
1IR-8AB-05a	IR1-8AB-05a	RANDOM	15-396	12/11/2007	0	0.5	pCi/g	0.19	U	0.20
1IR-8AB-05b	IR1-8AB-05b	RANDOM	15-397	12/11/2007	0.5	1	pCi/g	0.28	U	0.20
B-1IR-8Ka	IR1-B-8Ka	BIASED	15-429	12/12/2007	0.5	1	pCi/g	0.32		0.19
B-1IR-8Ca	IR1-B-8Ca	BIASED	15-398	12/12/2007	2	2.5	pCi/g	0.37		0.14
B-1IR-8Cb	IR1-B-8Cb	BIASED	15-399	12/12/2007	2.5	3	pCi/g	0.41		0.20
B-1IR-8Kb	IR1-B-8Kb	BIASED	15-430	12/12/2007	1	1.5	pCi/g	0.33		0.15
B-1IR-8Da	IR1-B-8Da	BIASED	15-400	12/12/2007	2	2.5	pCi/g	0.39		0.19
B-1IR-8Db	IR1-B-8Db	BIASED	15-401	12/12/2007	2.5	3	pCi/g	0.51		0.20
1IR-8K-02a	IR1-8K-02a	RANDOM	15-432	12/12/2007	0	0.5	pCi/g	0.25	U	0.19
1IR-8D-02a	IR1-8D-02a	RANDOM	15-402	12/12/2007	0	0.5	pCi/g	0.20	U	0.17
1IR-8K-02b	IR1-8K-02b	RANDOM	15-433	12/12/2007	0.5	1	pCi/g	0.40		0.12
1IR-8D-02b	IR1-8D-02b	RANDOM	15-403	12/12/2007	0.5	1	pCi/g	0.38		0.24
B-1IR-8Ea	IR1-B-8Ea	BIASED	15-404	12/12/2007	2	2.5	pCi/g	0.61		0.18
B-1IR-8La	IR1-B-8La	BIASED	15-434	12/12/2007	0.5	1	pCi/g	0.34		0.21
B-1IR-8Eb	IR1-B-8Eb	BIASED	15-405	12/12/2007	2.5	3	pCi/g	0.32		0.18
B-1IR-8Lb	IR1-B-8Lb	BIASED	15-435	12/12/2007	1	1.5	pCi/g	0.40		0.19
1IR-8L-02a	IR1-8L-02a	RANDOM	15-436	12/12/2007	0	0.5	pCi/g	0.45		0.12
1IR-8L-02b	IR1-8L-02b	RANDOM	15-437	12/12/2007	0.5	1	pCi/g	0.23	U	0.19
1IR-8E-02a	IR1-8E-02a	RANDOM	15-407	12/12/2007	0	0.5	pCi/g	0.28		0.18
1IR-8E-02b	IR1-8E-02b	RANDOM	15-408	12/12/2007	0.5	1	pCi/g	0.29		0.15

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-1IR-8Fa	IR1-B-8Fa	BIASED	15-409	12/12/2007	2	2.5	pCi/g	0.48		0.14
B-1IR-8Fb	IR1-B-8Fb	BIASED	15-410	12/12/2007	2.5	3	pCi/g	0.39		0.14
B-1IR-8Ma	IR1-B-8Ma	BIASED	15-438	12/12/2007	1	1.5	pCi/g	0.12	U	0.18
B-1IR-8Mb	IR1-B-8Mb	BIASED	15-439	12/12/2007	1.5	2	pCi/g	0.35		0.24
1IR-8F-02a	IR1-8F-02a	RANDOM	15-411	12/12/2007	0	0.5	pCi/g	0.30	U	0.14
1IR-8F-02b	IR1-8F-02b	RANDOM	15-412	12/12/2007	0.5	1	pCi/g	0.40		0.19
1IR-8M-02a	IR1-8M-02a	RANDOM	15-440	12/12/2007	0	0.5	pCi/g	0.50		0.15
1IR-8M-02b	IR1-8M-02b	RANDOM	15-441	12/12/2007	0.5	1	pCi/g	0.32		0.20
B-1IR-8Ga	IR1-B-8Ga	BIASED	15-413	12/12/2007	2	2.5	pCi/g	0.33		0.15
B-1IR-8Gb	IR1-B-8Gb	BIASED	15-414	12/12/2007	2.5	3	pCi/g	0.43		0.13
1IR-8G-02a	IR1-8G-02a	RANDOM	15-415	12/12/2007	0	0.5	pCi/g	0.35		0.21
1IR-8G-02b	IR1-8G-02b	RANDOM	15-416	12/12/2007	0.5	1	pCi/g	0.26	U	0.19
B-1IR-9Aa	IR1-B-9Aa	BIASED	15-442	12/12/2007	2	2.5	pCi/g	0.39		0.16
B-1IR-8Ha	IR1-B-8Ha	BIASED	15-417	12/12/2007	2	2.5	pCi/g	0.26		0.17
B-1IR-9Ab	IR1-B-9Ab	BIASED	15-443	12/12/2007	2.5	3	pCi/g	0.34		0.21
B-1IR-8Hb	IR1-B-8Hb	BIASED	15-418	12/12/2007	2.5	3	pCi/g	0.46		0.14
1IR-8H02a	IR1-8H-02a	RANDOM	15-419	12/12/2007	0	0.5	pCi/g	0.38		0.15
1IR-8H-02b	IR1-8H-02b	RANDOM	15-420	12/12/2007	0.5	1	pCi/g	0.27	U	0.19
1IR-9A-02a	IR1-9A-02a	RANDOM	15-444	12/12/2007	0	0.5	pCi/g	0.31		0.10
1IR-9A-02b	IR1-9A-02b	RANDOM	15-445	12/12/2007	0.5	1	pCi/g	0.44		0.16
1IR-9A-03a	IR1-9A-03a	RANDOM	15-446	12/12/2007	0	0.5	pCi/g	0.52		0.19
B-1IR-8Ia	IR1-B-8Ia	BIASED	15-421	12/12/2007	2	2.5	pCi/g	0.41		0.21
1IR-9A-03b	IR1-9A-03b	RANDOM	15-447	12/12/2007	0.5	1	pCi/g	0.23	U	0.18
B-1IR-8Ib	IR1-B-8Ib	BIASED	15-422	12/12/2007	2.5	3	pCi/g	0.34		0.11
1IR-8I-02a	IR1-8I-02a	RANDOM	15-423	12/12/2007	0	0.5	pCi/g	0.23	U	0.17
1IR-8I-02b	IR1-8I-02b	RANDOM	15-424	12/12/2007	0.5	1	pCi/g	0.23	U	0.18
1IR-9A-04a	IR1-9A-04a	RANDOM	15-448	12/12/2007	0	0.5	pCi/g	0.232		0.092
B-1IR-8Ja	IR1-B-8Ja	BIASED	15-425	12/12/2007	2	2.5	pCi/g	0.28	U	0.21
1IR-9A-04 b	IR1-9A-04b	RANDOM	15-449	12/12/2007	0.5	1	pCi/g	0.36		0.19
B-1IR-8Jb	IR1-B-8Jb	BIASED	15-426	12/12/2007	2.5	3	pCi/g	0.35		0.13
1IR-8J-02a	IR1-8J-02a	RANDOM	15-427	12/12/2007	0	0.5	pCi/g	0.22	U	0.17
1IR-8J-02b	IR1-8J-02b	RANDOM	15-428	12/12/2007	0.5	1	pCi/g	0.19	U	0.19
1IR-9A-05a	IR1-9A-05a	RANDOM	15-450	12/12/2007	0	0.5	pCi/g	0.38		0.15
1IR-9A-05b	IR1-9A-05b	RANDOM	15-451	12/12/2007	0.5	1	pCi/g	0.37		0.22
1IR-9A-06a	IR1-9A-06a	RANDOM	15-452	12/12/2007	0	0.5	pCi/g	0.26	U	0.14
1IR-9A-06b	IR1-9A-06b	RANDOM	15-453	12/12/2007	0.5	1	pCi/g	0.39	U	0.30
B-1IR-11a	IR1-B-11a	BIASED	15-462	12/12/2007	2	2.5	pCi/g	0.15	U	0.17
B-1IR-11b	IR1-B-11b	BIASED	15-463	12/12/2007	2.5	3	pCi/g	0.38		0.11
1IR-9A-07a	IR1-9A-07a	RANDOM	15-454	12/12/2007	0	0.5	pCi/g	0.20	U	0.19
1IR-11-02a	IR1-11-02a	RANDOM	15-465	12/12/2007	0	0.5	pCi/g	0.31		0.12
1IR-11-02b	IR1-11-02b	RANDOM	15-466	12/12/2007	0.5	1	pCi/g	0.27		0.14
1IR-9A-07b	IR1-9A-07b	RANDOM	15-455	12/12/2007	0.5	1	pCi/g	0.39		0.13
1IR-9A-08a	IR1-9A-08a	RANDOM	15-456	12/12/2007	0	0.5	pCi/g	0.25		0.15
1IR-9A-08b	IR1-9A-08b	RANDOM	15-457	12/12/2007	0.5	1	pCi/g	0.34		0.21
1IR-9A-09a	IR1-9A-09a	RANDOM	15-458	12/12/2007	0	0.5	pCi/g	0.36		0.17

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-1IR-12a	IR1-B-12a	BIASED	15-467	12/12/2007	2	2.5	pCi/g	0.0	U	0.23
B-1IR-12b	IR1-B-12b	BIASED	15-468	12/12/2007	2.5	3	pCi/g	0.41	U	0.49
1IR-9A-09b	IR1-9A-09b	RANDOM	15-459	12/12/2007	0.5	1	pCi/g	0.27		0.16
1IR-9A-10a	IR1-9A-10a	RANDOM	15-460	12/12/2007	0	0.5	pCi/g	0.35		0.20
1IR-9A-10b	IR1-9A-10b	RANDOM	15-461	12/12/2007	0.5	1	pCi/g	0.28	U	0.21
1IR-12-02a	IR1-12-02a	RANDOM	15-469	12/12/2007	0	0.5	pCi/g	0.27	U	0.22
1IR-12-02b	IR1-12-02b	RANDOM	15-470	12/12/2007	0.5	1	pCi/g	0.29		0.11
1IR-12-03a	IR1-12-03a	RANDOM	15-471	12/12/2007	2	2.5	pCi/g	0.35	U	0.24
1IR-12-03b	IR1-12-03b	RANDOM	15-472	12/12/2007	2.5	3	pCi/g	0.18	U	0.18
1IR-12-04a	IR1-12-04a	RANDOM	15-473	12/12/2007	2	2.5	pCi/g	0.62		0.30
1IR-12-04b	IR1-12-04b	RANDOM	15-474	12/12/2007	2.5	3	pCi/g	0.47		0.29
1IR-12-05a	IR1-12-05a	RANDOM	15-475	12/12/2007	0	0.5	pCi/g	0.41		0.23
1IR-12-05b	IR1-12-05b	RANDOM	15-476	12/12/2007	0.5	1	pCi/g	0.33		0.19
B-1IR-13Ba	IR1-B-13Ba	BIASED	15-477	12/13/2007	2	2.5	pCi/g	0.22	U	0.25
B-1IR-13Bb	IR1-B-13Bb	BIASED	15-478	12/13/2007	2.5	3	pCi/g	0.18	U	0.16
1IR-18ABC-01a	IR1-18ABC-01a	RANDOM	15-508	12/13/2007	0	0.5	pCi/g	0.27		0.17
1IR-13B-02a	IR1-13B-02a	RANDOM	15-479	12/13/2007	0	0.5	pCi/g	0.29		0.19
1IR-18ABC-01b	IR1-18ABC-01b	RANDOM	15-509	12/13/2007	0.5	1	pCi/g	0.38		0.18
1IR-13B-02b	IR1-13B-02b	RANDOM	15-480	12/13/2007	0.5	1	pCi/g	0.22	U	0.16
1IR-13B-03a	IR1-13B-03a	RANDOM	15-481	12/13/2007	2	2.5	pCi/g	0.08	U	0.18
1IR-13B-03b	IR1-13B-03b	RANDOM	15-482	12/13/2007	2.5	3	pCi/g	0.20	U	0.23
1IR-13B-04a	IR1-13B-04a	RANDOM	15-483	12/13/2007	0	0.5	pCi/g	0.27		0.19
1IR-13B-04b	IR1-13B-04b	RANDOM	15-484	12/13/2007	0.5	1	pCi/g	0.23		0.14
1IR-13B-05a	IR1-13B-05a	RANDOM	15-485	12/13/2007	2	2.5	pCi/g	0.27		0.16
1IR-13B-05b	IR1-13B-05b	RANDOM	15-486	12/13/2007	2.5	3	pCi/g	0.28		0.18
1IR-18ABC-02a	IR1-18ABC-02a	RANDOM	15-511	12/13/2007	0	0.5	pCi/g	0.37		0.23
1IR-18ABC-02b	IR1-18ABC-02b	RANDOM	15-512	12/13/2007	0.5	1	pCi/g	0.16	U	0.21
B-1IR-21a	IR1-B-21a	BIASED	15-550	12/13/2007	2	2.5	pCi/g	0.44		0.26
1IR-18ABC-03a	IR1-18ABC-03a	RANDOM	15-513	12/13/2007	0	0.5	pCi/g	0.33		0.12
B-1IR-21b	IR1-B-21b	BIASED	15-551	12/13/2007	2.5	3	pCi/g	0.32		0.15
1IR-18ABC-03b	IR1-18ABC-03b	RANDOM	15-514	12/13/2007	0.5	1	pCi/g	0.13	U	0.16
B-1IR-15a	IR1-B-15a	BIASED	15-487	12/13/2007	2	2.5	pCi/g	0.23	U	0.16
B-1IR-15b	IR1-B-15b	BIASED	15-488	12/13/2007	2.5	3	pCi/g	0.31		0.20
1IR-18ABC-04a	IR1-18ABC-04a	RANDOM	15-515	12/13/2007	2	2.6	pCi/g	0.40		0.21
1IR-21-02a	IR1-21-02a	RANDOM	15-553	12/13/2007	2	2.5	pCi/g	0.28	U	0.13
1IR-15-02a	IR1-15-02a	RANDOM	15-490	12/13/2007	0	0.5	pCi/g	0.20	U	0.20
1IR-18ABC-05a	IR1-18ABC-05a	RANDOM	15-516	12/13/2007	2	2.6	pCi/g	0.18	U	0.14
1IR-15-02b	IR1-15-02b	RANDOM	15-491	12/13/2007	0.5	1	pCi/g	0.36		0.14
1IR-21-02b	IR1-21-02b	RANDOM	15-554	12/13/2007	2.5	3	pCi/g	0.25	U	0.20
B-1IR-16a	IR1-B-16a	BIASED	15-492	12/13/2007	2	2.5	pCi/g	0.31		0.14
1IR-18ABC-05b	IR1-18ABC-05b	RANDOM	15-517	12/13/2007	2.6	3	pCi/g	0.24	U	0.17
1IR-21-03a	IR1-21-03a	RANDOM	15-555	12/13/2007	2	2.5	pCi/g	0.39		0.22
B-1IR-16b	IR1-B-16b	BIASED	15-493	12/13/2007	2.5	3	pCi/g	0.36		0.16
1IR-16-02a	IR1-16-02a	RANDOM	15-496	12/13/2007	2	2.5	pCi/g	0.35		0.15
1IR-21-03b	IR1-21-03b	RANDOM	15-556	12/13/2007	2.5	3	pCi/g	0.31	U	0.21

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
1IR-16-02b	IR1-16-02b	RANDOM	15-497	12/13/2007	2.5	3	pCi/g	0.38		0.20
1IR-21-04a	IR1-21-04a	RANDOM	15-557	12/13/2007	2	2.5	pCi/g	0.60		0.28
1IR-18ABC-06a	IR1-18ABC-06a	RANDOM	15-518	12/13/2007	0	0.5	pCi/g	0.26	U	0.18
1IR-21-04b	IR1-21-04b	RANDOM	15-558	12/13/2007	2.5	3	pCi/g	0.50		0.18
1IR-18ABC006b	IR1-18ABC-06b	RANDOM	15-519	12/13/2007	0.5	1	pCi/g	0.30		0.17
B-1IR-17a	IR1-B-17a	BIASED	15-498	12/13/2007	2	2.5	pCi/g	0.22	U	0.21
1IR-21-05a	IR1-21-05a	RANDOM	15-559	12/13/2007	0	0.05	pCi/g	0.39		0.13
B-1IR-17b	IR1-B-17b	BIASED	15-499	12/13/2007	2.5	3	pCi/g	0.39		0.14
1IR-18ABC-07a	IR1-18ABC-07a	RANDOM	15-520	12/13/2007	2	2.6	pCi/g	0.27	U	0.20
1IR-17-02a	IR1-17-02a	RANDOM	15-500	12/13/2007	2	2.5	pCi/g	0.43		0.20
1IR-21095b	IR1-21-05b	RANDOM	15-560	12/13/2007	0.6	1	pCi/g	0.16	U	0.25
1IR-18ABC-07b	IR1-18ABC-07b	RANDOM	15-521	12/13/2007	2.6	3	pCi/g	0.18	U	0.19
1IR-17-02b	IR1-17-02b	RANDOM	15-501	12/13/2007	2.5	3	pCi/g	0.34		0.20
1IR-18ABC-08a	IR1-18ABC-08a	RANDOM	15-522	12/13/2007	2	2.6	pCi/g	0.33		0.12
1IR-18ABC-08b	IR1-18ABC-08b	RANDOM	15-523	12/13/2007	2.6	3	pCi/g	0.18	U	0.17
B-1IR-22a	IR1-B-22a	BIASED	15-561	12/13/2007	2	2.5	pCi/g	0.28	U	0.21
1IR-18ABC-09a	IR1-18ABC-09a	RANDOM	15-524	12/13/2007	2	2.6	pCi/g	0.25	U	0.20
B-1IR-22b	IR1-B-22b	BIASED	15-562	12/13/2007	2.5	3	pCi/g	0.35		0.15
B-1IR-18Aa	IR1-B-18Aa	BIASED	15-502	12/13/2007	2	2.5	pCi/g	0.15	U	0.15
1IR-18ABC-09b	IR1-18ABC-09b	RANDOM	15-525	12/13/2007	2.6	3	pCi/g	0.27		0.18
B-1IR-18Ab	IR1-B-18Ab	BIASED	15-503	12/13/2007	2.5	3	pCi/g	0.41		0.16
B-1IR-18Ba	IR1-B-18Ba	BIASED	15-504	12/13/2007	2	2.5	pCi/g	0.22	U	0.19
B-1IR-18Bb	IR1-B-18Bb	BIASED	15-505	12/13/2007	2.5	3	pCi/g	0.43		0.17
1IR-18ABC-10a	IR1-18ABC-10a	RANDOM	15-526	12/13/2007	2	2.6	pCi/g	0.25		0.16
1IR-22-02a	IR1-22-02a	RANDOM	15-563	12/13/2007	2	2.5	pCi/g	0.36		0.18
1IR-18ABC-10b	IR1-18ABC-10b	RANDOM	15-527	12/13/2007	2.6	3	pCi/g	0.20	U	0.21
B-1IR-18Ca	IR1-B-18Ca	BIASED	15-506	12/13/2007	2	2.5	pCi/g	0.27		0.13
1IR-22-02b	IR1-22-02b	RANDOM	15-564	12/13/2007	2.5	3	pCi/g	0.42		0.23
B-1IR-18Cb	IR1-B-18Cb	BIASED	15-507	12/13/2007	2.5	3	pCi/g	0.37		0.16
1IR-22-03a	IR1-22-03a	RANDOM	15-565	12/13/2007	0	0.5	pCi/g	0.44		0.18
1IR-22-03b	IR1-22-03b	RANDOM	15-566	12/13/2007	0.5	1	pCi/g	0.39		0.24
1IR-22-04a	IR1-22-04a	RANDOM	15-567	12/13/2007	0	0.5	pCi/g	0.16	U	0.21
B-1IR-19a	IR1-B-19a	BIASED	15-528	12/13/2007	2	2.6	pCi/g	0.39		0.16
B-1IR-24a	IR1-B-24a	BIASED	15-581	12/13/2007	2	2.5	pCi/g	0.20	U	0.19
B-1IR-19b	IR1-B-19b	BIASED	15-529	12/13/2007	2.6	3	pCi/g	0.44		0.20
B-1IR-24b	IR1-B-24b	BIASED	15-582	12/13/2007	2.5	3	pCi/g	0.33		0.14
1IR-22-04b	IR1-22-04b	RANDOM	15-568	12/13/2007	0.5	1	pCi/g	0.41		0.14
1IR-22-05a	IR1-22-05a	RANDOM	15-569	12/13/2007	0	0.5	pCi/g	0.19	U	0.19
1IR-24-02a	IR1-24-02a	RANDOM	15-584	12/13/2007	0	0.5	pCi/g	0.29	U	0.24
1IR-24-02b	IR1-24-02b	RANDOM	15-585	12/13/2007	0.5	1	pCi/g	0.24	U	0.20
1IR-19-02a	IR1-19-02a	RANDOM	15-532	12/13/2007	0	0.5	pCi/g	0.34		0.22
1IR-22-05b	IR1-22-05b	RANDOM	15-570	12/13/2007	0.5	1	pCi/g	0.24		0.17
1IR-19-02b	IR1-19-02b	RANDOM	15-533	12/13/2007	0.5	1	pCi/g	0.39		0.16
B-1IR-23a	IR1-B-23a	BIASED	15-571	12/13/2007	2	2.5	pCi/g	0.15	U	0.22
1IR-19-03a	IR1-19-03a	RANDOM	15-534	12/13/2007	0	0.5	pCi/g	0.50		0.25

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-1IR-23b	IR1-B-23b	BIASED	15-572	12/13/2007	2.5	3	pCi/g	0.22	U	0.21
1IR-19-03b	IR1-19-03b	RANDOM	15-535	12/13/2007	0.5	1	pCi/g	0.44		0.19
1IR-19-04a	IR1-19-04a	RANDOM	15-536	12/13/2007	2	2.5	pCi/g	0.35		0.21
1IR-23-02a	IR1-23-02a	RANDOM	15-573	12/13/2007	0	0.5	pCi/g	0.46		0.12
1IR-19-04b	IR1-19-04b	RANDOM	15-537	12/13/2007	2.6	3	pCi/g	0.29		0.19
1IR-23-02b	IR1-23-02b	RANDOM	15-574	12/13/2007	0.5	1	pCi/g	0.30		0.19
B-1IR-25a	IR1-B-25a	BIASED	15-586	12/13/2007	2	2.5	pCi/g	0.50		0.15
1IR-23-03a	IR1-23-03a	RANDOM	15-575	12/13/2007	2	2.5	pCi/g	0.45		0.17
B-1IR-25b	IR1-B-25b	BIASED	15-587	12/13/2007	2.5	3	pCi/g	0.45		0.19
1IR-19-05a	IR1-19-05a	RANDOM	15-538	12/13/2007	2	2.6	pCi/g	0.43		0.29
1IR-23-03b	IR1-23-03b	RANDOM	15-576	12/13/2007	2.5	3	pCi/g	0.19	U	0.19
1IR-23-04a	IR1-23-04a	RANDOM	15-577	12/13/2007	0	0.5	pCi/g	0.19	U	0.23
1IR-19-05b	IR1-19-05b	RANDOM	15-539	12/13/2007	2.6	3	pCi/g	0.0	U	0.23
1IR-23-04b	IR1-23-04b	RANDOM	15-578	12/13/2007	0.5	1	pCi/g	0.33		0.22
1IR-25-02a	IR1-25-02a	RANDOM	15-588	12/13/2007	2	2.5	pCi/g	0.29	U	0.22
1IR-23-05a	IR1-23-05a	RANDOM	15-579	12/13/2007	2	2.5	pCi/g	0.40		0.14
1IR-25-02b	IR1-25-02b	RANDOM	15-589	12/13/2007	2.5	3	pCi/g	0.35		0.20
1IR-19-06a	IR1-19-06a	RANDOM	15-540	12/13/2007	0	0.5	pCi/g	0.36		0.12
1IR-23-05b	IR1-23-05b	RANDOM	15-580	12/13/2007	2.5	3	pCi/g	0.37		0.11
1IR-25-03a	IR1-25-03a	RANDOM	15-590	12/13/2007	2	2.5	pCi/g	0.22		0.15
1IR-19-06b	IR1-19-06b	RANDOM	15-541	12/13/2007	0.5	1	pCi/g	0.36		0.14
1IR-25-03b	IR1-25-03b	RANDOM	15-591	12/13/2007	2.5	3	pCi/g	0.34		0.16
1IR-25-04a	IR1-25-04a	RANDOM	15-592	12/13/2007	2	2.5	pCi/g	0.31		0.20
1IR-25-04b	IR1-25-04b	RANDOM	15-593	12/13/2007	2.5	3	pCi/g	0.36		0.16
1IR-19-07a	IR1-19-07a	RANDOM	15-542	12/13/2007	2	2.6	pCi/g	0.49		0.22
1IR-25-05a	IR1-25-05a	RANDOM	15-594	12/13/2007	2	2.5	pCi/g	0.57		0.24
1IR-25-05b	IR1-25-05b	RANDOM	15-595	12/13/2007	2.5	3	pCi/g	0.49	U	0.40
B-1IR-26Ba	IR1-B-26-Ba	BIASED	15-596	12/13/2007	2	2.5	pCi/g	0.29	U	0.23
B-1IR-26Bb	IR1-B-26-Bb	BIASED	15-597	12/13/2007	2.5	3	pCi/g	0.40		0.13
1IR-19-07b	IR1-19-07b	RANDOM	15-543	12/13/2007	2.6	3	pCi/g	0.42		0.16
1IR-26B-01a	IR1-26B-01a	RANDOM	15-598	12/13/2007	0	0.5	pCi/g	0.32		0.14
1IR-26B-01b	IR1-26B-01b	RANDOM	15-599	12/13/2007	0.5	1	pCi/g	0.34		0.19
1IR-19-08a	IR1-19-08a	RANDOM	15-544	12/13/2007	2	2.6	pCi/g	0.26	U	0.16
1IR-26B-02a	IR1-26B-02a	RANDOM	15-600	12/13/2007	0	0.5	pCi/g	0.42		0.24
1IR-19-08b	IR1-19-08b	RANDOM	15-545	12/13/2007	2.6	3	pCi/g	0.31	U	0.22
1IR-26B-02b	IR1-26B-02b	RANDOM	15-601	12/13/2007	0.5	1	pCi/g	0.47		0.19
B-1IR-A28a	IR1-B-A28a	BIASED	15-602	12/13/2007	2	2.5	pCi/g	0.28		0.19
B-1IR-A28b	IR1-B-A28b	BIASED	15-603	12/13/2007	2.5	3	pCi/g	0.25	U	0.24
1IR-19-09a	IR1-19-09a	RANDOM	15-546	12/13/2007	2	2.6	pCi/g	0.24	U	0.21
1IR-19-09b	IR1-19-09b	RANDOM	15-547	12/13/2007	2.6	3	pCi/g	0.33		0.12
1IR-A28-01a	IR1-28A-01a	RANDOM	15-605	12/13/2007	0	0.5	pCi/g	0.37		0.15
1IR-19-10a	IR1-19-10a	RANDOM	15-548	12/13/2007	2	2.6	pCi/g	0.47		0.21
1IR-A28-01b	IR1-28A-01b	RANDOM	15-606	12/13/2007	0.5	1	pCi/g	0.19	U	0.20
1IR-19-10b	IR1-19-10b	RANDOM	15-549	12/13/2007	2.6	3	pCi/g	0.33		0.20
1IR-A28-02a	IR1-28A-02a	RANDOM	15-607	12/13/2007	0	0.5	pCi/g	0.23		0.16

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
1IR-A28-02b	IR1-28A-02b	RANDOM	15-608	12/13/2007	0.5	1	pCi/g	0.01	U	0.15
1IR-A28-03a	IR1-28A-03a	RANDOM	15-609	12/13/2007	0	0.5	pCi/g	0.13	U	0.20
1IR-A28-03b	IR1-28A-03b	RANDOM	15-610	12/13/2007	0.5	1	pCi/g	0.28		0.11
1IR-A28-04a	IR1-28A-04a	RANDOM	15-611	12/13/2007	0	0.5	pCi/g	0.32		0.12
1IR-A28-04b	IR1-28A-04b	RANDOM	15-612	12/13/2007	0.5	1	pCi/g	0.36		0.11
1IR-A28-05a	IR1-28A-05a	RANDOM	15-613	12/13/2007	0	0.5	pCi/g	0.28		0.13
1IR-A28-05b	IR1-28A-05b	RANDOM	15-614	12/13/2007	0.5	1	pCi/g	0.27		0.17
B-1IR-93a	IR1-B-93a	BIASED	15-637	12/13/2007	3.5	4	pCi/g	0.62		0.19
B-1IR-93b	IR1-B-93b	BIASED	15-638	12/13/2007	4	4.5	pCi/g	0.42		0.14
B-1IR-92a	IR1-B-92a	BIASED	15-615	12/13/2007	2	2.5	pCi/g	0.44		0.16
B-1IR-92b	IR1-B-92b	BIASED	15-616	12/13/2007	2.5	3	pCi/g	0.32	U	0.27
B-1IR-97a	IR1-B-97a	BIASED	15-639	12/14/2007	2	2.5	pCi/g	0.52		0.14
B-1IR-97b	IR1-B-97b	BIASED	15-640	12/14/2007	2.5	3	pCi/g	0.25	U	0.23
B-1IR-114a	IR1-B-114a	BIASED	15-641	12/14/2007	2	2.5	pCi/g	0.19	U	0.36
B-1IR-114b	IR1-B-114b	BIASED	15-642	12/14/2007	2.5	3	pCi/g	0.23	U	0.22
B-1IR-AB1a	IR1-B-AB1a	BIASED	15-643	12/14/2007	1	1.5	pCi/g	0.35		0.21
B-1IR-AB1b	IR1-B-AB1b	BIASED	15-644	12/14/2007	1.5	2	pCi/g	0.29	U	0.24
1IR-92-01a	IR1-92-01a	RANDOM	15-617	12/14/2007	0	0.5	pCi/g	0.27	U	0.20
1IR-AB1-02a	IR1-1AB-02a	RANDOM	15-645	12/14/2007	0	0.5	pCi/g	0.57		0.16
1IR-92-01b	IR1-92-01b	RANDOM	15-618	12/14/2007	0.5	1	pCi/g	0.33		0.10
1IR-AB1-02b	IR1-1AB-02b	RANDOM	15-646	12/14/2007	0.5	1	pCi/g	0.29		0.13
1IR-92-02a	IR1-92-02a	RANDOM	15-619	12/14/2007	0	0.5	pCi/g	0.35		0.14
1IR-92-02b	IR1-92-02b	RANDOM	15-620	12/14/2007	0.5	1	pCi/g	0.34		0.17
1IR-92-03a	IR1-92-03a	RANDOM	15-621	12/14/2007	0	0.5	pCi/g	0.49		0.19
1IR-92-03b	IR1-92-03b	RANDOM	15-622	12/14/2007	0.5	1	pCi/g	0.47		0.17
1IR-92-04a	IR1-92-04a	RANDOM	15-623	12/14/2007	0	0.5	pCi/g	0.32	U	0.17
1IR-92-04b	IR1-92-04b	RANDOM	15-624	12/14/2007	0.5	1	pCi/g	0.057		0.024
1IR-92-05a	IR1-92-05a	RANDOM	15-625	12/14/2007	0	0.5	pCi/g	0.45		0.12
1IR-92-05b	IR1-92-05b	RANDOM	15-626	12/14/2007	0.5	1	pCi/g	0.52		0.14
1IR-92-06A	IR1-92-06a	RANDOM	15-627	12/14/2007	0	0.5	pCi/g	0.60		0.16
1IR-92-06B	IR1-92-06b	RANDOM	15-628	12/14/2007	0.5	1	pCi/g	0.36		0.13
1IR-92-07A	IR1-92-07a	RANDOM	15-629	12/14/2007	0	0.5	pCi/g	0.32		0.18
1IR-92-07B	IR1-92-07b	RANDOM	15-630	12/14/2007	0.5	1	pCi/g	0.28		0.15
1IR-92-08A	IR1-92-08a	RANDOM	15-631	12/14/2007	0	0.5	pCi/g	0.37		0.18
1IR-92-08B	IR1-92-08b	RANDOM	15-632	12/14/2007	0.5	1	pCi/g	0.19	U	0.17
1IR-92-09A	IR1-92-09a	RANDOM	15-633	12/14/2007	0	0.5	pCi/g	0.51		0.11
1IR-92-09B	IR1-92-09b	RANDOM	15-634	12/14/2007	0.5	1	pCi/g	0.27		0.16
1IR-92-10A	IR1-92-10a	RANDOM	15-635	12/14/2007	0	0.5	pCi/g	0.66		0.18
1IR-92-10B	IR1-92-10b	RANDOM	15-636	12/14/2007	0.5	1	pCi/g	0.55		0.20
1IR-18-ABC-04b	IR1-18ABC-04b	RANDOM	15-892	12/17/2007	2.5	3	pCi/g	0.44		0.23
1IR-AB1-01b	IR1-1AB-01b	RANDOM	15-902	12/20/2007	2.5	3	pCi/g	0.53		0.23
1IR-13B-01b	IR1-13B-01b	RANDOM	15-893	12/20/2007	2.5	3	pCi/g	0.26	U	0.21
1IR-13A-01b	IR1-13A-01b	RANDOM	15-894	12/20/2007	2.5	3	pCi/g	0.217		0.089
1IR-15-01b	IR1-15-01b	RANDOM	15-895	12/20/2007	2.5	3	pCi/g	0.37		0.13
1IR-17-01b	IR1-17-01b	RANDOM	15-896	12/20/2007	2.5	3	pCi/g	0.43		0.17

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
1IR-21-01b	IR1-21-01b	RANDOM	15-897	12/20/2007	2.5	3	pCi/g	0.23	U	0.23
1IR-22-01b	IR1-22-01b	RANDOM	15-898	12/20/2007	2.5	3	pCi/g	0.26	U	0.21
1IR-23-01b	IR1-23-01b	RANDOM	15-899	12/20/2007	2.5	3	pCi/g	0.39		0.11
1IR-24-01b	IR1-24-01b	RANDOM	15-900	12/20/2007	2.5	3	pCi/g	0.27		0.18
1IR-25-01b	IR1-25-01b	RANDOM	15-901	12/20/2007	2.5	3	pCi/g	0.21	U	0.19
B-1IR-B-3Aa	IR1-B-3Aa	BIASED	15-903	12/20/2007	2	2.5	pCi/g	0.46		0.16
B-1IR-B-3Ab	IR1-B-3Ab	BIASED	15-904	12/20/2007	2.5	3	pCi/g	0.47		0.25
B-1IR-3Ba	IR1-B-3Ba	BIASED	15-905	12/20/2007	2	2.5	pCi/g	0.39		0.24
B-1IR-3Bb	IR1-B-3Bb	BIASED	15-906	12/20/2007	2.5	3	pCi/g	0.39		0.12
1IR-19-01a	IR1-19-01a	RANDOM	15-907	12/20/2007	2	2.5	pCi/g	0.0	U	0.11
1IR-19-01b	IR1-19-01b	RANDOM	15-908	12/20/2007	2.5	3	pCi/g	0.38		0.21
B-IR1-134a	IR1-B-134a	BIASED	15-1016	3/31/2008	2	2.5	pCi/g	0.37		0.15
B-IR1-134b	IR1-B-134b	BIASED	15-1017	3/31/2008	2.5	3	pCi/g	0.29		0.17
B-IR1-135a	IR1-B-135a	BIASED	15-1018	3/31/2008	2	2.5	pCi/g	0.42		0.15
B-IR1-135b	IR1-B-135b	BIASED	15-1019	3/31/2008	2.5	3	pCi/g	0.46		0.26

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Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
	-0.025	U	0.097	0.17	0.012	U	0.042	0.076	-0.008	U	0.053	0.10	-0.03	U
	0.011	U	0.080	0.14	-0.02	U	0.18	0.11	-0.011	U	0.045	0.056	-0.04	U
	-0.025	U	0.080	0.14	0.018	U	0.034	0.059	-0.0001	U	0.053	0.10	0.015	U
	0.018	U	0.083	0.14	0.030	U	0.051	0.087	0.0	U	0.012	0.044	0.042	U
	0.056	U	0.090	0.15	0.042	U	0.046	0.075	0.0	U	0.039	0.075	-0.013	U
	0.05	U	0.11	0.18	-0.007	U	0.061	0.11	0.009	U	0.046	0.091	0.0	U
	-0.05	U	0.22	0.17	-0.02	U	0.24	0.11	-0.01	U	0.82	0.12	-0.019	U
	-0.022	U	0.099	0.17	-0.014	U	0.045	0.079	-0.002	U	0.048	0.090	0.01	U
	0.0007	U	0.086	0.15	0.032	U	0.049	0.083	0.014	U	0.043	0.080	-0.03	U
	0.02	U	0.10	0.18	-0.02	U	0.15	0.11	0.016	U	0.043	0.088	-0.03	U
0.24	0.018	U	0.088	0.15	0.020	U	0.037	0.064	0.005	U	0.044	0.084	-0.0006	U
	-0.003	U	0.081	0.14	-0.007	U	0.050	0.091	-0.002	U	0.042	0.085	-0.011	U
	0.0009	U	0.080	0.14	0.011	U	0.045	0.079	0.01	U	0.038	0.069	0.02	U
	-0.03	U	0.11	0.20	-0.0009	U	0.051	0.096	0.0	U	0.015	0.054	0.02	U
	-0.04	U	0.18	0.17	-0.04	U	0.92	0.1	0.006	U	0.051	0.10	-0.03	U
	-0.046	U	0.093	0.16	0.013	U	0.056	0.10	-0.0005	U	0.044	0.088	0.042	U
	0.061	U	0.085	0.14	0.0	U	0.065	0.12	0.01	U	0.047	0.091	-0.03	U
	0.041	U	0.074	0.13	-0.006	U	0.079	0.12	0.016	U	0.51	0.10	-0.02	U
0.39	0.06	U	0.12	0.20	0.003	U	0.057	0.10	0.013	U	0.066	0.12	-0.007	U
0.29	0.004	U	0.11	0.18	0.099	J	0.059	0.086	0.0	U	0.077	0.14	0.001	U
0.37	0.09	U	0.13	0.21	0.0	U	0.056	0.11	-0.017	U	0.068	0.13	-0.05	U
0.29	-0.01	U	2.1	0.2	0.01	U	0.055	0.11	-0.005	U	0.059	0.11	-0.04	U
0.23	0.009	U	0.077	0.13	0.0	U	0.067	0.12	0.0	U	0.057	0.11	-0.005	U
0.33	0.04	U	0.11	0.19	0.002	U	0.039	0.073	0.01	U	0.053	0.096	-0.03	U
0.20	0.02	U	0.12	0.20	-0.0007	U	0.044	0.081	0.015	U	0.057	0.10	0.02	U
0.44	-0.004	U	0.12	0.22	0.001	U	0.052	0.10	0.018	U	0.077	0.14	0.00007	U
0.30	0.027	U	0.095	0.17	-0.009	U	0.093	0.11	0.0	U	0.080	0.15	0.011	U
0.34	0.031	U	0.086	0.15	-0.003	U	0.048	0.088	-0.013	U	0.058	0.11	-0.007	U
0.27	-0.02	U	0.12	0.20	0.008	U	0.047	0.085	0.003	U	0.049	0.092	0.007	U
0.41	-0.04	U	0.12	0.20	-0.007	U	0.060	0.11	0.0	U	0.016	0.057	-0.02	U
0.25	-0.003	U	0.074	0.13	-0.013	U	0.044	0.078	-0.020	U	0.068	0.12	0.001	U
0.20	0.016	U	0.073	0.13	0.010	U	0.044	0.080	-0.0005	U	0.057	0.11	-0.01	U
0.27	0.039	U	0.095	0.16	-0.0002	U	0.036	0.070	0.0	U	0.012	0.044	0.01	U
0.33	0.061	U	0.085	0.14	0.026	U	0.045	0.076	0.0	U	0.013	0.048	-0.02	U
0.28	0.055	U	0.080	0.13	-0.002	U	0.054	0.10	-0.010	U	0.057	0.11	-0.04	U
0.21	0.023	U	0.075	0.13	-0.013	U	0.046	0.082	0.006	U	0.056	0.11	-0.017	U
0.27	0.058	U	0.081	0.13	0.018	U	0.047	0.083	0.0	U	0.062	0.12	0.026	U
0.32	0.0	U	0.12	0.21	0.032	U	0.049	0.083	0.008	U	0.063	0.12	0.0	U
0.27	-0.002	U	0.13	0.14	-0.01	U	0.15	0.10	0.008	U	0.042	0.083	0.020	U
0.27	-0.027	U	0.076	0.13	0.013	U	0.036	0.064	-0.012	U	0.056	0.10	-0.003	U
0.26	0.092	U	0.080	0.13	-0.001	U	0.041	0.077	-0.011	U	0.045	0.085	0.033	U
0.31	0.02	U	0.10	0.18	-0.008	U	0.043	0.078	0.0	U	0.009	0.034	0.03	U
0.22	-0.01	U	0.11	0.18	-0.004	U	0.036	0.065	0.0	U	0.070	0.13	0.03	U
0.39	0.005	U	0.10	0.18	-0.020	U	0.066	0.12	0.0	U	0.082	0.15	-0.03	U
0.33	0.022	U	0.084	0.15	-0.03	U	0.67	0.1	0.020	U	0.060	0.11	-0.04	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.27	0.039	U	0.082	0.14	0.036	U	0.049	0.080	0.0	U	0.061	0.12	0.019	U
0.33	0.038	U	0.075	0.13	0.0	U	0.039	0.073	-0.005	U	0.043	0.083	-0.031	U
0.30	0.04	U	0.10	0.18	0.018	U	0.046	0.079	-0.0003	U	0.033	0.067	-0.02	U
0.29	0.050	U	0.094	0.16	0.013	U	0.042	0.074	-0.004	U	0.048	0.089	-0.004	U
0.37	-0.04	U	0.11	0.20	-0.015	U	0.057	0.10	0.0	U	0.082	0.16	-0.005	U
0.27	0.008	U	0.090	0.16	0.00002	U	0.049	0.10	0.0	U	0.072	0.14	-0.03	U
0.23	0.060	U	0.066	0.11	0.0	U	0.050	0.092	0.0	U	0.011	0.039	0.024	U
0.29	0.040	U	0.090	0.15	0.056	U	0.049	0.077	0.0	U	0.052	0.097	0.0	U
0.30	0.0	UJ	0.13	0.22	0.024	UJ	0.044	0.075	-0.009	UJ	0.047	0.086	0.06	UJ
0.23	-0.001	U	0.080	0.14	0.014	U	0.043	0.076	-0.002	U	0.053	0.10	-0.001	U
0.30	0.05	U	0.11	0.19	0.003	U	0.038	0.071	-0.021	U	0.058	0.10	0.016	U
0.38	0.0006	U	0.098	0.17	0.089	U	0.067	0.10	0.0	U	0.014	0.052	0.04	U
0.34	0.006	U	0.091	0.16	-0.006	U	0.078	0.11	-0.015	U	0.049	0.092	0.0	U
0.21	0.047	U	0.076	0.13	0.088	J	0.048	0.065	-0.019	U	0.058	0.10	0.010	U
0.27	-0.036	U	0.088	0.15	0.019	U	0.038	0.067	0.0	U	0.012	0.043	0.039	U
0.44	0.04	U	0.26	0.43	0.025	U	0.079	0.13	0.0	U	0.085	0.15	0.54	
0.46	0.14	UJ	0.26	0.43	-0.055	UJ	0.096	0.16	-0.005	UJ	0.074	0.13	0.71	J
0.37	0.07	U	0.13	0.21	0.025	U	0.049	0.084	-0.013	U	0.054	0.098	0.19	U
0.26	-0.011	U	0.093	0.16	0.007	U	0.039	0.070	0.014	U	0.040	0.071	-0.03	U
0.38	0.04	U	0.13	0.22	0.009	U	0.067	0.12	-0.015	U	0.077	0.14	-0.03	U
0.36	-0.05	U	0.20	0.21	-0.04	U	1.1	0.1	0.035	U	0.048	0.079	-0.001	U
0.30	0.003	U	0.12	0.21	-0.006	U	0.050	0.089	0.0	U	0.070	0.13	0.003	U
0.23	-0.01	U	0.10	0.18	0.0	U	0.042	0.077	-0.002	U	0.053	0.098	0.005	U
0.20	-0.07	U	0.12	0.20	0.006	U	0.045	0.081	0.006	U	0.050	0.093	-0.03	U
0.24	-0.015	U	0.091	0.16	0.01	U	0.049	0.090	0.0	U	0.015	0.053	0.0	U
0.35	0.02	U	0.10	0.18	0.067	U	0.060	0.10	0.019	U	0.069	0.13	0.01	U
0.35	0.027	U	0.080	0.14	0.016	U	0.050	0.10	0.0	U	0.014	0.052	0.0	U
0.15	0.19	U	0.27	0.45	0.029	U	0.035	0.057	0.004	U	0.032	0.061	0.029	U
0.22	0.049	U	0.090	0.15	-0.003	U	0.049	0.089	-0.0007	U	0.060	0.11	-0.02	U
0.21	-0.15	U	0.32	0.55	0.475		0.083	0.049	0.009	U	0.028	0.051	-0.019	U
0.28	0.055	U	0.084	0.14	0.064	U	0.046	0.066	-0.01	U	0.056	0.10	-0.027	U
0.28	-0.005	U	0.11	0.18	0.144	J	0.054	0.040	-0.005	U	0.040	0.075	0.023	U
0.41	0.0	U	0.11	0.19	0.0	U	0.087	0.16	0.006	U	0.061	0.12	0.05	U
0.32	0.015	U	0.089	0.15	0.010	U	0.045	0.094	0.076		0.053	0.063	0.0	U
0.1	0.24	U	0.22	0.36	-0.00007	U	0.030	0.055	0.0	U	0.049	0.090	-0.020	U
0.21	0.036	U	0.078	0.13	0.002	U	0.042	0.078	0.0	U	0.058	0.11	0.061	U
0.29	-0.026	U	0.085	0.15	0.005	U	0.050	0.093	0.0	U	0.012	0.046	0.05	U
0.23	0.001	U	0.10	0.18	0.224		0.080	0.064	0.024	U	0.050	0.086	-0.008	U
0.36	-0.03	U	0.10	0.17	0.074	J	0.045	0.064	-0.0009	U	0.050	0.093	-0.06	U
0.18	0.06	U	0.12	0.19	0.161	J	0.079	0.10	-0.009	U	0.048	0.094	0.02	U
0.20	0.008	U	0.078	0.14	0.055	U	0.047	0.072	0.0	U	0.058	0.11	-0.015	U
0.32	-0.04	U	0.10	0.18	0.146	J	0.049	0.029	0.0	U	0.062	0.12	0.0	U
0.32	0.030	U	0.083	0.14	-0.01	U	0.12	0.12	0.0	U	0.078	0.15	-0.02	U
0.17	-0.002	U	0.25	0.44	0.0	U	0.038	0.069	0.009	U	0.015	0.027	-0.026	U
0.24	0.028	U	0.086	0.15	-0.010	U	0.054	0.096	-0.0005	U	0.051	0.099	-0.002	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.35	0.069	U	0.099	0.16	-0.0128	U	0.099	0.10	0.031	U	0.054	0.093	-0.01	U
0.07	0.13	U	0.25	0.43	-0.0002	U	0.033	0.060	-0.006	U	0.035	0.064	0.045	U
0.21	0.003	U	0.091	0.16	0.050	U	0.047	0.073	0.013	U	0.046	0.084	0.008	U
0.19	-0.01	U	0.12	0.20	0.044	U	0.043	0.068	0.013	U	0.055	0.10	-0.0009	U
0.31	0.060	U	0.093	0.15	0.017	U	0.056	0.11	0.017	U	0.044	0.083	-0.002	U
0.39	0.038	U	0.091	0.16	-0.01	U	0.10	0.11	0.0	U	0.072	0.14	0.034	U
0.23	0.003	U	0.092	0.16	0.034	U	0.045	0.075	-0.005	U	0.061	0.11	-0.02	U
0.29	0.0003	U	0.097	0.17	-0.009	U	0.043	0.078	0.012	U	0.038	0.070	-0.03	U
0.40	-0.04	U	0.11	0.20	-0.007	U	0.057	0.10	-0.017	U	0.068	0.13	0.02	U
0.30	0.027	U	0.085	0.15	-0.03	U	1.3	0.1	0.037	U	0.046	0.073	0.05	U
0.23	-0.02	U	0.11	0.19	0.030	U	0.038	0.062	-0.007	U	0.039	0.073	-0.03	U
0.27	0.048	U	0.059	0.096	0.001	U	0.033	0.063	0.0	U	0.011	0.039	-0.001	U
0.19	0.040	U	0.080	0.13	0.050	U	0.045	0.070	0.030	U	0.034	0.053	-0.020	U
0.30	0.016	U	0.098	0.17	0.0	U	0.057	0.10	0.024	U	0.044	0.076	0.004	U
0.34	0.03	U	0.11	0.18	0.0	U	0.078	0.14	0.0	U	0.015	0.055	-0.05	U
0.26	-0.014	U	0.091	0.16	-0.01	U	0.10	0.10	-0.004	U	0.059	0.11	-0.02	U
0.37	0.069	U	0.087	0.14	0.009	U	0.049	0.10	0.0	U	0.13	0.23	0.02	U
0.15	0.08	U	0.23	0.39	-0.007	U	0.033	0.058	0.012	U	0.033	0.060	0.015	U
0.26	0.034	U	0.079	0.13	0.051	U	0.050	0.079	0.013	U	0.042	0.077	0.003	U
0.30	0.004	U	0.078	0.14	0.004	U	0.055	0.10	0.004	U	0.043	0.086	-0.02	U
0.37	-0.03	U	0.17	0.29	-0.01	U	0.066	0.12	-0.022	U	0.065	0.11	0.03	U
0.26	0.003	U	0.11	0.19	-0.007	U	0.044	0.079	0.0	U	0.052	0.098	-0.002	U
0.20	0.02	U	0.10	0.18	0.036	U	0.050	0.082	0.0	U	0.015	0.055	0.005	U
0.34	0.041	U	0.077	0.13	-0.02	U	0.14	0.11	0.013	U	0.057	0.11	0.039	U
0.17	0.02	U	0.32	0.56	0.102	J	0.042	0.039	-0.005	U	0.031	0.058	0.0	U
0.17	-0.12	U	0.31	0.53	0.032	U	0.036	0.057	-0.002	U	0.035	0.066	0.043	U
0.39	-0.02	U	0.11	0.19	0.089	U	0.065	0.095	0.0	U	0.085	0.16	-0.02	U
0.40	0.030	U	0.088	0.15	-0.01	U	0.10	0.11	0.042	U	0.042	0.058	0.006	U
0.19	-0.01	U	0.27	0.48	0.076	J	0.042	0.059	0.0	U	0.064	0.11	0.035	U
0.24	-0.0004	U	0.078	0.14	0.012	U	0.048	0.086	0.0	U	0.060	0.11	0.051	U
0.40	0.047	U	0.074	0.12	0.092	J	0.053	0.069	0.0	U	0.067	0.13	0.047	U
0.25	0.030	U	0.095	0.16	0.036	U	0.048	0.078	0.002	U	0.047	0.089	-0.03	U
0.26	0.018	U	0.081	0.14	-0.001	U	0.049	0.092	-0.014	U	0.060	0.11	0.0	U
0.21	-0.11	U	0.29	0.50	0.0	U	0.057	0.10	0.006	U	0.030	0.056	-0.04	U
0.30	-0.035	U	0.094	0.16	0.150	J	0.061	0.076	-0.016	U	0.049	0.089	-0.0006	U
0.31	0.012	U	0.099	0.17	0.0	U	0.066	0.12	0.011	U	0.041	0.078	0.050	U
0.32	0.004	U	0.11	0.19	-0.03	U	0.88	0.13	0.001	U	0.057	0.11	0.02	U
0.17	0.22	U	0.24	0.39	0.0009	U	0.028	0.053	-0.004	U	0.037	0.068	0.013	U
0.24	-0.029	U	0.087	0.15	0.192	J	0.068	0.079	-0.028	U	0.072	0.13	-0.02	U
0.27	0.065	U	0.093	0.16	0.034	U	0.055	0.093	0.0	U	0.094	0.17	-0.02	U
0.27	0.005	U	0.098	0.17	0.165	J	0.047	0.024	0.0	U	0.076	0.14	0.04	U
0.25	0.0	U	0.081	0.14	0.015	U	0.044	0.078	-0.004	U	0.047	0.089	0.011	U
0.28	0.050	U	0.096	0.16	0.104	J	0.062	0.083	0.0	U	0.083	0.16	0.04	U
0.20	0.07	U	0.27	0.46	0.033	U	0.034	0.055	-0.001	U	0.027	0.053	0.004	U
0.23	0.024	U	0.062	0.11	0.130	J	0.055	0.068	0.0009	U	0.041	0.081	0.004	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.30	0.053	U	0.091	0.15	0.046	U	0.046	0.073	0.0	U	0.063	0.12	-0.03	U
0.29	-0.003	U	0.067	0.12	0.086	U	0.057	0.092	-0.016	U	0.058	0.11	-0.02	U
0.26	0.047	U	0.084	0.14	0.060	U	0.050	0.077	-0.009	U	0.046	0.084	0.030	U
0.21	0.03	U	0.11	0.18	0.207		0.072	0.053	-0.004	U	0.049	0.091	0.016	U
0.31	0.020	U	0.085	0.15	0.046	U	0.055	0.088	-0.026	U	0.089	0.16	-0.02	U
0.30	-0.004	U	0.10	0.18	0.059	U	0.063	0.11	-0.006	U	0.062	0.12	-0.04	U
0.19	0.03	U	0.25	0.44	-0.0002	U	0.033	0.061	-0.003	U	0.035	0.066	-0.011	U
0.23	0.02	U	0.26	0.45	0.014	U	0.031	0.053	0.0	U	0.051	0.092	0.018	U
0.26	0.033	U	0.092	0.16	0.016	U	0.044	0.077	-0.0008	U	0.056	0.11	-0.02	U
0.34	-0.01	U	0.11	0.19	0.062	U	0.051	0.078	0.007	U	0.049	0.093	0.007	U
0.36	-0.03	U	0.13	0.22	0.030	U	0.058	0.099	-0.004	U	0.065	0.13	-0.02	U
0.29	0.023	U	0.088	0.15	-0.06	U	0.28	0.13	0.032	U	0.061	0.11	-0.05	U
0.20	0.1	U	0.28	0.48	0.0	U	0.038	0.069	0.007	U	0.036	0.067	-0.016	U
0.30	0.058	U	0.087	0.14	0.029	U	0.047	0.079	0.0004	U	0.040	0.080	-0.036	U
0.30	0.027	U	0.092	0.16	0.051	U	0.051	0.080	0.006	U	0.047	0.092	-0.02	U
0.28	-0.06	U	0.10	0.17	0.015	U	0.038	0.066	-0.01	U	0.058	0.10	0.0	U
0.21	-0.040	U	0.098	0.17	0.013	U	0.042	0.075	0.0	U	0.008	0.033	-0.006	U
0.21	0.004	U	0.094	0.16	0.012	U	0.044	0.078	0.0006	U	0.052	0.098	0.059	U
0.15	0.0	U	0.12	0.22	-0.010	U	0.051	0.095	0.0	U	0.015	0.056	0.0	U
0.28	0.036	U	0.081	0.14	-0.002	U	0.061	0.11	-0.0005	U	0.049	0.097	0.0003	U
0.18	0.01	U	0.32	0.55	0.012	U	0.029	0.051	-0.005	U	0.031	0.058	-0.025	U
0.30	0.0	U	0.092	0.16	0.184	J	0.063	0.068	-0.017	U	0.051	0.092	-0.025	U
0.21	0.030	U	0.072	0.12	0.016	U	0.036	0.065	-0.0005	U	0.042	0.085	0.01	U
0.27	0.051	U	0.090	0.15	0.258		0.066	0.039	0.024	U	0.046	0.080	-0.01	U
0.27	0.020	U	0.087	0.15	0.033	U	0.047	0.078	-0.007	U	0.043	0.080	-0.011	U
0.31	0.073	U	0.097	0.16	0.030	U	0.051	0.086	0.005	U	0.053	0.10	-0.006	U
0.28	0.074	U	0.090	0.15	-0.03	U	0.94	0.12	0.0	U	0.071	0.13	0.03	U
0.25	0.026	U	0.080	0.14	0.048	U	0.058	0.10	0.0	U	0.014	0.051	-0.02	U
0.17	0.08	U	0.23	0.40	0.006	U	0.028	0.051	0.01	U	0.026	0.047	0.0	U
0.26	0.012	U	0.089	0.15	-0.009	U	0.042	0.076	0.0	U	0.058	0.11	0.008	U
0.20	0.005	U	0.21	0.38	0.011	U	0.026	0.047	0.004	U	0.034	0.064	0.003	U
0.22	0.004	U	0.084	0.15	0.013	U	0.036	0.065	0.0	U	0.057	0.11	-0.03	U
0.23	0.013	U	0.091	0.16	-0.004	U	0.038	0.070	0.0008	U	0.046	0.087	-0.001	U
0.29	0.03	U	0.10	0.17	0.083	J	0.053	0.076	0.031	U	0.052	0.090	-0.04	U
0.26	-0.019	U	0.092	0.16	0.027	U	0.040	0.067	0.0	U	0.046	0.087	-0.04	U
0.15	0.15	U	0.26	0.43	0.021	U	0.035	0.059	0.0	U	0.050	0.091	0.003	U
0.33	0.005	U	0.10	0.18	0.018	U	0.052	0.093	-0.003	U	0.058	0.11	-0.04	U
0.27	0.051	U	0.081	0.13	0.032	U	0.045	0.075	0.0	U	0.008	0.031	-0.01	U
0.31	0.027	U	0.095	0.16	0.033	U	0.038	0.061	-0.016	U	0.054	0.098	-0.018	U
0.25	0.050	U	0.093	0.16	-0.016	U	0.045	0.078	-0.0009	U	0.046	0.087	-0.0004	U
0.19	0.00006	U	0.073	0.13	0.012	U	0.053	0.095	0.003	U	0.054	0.11	0.02	U
0.18	0.08	U	0.22	0.38	0.038	U	0.035	0.055	-0.0009	U	0.033	0.063	-0.027	U
0.29	-0.007	U	0.085	0.15	0.0008	U	0.049	0.090	0.0	U	0.011	0.042	0.014	U
0.25	0.033	U	0.090	0.15	0.144	J	0.072	0.097	0.0	U	0.013	0.049	0.06	U
0.17	-0.016	U	0.062	0.11	0.025	U	0.047	0.088	0.025	U	0.037	0.061	-0.0005	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.18	-0.07	U	0.25	0.44	0.028	U	0.032	0.051	0.0	U	0.006	0.024	0.0	U
0.20	0.059	U	0.084	0.14	-0.004	U	0.038	0.071	0.0	U	0.098	0.17	-0.002	U
0.30	0.029	U	0.088	0.15	0.012	U	0.047	0.085	0.009	U	0.034	0.068	-0.016	U
0.33	-0.02	U	0.10	0.17	-0.04	U	160	0.1	0.022	U	0.055	0.099	0.050	U
0.34	-0.0482	U	0.100	0.17	0.0	U	0.065	0.12	-0.006	U	0.050	0.097	-0.03	U
0.24	0.014	U	0.091	0.16	0.013	U	0.042	0.075	0.008	U	0.042	0.080	-0.008	U
0.18	0.14	U	0.28	0.47	0.124	J	0.045	0.037	0.0	U	0.051	0.093	-0.041	U
0.28	0.017	U	0.091	0.16	-0.004	U	0.043	0.079	-0.015	U	0.053	0.097	-0.002	U
0.23	-0.05	U	0.11	0.19	0.055	U	0.052	0.081	-0.015	U	0.054	0.10	0.0003	U
0.17	0.09	U	0.28	0.47	0.0001	U	0.029	0.054	-0.003	U	0.039	0.072	0.004	U
0.29	0.063	U	0.087	0.14	0.041	U	0.041	0.065	0.002	U	0.051	0.097	-0.014	U
0.27	0.079	U	0.057	0.083	-0.005	U	0.039	0.074	-0.005	U	0.033	0.068	0.0	U
0.24	-0.035	U	0.096	0.16	0.056	U	0.049	0.074	-0.0004	U	0.047	0.093	-0.005	U
0.22	0.031	U	0.083	0.14	0.018	U	0.049	0.096	0.002	U	0.053	0.10	-0.02	U
0.28	-0.038	U	0.094	0.16	-0.02	U	0.17	0.11	0.028	U	0.051	0.090	-0.02	U
0.14	-0.06	U	0.28	0.48	0.035	U	0.030	0.046	-0.011	U	0.037	0.067	0.017	U
0.26	0.0	U	0.098	0.17	0.020	U	0.050	0.086	0.001	U	0.050	0.096	-0.04	U
0.27	-0.06	U	0.11	0.18	-0.0002	U	0.049	0.091	0.0006	U	0.042	0.086	-0.01	U
0.17	0.06	U	0.28	0.48	0.099	J	0.036	0.039	-0.00005	U	0.026	0.052	-0.012	U
0.27	0.044	U	0.070	0.12	0.013	U	0.039	0.070	0.0	U	0.009	0.037	-0.0002	U
0.24	0.008	U	0.099	0.17	0.013	U	0.039	0.070	0.0	U	0.012	0.046	-0.008	U
0.24	-0.001	U	0.094	0.16	-0.02	U	0.22	0.12	0.027	U	0.063	0.11	0.06	U
0.26	0.029	U	0.075	0.13	-0.02	U	0.26	0.11	0.030	U	0.057	0.099	0.05	U
0.14	-0.01	U	0.28	0.48	0.030	U	0.030	0.047	-0.008	U	0.037	0.067	-0.024	U
0.26	0.046	U	0.077	0.13	0.125	J	0.050	0.057	-0.011	U	0.051	0.094	0.035	U
0.27	0.0	U	0.099	0.17	0.104	J	0.057	0.076	0.002	U	0.051	0.10	0.026	U
0.16	0.06	U	0.19	0.34	0.065	J	0.033	0.043	-0.0008	U	0.025	0.049	0.003	U
0.31	0.0008	U	0.090	0.16	0.076	U	0.064	0.11	-0.026	U	0.076	0.14	-0.03	U
0.23	0.032	U	0.080	0.14	-0.03	U	0.97	0.13	0.022	U	0.043	0.077	-0.017	U
0.21	0.09	U	0.28	0.48	0.040	U	0.034	0.052	-0.005	U	0.030	0.057	-0.003	U
0.24	-0.05	U	0.10	0.17	0.102	J	0.051	0.064	-0.002	U	0.051	0.098	0.02	U
0.29	-0.020	U	0.093	0.16	-0.001	U	0.033	0.066	0.0	U	0.013	0.047	0.002	U
0.25	0.008	U	0.078	0.13	0.105	J	0.055	0.074	0.012	U	0.041	0.076	0.001	U
0.30	-0.017	U	0.089	0.15	0.0	U	0.062	0.11	-0.007	U	0.051	0.097	0.024	U
0.28	0.063	U	0.091	0.15	0.045	U	0.049	0.078	0.0	U	0.10	0.18	-0.03	U
0.46	-0.005	U	0.13	0.23	-0.003	U	0.053	0.10	0.037	U	0.054	0.090	0.01	U
0.28	-0.0004	U	0.070	0.12	0.006	U	0.043	0.088	0.0	U	0.065	0.12	-0.009	U
0.14	0.03	U	0.25	0.43	-0.010	U	0.033	0.058	0.0	U	0.054	0.097	-0.029	U
0.30	0.050	U	0.073	0.12	0.171	J	0.073	0.10	0.0	U	0.013	0.047	-0.002	U
0.21	0.004	U	0.079	0.14	0.058	U	0.044	0.066	0.002	U	0.047	0.088	-0.014	U
0.26	-0.033	U	0.087	0.15	0.030	U	0.035	0.056	-0.014	U	0.046	0.084	0.0	U
0.18	0.03	U	0.25	0.44	0.0	U	0.043	0.077	-0.008	U	0.038	0.068	-0.005	U
0.20	-0.002	U	0.083	0.14	0.01	U	0.043	0.078	0.0	U	0.057	0.11	0.0	U
0.28	0.035	U	0.096	0.16	-0.016	U	0.049	0.088	-0.009	U	0.054	0.10	-0.0008	U
0.23	0.031	U	0.088	0.15	0.084	U	0.058	0.088	0.005	U	0.049	0.090	0.003	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.40	0.04	U	0.18	0.30	-0.021	U	0.071	0.12	-0.025	U	0.076	0.13	0.29	U
0.80	0.14	U	0.36	0.59	-0.07	U	0.14	0.23	0.05	U	0.13	0.22	1.13	
0.22	0.008	U	0.079	0.14	0.051	U	0.042	0.065	0.004	U	0.044	0.082	0.006	U
0.26	0.033	U	0.097	0.17	0.056	U	0.052	0.080	0.0	U	0.014	0.051	0.005	U
0.30	0.053	U	0.090	0.15	-0.02	U	0.23	0.11	-0.003	U	0.060	0.12	-0.02	U
0.32	0.0	U	0.078	0.14	-0.008	U	0.083	0.10	0.0	U	0.013	0.047	-0.03	U
0.17	0.03	U	0.26	0.45	0.014	U	0.022	0.038	-0.004	U	0.025	0.047	0.034	U
0.37	-0.04	U	0.18	0.30	-0.011	U	0.066	0.11	0.014	U	0.054	0.097	-0.002	U
0.28	0.0	U	0.11	0.19	0.047	U	0.046	0.073	0.025	U	0.055	0.096	-0.0001	U
0.42	-0.0001	U	0.16	0.28	0.0	U	0.10	0.18	-0.015	U	0.069	0.12	0.15	U
0.42	-0.009	U	0.18	0.31	-0.017	U	0.084	0.15	-0.031	U	0.094	0.16	-0.001	U
0.32	-0.027	U	0.094	0.16	0.071	U	0.054	0.080	0.0	U	0.071	0.13	-0.01	U
0.26	-0.012	U	0.094	0.16	0.082	U	0.057	0.091	0.0002	U	0.047	0.092	0.020	U
0.41	-0.12	U	0.18	0.29	-0.02	U	0.26	0.12	0.011	U	0.076	0.14	0.02	U
0.25	-0.08	U	0.47	0.79	-0.012	U	0.041	0.072	-0.004	U	0.044	0.079	0.02	U
0.25	0.049	U	0.082	0.14	0.017	U	0.039	0.068	0.0002	U	0.031	0.063	0.02	U
0.28	0.016	U	0.077	0.13	0.006	U	0.032	0.060	0.013	U	0.041	0.076	0.0008	U
0.23	-0.0005	U	0.078	0.14	0.0	U	0.037	0.069	-0.0001	U	0.042	0.081	-0.02	U
0.24	-0.003	U	0.095	0.16	0.022	U	0.040	0.068	-0.002	U	0.038	0.072	-0.0276	U
0.30	-0.006	U	0.086	0.15	0.003	U	0.046	0.084	0.008	U	0.041	0.076	0.0	U
0.38	0.026	U	0.080	0.14	0.01	U	0.056	0.10	0.002	U	0.070	0.13	-0.004	U
0.27	0.05	U	0.10	0.17	0.002	U	0.054	0.11	0.016	U	0.042	0.077	0.05	U
0.21	0.09	U	0.29	0.50	0.011	U	0.028	0.049	0.0001	U	0.026	0.050	0.0007	U
0.22	-0.035	U	0.080	0.13	0.019	U	0.039	0.067	0.0	U	0.009	0.035	0.016	U
0.26	0.007	U	0.069	0.12	0.007	U	0.031	0.058	0.0	U	0.010	0.038	-0.021	U
0.32	-0.02	U	0.11	0.19	0.049	U	0.051	0.081	0.0	U	0.082	0.15	-0.007	U
0.34	-0.022	U	0.091	0.16	0.003	U	0.056	0.11	0.018	U	0.061	0.11	-0.03	U
0.35	-0.04	U	0.11	0.19	-0.04	U	1.4	0.2	-0.005	U	0.069	0.13	-0.0006	U
0.19	-0.002	U	0.30	0.53	0.184	J	0.056	0.044	-0.005	U	0.037	0.067	0.001	U
0.20	0.0	U	0.28	0.50	-0.001	U	0.029	0.054	0.006	U	0.033	0.062	0.003	U
0.26	0.019	U	0.062	0.11	-0.003	U	0.039	0.073	0.0	U	0.10	0.18	-0.005	U
0.24	0.021	U	0.094	0.16	0.003	U	0.037	0.068	0.0	U	0.008	0.030	0.0	U
0.27	0.033	U	0.095	0.16	-0.0006	U	0.051	0.096	-0.004	U	0.060	0.12	-0.01	U
0.28	-0.034	U	0.097	0.17	0.0	U	0.043	0.082	-0.008	U	0.054	0.10	0.037	U
0.34	0.065	U	0.092	0.15	0.023	U	0.045	0.077	0.014	U	0.048	0.089	0.0	U
0.31	0.069	U	0.085	0.14	0.012	U	0.055	0.11	0.022	U	0.034	0.058	0.008	U
0.20	0.026	U	0.093	0.16	0.004	U	0.036	0.066	0.017	U	0.043	0.077	-0.02	U
0.18	0.01	U	0.22	0.39	0.058	J	0.034	0.049	-0.00005	U	0.029	0.056	0.045	U
0.29	-0.0307	U	0.099	0.17	0.0	U	0.032	0.065	0.0	U	0.070	0.13	-0.03	U
0.26	0.044	U	0.078	0.13	0.023	U	0.042	0.073	0.0	U	0.009	0.035	-0.029	U
0.26	0.0004	U	0.083	0.15	-0.005	U	0.044	0.080	0.0	U	0.051	0.095	0.027	U
0.32	0.070	U	0.076	0.12	-0.004	U	0.039	0.072	0.0	U	0.009	0.035	-0.06	U
0.17	0.0	U	0.088	0.15	0.022	U	0.043	0.074	0.0	U	0.057	0.11	0.003	U
0.18	0.067	U	0.081	0.13	0.021	U	0.042	0.072	-0.007	U	0.038	0.071	0.03	U
0.32	0.073	U	0.091	0.15	0.017	U	0.049	0.086	-0.011	U	0.051	0.092	-0.02	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.35	-0.002	U	0.099	0.17	0.018	U	0.056	0.099	0.014	U	0.056	0.11	-0.006	U
0.34	0.04	U	0.13	0.22	0.01	U	0.053	0.098	0.0	U	0.016	0.059	0.001	U
0.27	-0.04	U	0.10	0.18	0.269		0.059	0.022	-0.001	U	0.043	0.083	-0.04	U
0.30	0.03	U	0.10	0.17	-0.04	U	0.51	0.09	0.023	U	0.066	0.12	0.03	U
0.23	0.025	U	0.091	0.15	0.002	U	0.044	0.080	-0.004	U	0.044	0.083	-0.04	U
0.33	-0.004	U	0.078	0.14	-0.01	U	0.12	0.11	0.0	U	0.074	0.14	-0.018	U
0.19	-0.11	U	0.34	0.57	0.046	U	0.040	0.062	0.0	U	0.055	0.10	-0.019	U
0.16	-0.10	U	0.29	0.49	-0.009	U	0.034	0.060	-0.012	U	0.034	0.062	0.029	U
0.28	0.009	U	0.070	0.12	-0.01	U	0.051	0.093	0.017	U	0.030	0.053	0.020	U
0.24	0.047	U	0.083	0.14	-0.001	U	0.039	0.072	0.009	U	0.047	0.088	0.060	U
0.42	0.005	U	0.10	0.18	0.020	U	0.066	0.12	0.01	U	0.055	0.11	-0.001	U
0.30	0.034	U	0.082	0.14	-0.03	U	0.84	0.10	0.006	U	0.051	0.099	0.007	U
0.26	-0.01	U	0.11	0.18	0.0	U	0.042	0.080	-0.004	U	0.047	0.093	-0.002	U
0.20	0.12	U	0.22	0.37	-0.002	U	0.029	0.054	0.0	U	0.043	0.079	-0.021	U
0.26	0.050	U	0.083	0.14	0.014	U	0.038	0.068	-0.001	U	0.046	0.091	-0.008	U
0.31	0.01	U	0.083	0.15	-0.05	U	0.35	0.12	0.030	U	0.064	0.11	0.0001	U
0.29	-0.02	U	0.10	0.17	-0.002	U	0.044	0.081	-0.014	U	0.064	0.12	-0.01	U
0.18	-0.07	U	0.32	0.55	0.013	U	0.030	0.053	-0.0008	U	0.032	0.063	-0.007	U
0.24	-0.029	U	0.086	0.15	0.006	U	0.035	0.063	-0.0005	U	0.040	0.075	0.004	U
0.26	0.032	U	0.092	0.16	0.003	U	0.038	0.070	0.00004	U	0.052	0.097	0.07	U
0.18	0.004	U	0.093	0.16	0.010	U	0.039	0.069	-0.003	U	0.043	0.080	-0.03	U
0.30	0.053	U	0.085	0.14	0.025	U	0.050	0.087	0.004	U	0.046	0.091	0.02	U
0.28	-0.03	U	0.11	0.19	0.0008	U	0.054	0.11	-0.005	U	0.043	0.086	0.012	U
0.24	0.029	U	0.078	0.13	0.113	J	0.051	0.069	0.009	U	0.042	0.076	-0.015	U
0.20	0.038	U	0.083	0.14	-0.016	U	0.045	0.079	0.024	U	0.046	0.080	-0.023	U
0.33	0.07	U	0.10	0.17	-0.001	U	0.047	0.089	0.0	U	0.013	0.050	-0.02	U
0.16	0.06	U	0.20	0.35	0.001	U	0.027	0.050	0.01	U	0.027	0.049	0.0	U
0.32	0.060	U	0.076	0.12	-0.007	U	0.049	0.088	-0.013	U	0.064	0.11	0.03	U
0.18	0.0001	U	0.078	0.14	0.033	U	0.044	0.072	0.0	U	0.009	0.035	0.004	U
0.21	-0.004	U	0.098	0.17	0.012	U	0.038	0.068	-0.005	U	0.053	0.098	0.0	U
0.33	0.001	U	0.078	0.14	0.0	U	0.009	0.036	0.011	U	0.052	0.10	0.03	U
0.35	0.060	U	0.092	0.15	0.030	U	0.062	0.12	0.011	U	0.059	0.11	0.12	U
0.31	0.015	U	0.089	0.15	0.020	U	0.047	0.082	0.011	U	0.044	0.082	-0.02	U
0.29	-0.027	U	0.086	0.15	0.003	U	0.041	0.075	0.0008	U	0.048	0.091	0.063	U
0.21	0.0	U	0.093	0.16	0.0	U	0.043	0.081	-0.006	U	0.052	0.099	0.059	U
0.24	0.028	U	0.096	0.16	0.059	U	0.050	0.077	0.018	U	0.052	0.093	0.045	U
0.18	-0.12	U	0.30	0.50	0.01	U	0.024	0.042	-0.011	U	0.032	0.058	0.008	U
0.30	-0.012	U	0.093	0.16	0.068	U	0.051	0.075	0.009	U	0.048	0.091	-0.02	U
0.35	-0.006	U	0.087	0.16	0.163	J	0.078	0.098	0.0	U	0.016	0.059	0.03	U
0.29	0.031	U	0.096	0.17	-0.03	U	0.52	0.12	-0.0002	U	0.049	0.10	-0.05	U
0.33	0.029	U	0.096	0.16	0.062	U	0.056	0.087	0.022	U	0.051	0.089	0.01	U
0.23	0.005	U	0.075	0.13	-0.013	U	0.052	0.094	-0.012	U	0.062	0.12	-0.005	U
0.26	-0.026	U	0.092	0.16	0.0	U	0.053	0.096	0.0	U	0.053	0.10	0.0	U
0.38	0.046	U	0.089	0.15	-0.020	U	0.063	0.11	0.0006	U	0.041	0.088	0.0	U
0.28	-0.01	U	0.14	0.24	0.200		0.092	0.12	0.017	U	0.073	0.14	0.01	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.34	-0.04	U	0.11	0.18	-0.01	U	0.11	0.12	0.0008	U	0.047	0.096	-0.02	U
0.36	-0.03	U	0.12	0.20	-0.01	U	0.11	0.12	0.036	U	0.074	0.13	-0.03	U
0.29	-0.003	U	0.10	0.18	-0.002	U	0.039	0.076	0.0	U	0.066	0.13	-0.01	U
0.18	0.07	U	0.25	0.43	0.026	U	0.031	0.050	0.0	U	0.006	0.025	-0.008	U
0.28	0.023	U	0.099	0.17	-0.005	U	0.048	0.087	0.0	U	0.009	0.036	0.025	U
0.25	-0.033	U	0.098	0.17	0.009	U	0.044	0.080	0.006	U	0.062	0.12	0.0	U
0.22	-0.08	U	0.37	0.65	0.0	U	0.041	0.075	-0.01	U	0.048	0.088	0.0004	U
0.18	-0.06	U	0.12	0.21	0.001	U	0.055	0.10	0.014	U	0.060	0.11	0.008	U
0.34	-0.02	U	0.13	0.22	-0.027	U	0.066	0.11	0.0	U	0.015	0.055	0.0	U
0.41	-0.03	U	0.12	0.20	0.0	U	0.044	0.087	0.0	U	0.096	0.18	0.04	U
0.30	0.044	U	0.099	0.17	0.013	U	0.045	0.080	-0.016	U	0.062	0.11	-0.04	U
0.38	0.006	U	0.098	0.17	0.027	U	0.055	0.095	0.0	U	0.087	0.16	-0.04	U
0.43	0.019	U	0.068	0.12	0.015	U	0.048	0.10	0.0	U	0.084	0.16	0.002	U
0.31	0.061	U	0.091	0.15	0.152	J	0.060	0.072	-0.012	U	0.060	0.11	-0.01	U
0.33	-0.034	U	0.093	0.16	0.031	U	0.032	0.049	0.0	U	0.064	0.12	-0.0006	U
0.18	-0.08	U	0.26	0.45	0.003	U	0.031	0.057	0.001	U	0.028	0.056	0.0	U
0.28	-0.027	U	0.094	0.16	0.007	U	0.047	0.085	0.0	U	0.056	0.10	0.002	U
0.17	0.08	U	0.25	0.43	0.094	J	0.031	0.018	0.0	U	0.006	0.025	0.015	U
0.20	-0.07	U	0.31	0.53	0.001	U	0.028	0.052	0.0004	U	0.030	0.059	-0.018	U
0.22	-0.01	U	0.10	0.18	0.0	U	0.053	0.095	-0.004	U	0.042	0.080	0.0	U
0.25	0.027	U	0.081	0.14	0.0007	U	0.046	0.085	-0.0005	U	0.047	0.093	0.015	U
0.29	-0.028	U	0.092	0.16	0.031	U	0.053	0.091	0.0	U	0.012	0.045	-0.02	U
0.27	0.027	U	0.099	0.17	0.011	U	0.037	0.070	-0.0006	U	0.038	0.082	-0.03	U
0.27	0.0	U	0.11	0.19	0.0003	U	0.051	0.093	0.002	U	0.048	0.091	0.03	U
0.25	0.006	U	0.090	0.16	-0.013	U	0.050	0.090	0.006	U	0.025	0.054	0.015	U
0.28	0.008	U	0.12	0.21	0.012	U	0.061	0.11	0.0	U	0.070	0.13	-0.03	U
0.60	-0.05	U	0.16	0.27	0.0	U	0.13	0.24	-0.03	U	0.11	0.20	0.05	U
0.34	0.021	U	0.085	0.15	0.111	J	0.064	0.083	0.016	U	0.059	0.11	0.00009	U
0.21	-0.08	U	0.24	0.42	0.062	J	0.033	0.043	0.0	U	0.007	0.026	-0.016	U
0.23	-0.006	U	0.092	0.16	-0.005	U	0.050	0.091	-0.008	U	0.057	0.10	-0.05	U
0.23	0.038	U	0.096	0.16	0.086	J	0.053	0.076	-0.007	U	0.053	0.099	0.009	U
0.25	0.002	U	0.093	0.16	0.025	U	0.041	0.071	-0.001	U	0.057	0.11	0.0	U
0.30	-0.005	U	0.094	0.16	0.014	U	0.039	0.069	0.0	U	0.056	0.10	0.0	U
0.35	0.024	U	0.083	0.14	0.043	U	0.059	0.098	0.009	U	0.050	0.093	0.0	U
0.31	-0.04	U	0.11	0.19	-0.020	U	0.063	0.11	-0.020	U	0.074	0.14	-0.004	U
0.23	-0.010	U	0.088	0.15	0.015	U	0.045	0.080	0.0001	U	0.048	0.091	-0.0003	U
0.26	0.03	U	0.10	0.17	0.015	U	0.046	0.082	0.013	U	0.062	0.11	-0.003	U
0.38	0.0	U	0.14	0.24	0.0	U	0.048	0.092	0.007	U	0.058	0.11	0.004	U
0.32	0.033	U	0.094	0.16	-0.03	U	0.28	0.1	0.032	U	0.064	0.11	-0.02	U
0.20	0.0	U	0.28	0.49	0.008	U	0.028	0.051	-0.0007	U	0.031	0.061	-0.043	U
0.27	-0.023	U	0.098	0.17	0.003	U	0.049	0.088	0.0001	U	0.040	0.077	-0.03	U
0.24	0.014	U	0.090	0.15	-0.006	U	0.045	0.083	-0.004	U	0.053	0.10	0.025	U
0.31	0.007	U	0.070	0.12	0.016	U	0.039	0.069	0.0	U	0.090	0.16	-0.016	U
0.26	0.04	U	0.11	0.18	-0.018	U	0.055	0.098	0.026	U	0.041	0.069	-0.05	U
0.23	0.006	U	0.073	0.13	0.004	U	0.040	0.074	0.0	U	0.11	0.19	0.027	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.29	-0.0003	U	0.079	0.14	0.0	U	0.060	0.11	0.008	U	0.047	0.092	-0.002	U
0.33	-0.025	U	0.084	0.15	-0.03	U	0.13	0.07	0.0	U	0.098	0.18	0.026	U
0.20	0.09	U	0.25	0.43	0.006	U	0.026	0.046	0.0004	U	0.029	0.055	0.028	U
0.20	-0.003	U	0.070	0.12	-0.00005	U	0.043	0.079	0.0	U	0.009	0.034	-0.025	U
0.12	-0.04	U	0.24	0.42	-0.0009	U	0.024	0.045	0.0	U	0.056	0.10	0.006	U
0.25	-0.006	U	0.069	0.12	0.031	U	0.043	0.072	0.007	U	0.057	0.11	-0.041	U
0.23	0.029	U	0.079	0.14	0.007	U	0.038	0.071	-0.011	U	0.045	0.084	0.022	U
0.29	0.012	U	0.095	0.16	0.011	U	0.043	0.076	0.002	U	0.049	0.093	0.05	U
0.26	0.027	U	0.096	0.16	-0.007	U	0.049	0.089	-0.009	U	0.062	0.11	0.01	U
0.24	0.04	U	0.11	0.18	-0.002	U	0.047	0.086	-0.006	U	0.044	0.083	0.01	U
0.40	0.063	U	0.095	0.16	0.002	U	0.054	0.10	0.0	U	0.017	0.062	-0.04	U
0.23	0.024	U	0.096	0.16	0.006	U	0.038	0.067	0.0007	U	0.041	0.078	-0.0008	U
0.37	-0.027	U	0.098	0.17	0.002	U	0.045	0.084	0.010	U	0.042	0.081	-0.03	U
0.60	0.13	U	0.27	0.45	-0.13	U	0.13	0.20	-0.005	U	0.092	0.16	1.16	
0.35	-0.06	U	0.17	0.28	-0.036	U	0.072	0.12	0.010	U	0.048	0.087	0.06	U
0.28	-0.017	U	0.082	0.14	0.015	U	0.051	0.093	0.0	U	0.015	0.054	0.04	U
0.36	0.043	U	0.085	0.14	-0.011	U	0.098	0.10	0.031	U	0.053	0.090	0.006	U
0.29	-0.004	U	0.089	0.15	-0.003	U	0.056	0.096	0.043	U	0.053	0.086	0.01	U
0.15	0.03	U	0.27	0.46	0.147	J	0.048	0.055	0.002	U	0.033	0.063	-0.025	U
0.16	0.12	U	0.24	0.41	-0.002	U	0.028	0.051	0.0008	U	0.028	0.053	0.054	U
0.22	0.042	U	0.071	0.12	-0.005	U	0.039	0.071	-0.008	U	0.039	0.075	0.010	U
0.27	-0.019	U	0.089	0.15	0.251		0.064	0.042	0.0	U	0.052	0.099	0.008	U
0.20	0.040	U	0.082	0.14	0.026	U	0.043	0.073	0.0	U	0.011	0.039	-0.02	U
0.31	0.028	U	0.097	0.16	0.020	U	0.045	0.077	-0.01	U	0.056	0.10	-0.03	U
0.25	0.022	U	0.098	0.17	0.025	U	0.040	0.067	0.0	U	0.007	0.028	-0.01	U
0.39	0.04	U	0.10	0.17	0.004	U	0.053	0.098	0.0	U	0.014	0.050	0.004	U
0.027	0.006	U	0.010	0.017	-0.002	U	0.020	0.011	0.0	U	0.001	0.0053	-0.0004	U
0.16	0.11	U	0.22	0.38	0.011	U	0.026	0.045	0.0	U	0.005	0.019	-0.026	U
0.22	-0.027	U	0.083	0.14	0.008	U	0.039	0.071	0.012	U	0.043	0.079	0.0004	U
0.16	0.17	U	0.22	0.37	0.011	U	0.027	0.048	-0.009	U	0.037	0.066	-0.007	U
0.23	-0.003	U	0.082	0.14	0.025	U	0.040	0.067	0.011	U	0.039	0.071	-0.009	U
0.24	0.031	U	0.076	0.13	0.201		0.064	0.067	0.0	U	0.010	0.037	0.013	U
0.21	0.047	U	0.077	0.13	0.071	J	0.042	0.061	0.000002	U	0.035	0.068	0.029	U
0.19	0.012	U	0.088	0.15	0.017	U	0.057	0.10	-0.008	U	0.055	0.10	0.00001	U
0.25	0.044	U	0.075	0.13	-0.009	U	0.079	0.090	0.031	U	0.044	0.073	-0.032	U
0.05	0.08	U	0.20	0.35	0.013	U	0.027	0.046	-0.014	U	0.036	0.062	-0.005	U
0.21	0.026	U	0.080	0.14	0.008	U	0.037	0.067	0.004	U	0.052	0.098	-0.0004	U
0.22	-0.012	U	0.091	0.16	0.010	U	0.040	0.071	0.0006	U	0.037	0.074	-0.021	U
0.24	0.008	U	0.098	0.17	0.016	U	0.042	0.073	-0.0008	U	0.046	0.085	-0.01	U
0.31	0.026	U	0.087	0.15	-0.008	U	0.042	0.078	-0.013	U	0.056	0.10	0.012	U
0.33	0.07	U	0.16	0.27	-0.023	U	0.067	0.12	-0.014	U	0.065	0.11	0.30	U
0.31	0.067	U	0.071	0.11	-0.01	U	0.11	0.1	0.0	U	0.064	0.12	0.0	U
0.14	0.12	U	0.24	0.40	0.0	U	0.037	0.067	-0.003	U	0.026	0.050	-0.017	U
0.19	-0.034	U	0.087	0.15	-0.009	U	0.046	0.083	-0.002	U	0.044	0.085	0.018	U
0.19	-0.015	U	0.098	0.17	-0.011	U	0.049	0.087	-0.027	U	0.068	0.12	0.03	U

Table G-3
Post-Excavation IR Site 1 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.37	-0.0036	U	0.099	0.17	0.0	U	0.054	0.10	0.004	U	0.044	0.089	-0.01	U
0.31	0.028	U	0.074	0.13	0.003	U	0.041	0.090	0.038	U	0.035	0.049	0.0093	U
0.14	-0.04	U	0.25	0.44	0.0	U	0.046	0.082	0.0	U	0.035	0.066	0.032	U
0.25	-0.0004	U	0.085	0.15	0.012	U	0.046	0.082	-0.012	U	0.053	0.097	0.005	U
0.30	0.05	U	0.11	0.18	-0.018	U	0.062	0.11	0.018	U	0.046	0.085	0.022	U
0.22	-0.03	U	0.11	0.18	-0.006	U	0.046	0.083	-0.00002	U	0.045	0.085	-0.04	U
0.32	0.0	U	0.12	0.21	-0.014	U	0.067	0.12	0.0	U	0.015	0.055	0.0	U
0.32	0.042	U	0.075	0.13	0.006	U	0.057	0.11	-0.009	U	0.076	0.14	-0.001	U
0.17	-0.07	U	0.26	0.44	0.145	J	0.044	0.033	0.0	U	0.006	0.023	-0.012	U
0.21	0.021	U	0.053	0.090	-0.0005	U	0.040	0.075	-0.001	U	0.021	0.047	-0.015	U
0.28	-0.06	U	0.10	0.17	-0.016	U	0.048	0.086	-0.017	U	0.056	0.10	0.008	U
0.27	0.005	U	0.096	0.17	0.006	U	0.034	0.062	0.022	U	0.030	0.049	-0.001	U
0.23	-0.05	U	0.10	0.18	0.021	U	0.036	0.062	0.024	U	0.040	0.069	0.004	U
0.25	-0.027	U	0.095	0.16	0.005	U	0.040	0.072	-0.01	U	0.049	0.089	-0.010	U
0.35	0.04	U	0.11	0.19	0.019	U	0.053	0.095	-0.029	U	0.077	0.14	-0.06	U

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.10	0.18	0.09	U	0.28	0.52	6.9		1.4	0.6	0.29	J	0.10	0.13	0.17
0.13	0.22	0.04	U	0.42	0.77	5.5		1.4	1.2	1.24		0.21	0.11	
0.087	0.16	0.08	U	0.32	0.58	9.3		1.5	0.5	0.28	J	0.12	0.18	
0.086	0.15	0.0	U	0.44	0.82	10.4		1.7	0.6	0.42	J	0.16	0.14	
0.096	0.17	0.04	U	0.23	0.43	11.4		1.5	0.8	0.25	J	0.13	0.20	
0.17	0.30	0.0	U	0.38	0.74	8.3		1.7	0.9	0.49	J	0.13	0.09	
0.093	0.17	-0.1	U	0.38	0.70	8.1		1.5	0.6	0.40	J	0.15	0.17	
0.11	0.19	-0.13	U	0.36	0.63	8.4		1.3	0.6	0.29	J	0.12	0.16	
0.12	0.22	0.0	U	0.31	0.61	8.1		1.5	0.7	0.49	J	0.13	0.09	
0.12	0.21	0.18	U	0.40	0.70	9.3		1.7	0.6	0.58	J	0.14	0.12	
0.078	0.14	0.005	U	0.24	0.47	8.1		1.4	0.7	0.37	J	0.11	0.12	0.46
0.085	0.16	-0.16	U	0.47	0.83	9.0		1.6	0.6	0.51	J	0.13	0.12	
0.10	0.18	0.1	U	0.26	0.46	7.7		1.2	0.8	0.41	J	0.12	0.14	
0.11	0.20	0.03	U	0.39	0.75	7.5		1.6	0.8	0.53	J	0.16	0.15	
0.12	0.21	0.09	U	0.42	0.77	7.2		1.6	1.2	0.28	J	0.15	0.23	
0.094	0.16	0.08	U	0.24	0.45	7.3		1.4	0.9	0.28	J	0.11	0.15	
0.11	0.20	-0.001	U	0.37	0.72	8.4		1.7	0.7	0.33	J	0.13	0.18	
0.13	0.23	0.0	U	0.51	0.94	8.7		1.6	0.6	0.39	J	0.12	0.16	
0.13	0.23	0.11	U	0.40	0.72	12.4		2.0	1.4	0.76	J	0.18	0.16	
0.093	0.17	-0.03	U	0.34	0.62	10.9		1.6	0.6	0.34	J	0.12	0.17	
0.15	0.27	-0.1	U	0.44	0.81	10.3		1.9	0.7	0.84	J	0.18	0.11	
0.13	0.23	0.1	U	0.41	0.76	8.5		1.7	1	0.58	J	0.16	0.16	
0.081	0.15	0.01	U	0.36	0.67	8.4		1.5	0.9	0.22	J	0.10	0.14	
0.13	0.22	-0.02	U	0.35	0.65	9.1		1.4	0.7	0.47	J	0.14	0.18	
0.11	0.19	-0.12	U	0.35	0.62	11.6		1.6	0.6	0.29	J	0.12	0.18	
0.10	0.20	-0.009	U	0.35	0.69	8.3		1.7	0.6	0.48	J	0.18	0.16	-0.07
0.099	0.18	0.02	U	0.36	0.70	6.9		1.5	0.8	0.36	J	0.15	0.20	
0.12	0.21	0.0	U	0.39	0.72	9.8		1.5	0.9	0.23	J	0.12	0.18	
0.096	0.17	-0.07	U	0.39	0.70	10.2		1.5	0.6	0.35	J	0.14	0.21	
0.13	0.24	0.34	U	0.37	0.58	8.4		1.7	0.6	0.48	J	0.17	0.14	
0.087	0.16	0.002	U	0.29	0.56	10.4		1.7	0.4	0.33	J	0.12	0.14	
0.11	0.19	0.14	U	0.31	0.55	12.0		1.8	0.4	0.39	J	0.12	0.12	
0.11	0.19	0.23	U	0.31	0.50	10.2		1.7	0.4	0.43	J	0.13	0.12	
0.12	0.21	0.0	U	0.074	0.27	8.3		1.6	0.8	0.44	J	0.14	0.13	
0.12	0.20	-0.04	U	0.37	0.71	9.3		1.7	0.5	0.41	J	0.15	0.16	
0.093	0.17	-0.008	U	0.33	0.62	7.8		1.4	0.6	0.43	J	0.14	0.11	0.12
0.097	0.17	-0.01	U	0.41	0.77	10		1.6	0.4	0.32	J	0.13	0.17	
0.096	0.18	0.16	U	0.42	0.75	9.1		1.7	0.7	0.51	J	0.14	0.11	
0.083	0.15	0.0	U	0.32	0.62	9.6		1.7	0.5	0.34	J	0.14	0.16	
0.073	0.14	0.005	U	0.34	0.64	7.5		1.5	1.1	0.43	J	0.15	0.14	
0.087	0.15	0.09	U	0.32	0.58	9.0		1.6	0.9	0.43	J	0.14	0.16	
0.11	0.19	-0.04	U	0.37	0.68	9.5		1.5	0.8	0.34	J	0.13	0.18	
0.10	0.18	0.09	U	0.30	0.54	9.8		1.4	0.5	0.26	J	0.12	0.18	
0.13	0.23	0.04	U	0.26	0.51	9.0		1.7	0.7	0.41	J	0.12	0.11	
0.11	0.20	0.08	U	0.40	0.73	7.3		1.5	0.6	0.46	J	0.15	0.15	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.089	0.16	0.0	U	0.33	0.64	9.6		1.6	0.4	0.34	J	0.12	0.13	-0.005
0.090	0.16	-0.04	U	0.30	0.57	8.3		1.4	0.4	0.44	J	0.12	0.08	
0.12	0.21	0.0	U	0.65	1.1	8.6		1.4	0.7	0.78	J	0.17	0.15	
0.11	0.19	-0.11	U	0.39	0.69	10.1		1.5	0.6	0.35	J	0.13	0.19	
0.12	0.23	-0.07	U	0.39	0.72	7.8		1.6	1	0.43	J	0.12	0.11	
0.12	0.21	0.0009	U	0.44	0.83	8.5		1.6	0.5	0.34	J	0.14	0.19	
0.089	0.16	0.09	U	0.25	0.46	8.4		1.5	1	0.43	J	0.13	0.11	
0.068	0.13	0.04	U	0.27	0.50	9.2		1.4	0.8	0.39	J	0.13	0.18	
0.10	0.17	0.003	UJ	0.35	0.65	7.2	J	1.4	1.3	0.20	J	0.12	0.19	
0.060	0.11	-0.12	U	0.35	0.61	8.8		1.5	0.4	0.44	J	0.12	0.13	
0.091	0.16	0.07	U	0.31	0.57	9.2		1.4	0.8	0.37	J	0.13	0.17	-0.27
0.11	0.20	0.0	U	0.52	0.97	8.0		1.7	1.2	0.29	J	0.13	0.18	
0.094	0.18	0.05	U	0.31	0.60	10.7		1.8	0.5	0.49	J	0.16	0.16	
0.084	0.15	0.15	U	0.28	0.48	9.9		1.5	0.4	0.48	J	0.13	0.1	
0.084	0.15	-0.11	U	0.40	0.71	7.9		1.5	0.8	0.27	J	0.12	0.16	
0.23	0.48	-0.08	U	0.61	1.1	9.0		1.6	1.6	13.9		1.0	0.3	
0.32	0.57	0.05	UJ	0.60	1.0	6.4	J	1.4	1.8	9.51	J	0.73	0.41	
0.14	0.22	0.03	U	0.38	0.68	7.4		1.2	0.7	2.56		0.30	0.14	
0.11	0.19	-0.14	U	0.39	0.68	8.0		1.4	1	0.61	J	0.15	0.17	
0.15	0.26	-0.0005	U	0.44	0.84	7.1		1.5	0.7	1.73		0.27	0.14	
0.13	0.24	0.18	U	0.42	0.75	11.3		2.1	1.3	0.55	J	0.19	0.24	0.07
0.088	0.16	0.08	U	0.38	0.68	8.5		1.3	0.3	2.90		0.31	0.10	
0.10	0.18	0.14	U	0.32	0.57	8.9		1.3	0.3	0.54	J	0.15	0.18	
0.11	0.19	-0.03	U	0.33	0.61	8.5		1.4	0.9	0.62	J	0.15	0.18	
0.11	0.20	0.0	U	0.64	1.2	9.4		1.7	0.5	0.64	J	0.17	0.10	
0.11	0.20	-0.10	U	0.38	0.70	9.8		1.8	0.5	0.56	J	0.15	0.12	
0.11	0.20	-0.12	U	0.46	0.83	9.5		1.7	0.5	0.56	J	0.14	0.10	
0.086	0.15	0.08	U	0.19	0.34	9.9		1.3	0.5	0.38	J	0.10	0.1	
0.10	0.18	-0.02	U	0.38	0.71	10.2		1.6	0.4	0.32	J	0.11	0.13	
0.080	0.14	-0.02	U	0.22	0.41	9.9		1.3	0.5	0.53	J	0.12	0.12	
0.091	0.16	0.06	U	0.34	0.62	8.0		1.4	0.7	0.64	J	0.14	0.07	
0.090	0.16	-0.08	U	0.41	0.72	10.2		1.4	0.3	0.71	J	0.13	0.09	
0.12	0.20	-0.08	U	0.46	0.84	7.8		1.6	0.6	0.42	J	0.15	0.18	-0.23
0.11	0.21	-0.12	U	0.41	0.74	9.3		1.8	1	0.58	J	0.16	0.13	
0.084	0.15	-0.04	U	0.21	0.39	10.7		1.4	0.6	0.353	J	0.099	0.11	
0.078	0.13	-0.10	U	0.35	0.62	7.6		1.4	0.9	0.48	J	0.14	0.1	
0.11	0.18	0.1	U	0.38	0.69	9.6		1.7	0.5	0.21	J	0.12	0.18	
0.10	0.19	-0.19	U	0.41	0.71	8.8		1.3	0.3	0.51	J	0.14	0.17	
0.13	0.22	-0.05	U	0.35	0.63	9.4		1.4	0.3	0.28	J	0.11	0.16	
0.11	0.20	0.07	U	0.35	0.66	9.8		1.8	0.5	0.57	J	0.16	0.16	
0.099	0.18	-0.11	U	0.38	0.68	9.9		1.6	0.4	0.28	J	0.11	0.13	
0.11	0.20	0.07	U	0.31	0.58	7.7		1.5	0.9	0.48	J	0.12	0.09	
0.13	0.23	-0.03	U	0.44	0.83	8.1		1.7	0.9	0.38	J	0.12	0.10	0.04
0.084	0.15	0.0	U	0.35	0.63	9.8		1.3	0.5	0.56	J	0.12	0.09	
0.098	0.18	0.06	U	0.31	0.57	9.6		1.6	0.4	0.43	J	0.11	0.06	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.20	0.0	U	0.081	0.30	9.7		1.8	0.5	0.61	J	0.19	0.16	
0.079	0.13	0.0	U	0.30	0.54	9.2		1.3	0.6	0.49	J	0.11	0.08	
0.091	0.17	0.13	U	0.33	0.59	9.8		1.6	0.4	0.51	J	0.13	0.07	
0.098	0.18	-0.002	U	0.38	0.71	8.3		1.5	0.7	0.51	J	0.14	0.12	
0.096	0.18	-0.34	U	0.62	1.1	9.5		1.8	0.5	0.49	J	0.17	0.16	
0.076	0.13	0.02	U	0.36	0.69	6.9		1.5	0.6	0.46	J	0.13	0.1	
0.11	0.19	0.11	U	0.36	0.64	11.2		1.6	0.3	0.30	J	0.12	0.17	-0.01
0.11	0.20	0.01	U	0.32	0.60	8.3		1.3	0.6	0.39	J	0.14	0.19	
0.11	0.20	0.0	U	0.39	0.75	9.6		1.8	0.6	0.42	J	0.12	0.06	
0.11	0.19	0.001	U	0.40	0.77	8.6		1.6	0.5	0.61	J	0.15	0.10	
0.12	0.21	-0.06	U	0.35	0.62	11.3		1.5	0.3	0.47	J	0.15	0.19	
0.082	0.15	0.0	U	0.059	0.22	8.8		1.5	0.7	0.45	J	0.11	0.04	
0.093	0.17	0.09	U	0.32	0.58	9.4		1.4	0.3	0.28	J	0.12	0.18	
0.10	0.18	0.11	U	0.31	0.55	9.7		1.4	0.3	0.20	J	0.11	0.17	
0.14	0.24	-0.11	U	0.46	0.83	9.6		1.8	0.6	0.33	J	0.12	0.13	
0.10	0.19	0.25	U	0.39	0.67	10.7		1.8	0.5	0.55	J	0.14	0.1	
0.12	0.21	0.12	U	0.39	0.71	9.2		1.7	0.5	0.23	J	0.12	0.16	0.03
0.068	0.12	-0.03	U	0.20	0.37	10.5		1.3	0.5	0.50	J	0.11	0.1	
0.088	0.16	-0.06	U	0.31	0.57	10.0		1.6	0.4	0.44	J	0.12	0.07	
0.10	0.19	-0.0001	U	0.29	0.57	9.2		1.6	0.5	0.37	J	0.13	0.12	
0.18	0.31	-0.08	U	0.51	0.89	11.6		1.6	0.3	5.63		0.52	0.20	
0.11	0.20	-0.002	U	0.33	0.62	8.8		1.4	0.9	0.93	J	0.17	0.17	
0.13	0.24	0.04	U	0.46	0.86	8.6		1.7	0.6	0.53	J	0.15	0.09	
0.098	0.17	-0.06	U	0.37	0.69	8.8		1.6	0.5	0.57	J	0.15	0.12	
0.096	0.17	-0.04	U	0.29	0.52	10.4		1.3	0.5	0.310	J	0.091	0.096	
0.071	0.12	-0.06	U	0.25	0.45	9.8		1.3	0.6	0.37	J	0.11	0.12	0.30
0.12	0.21	-0.13	U	0.44	0.80	10.7		1.9	0.5	0.34	J	0.13	0.14	
0.11	0.21	0.11	U	0.37	0.68	10.6		1.9	0.5	0.45	J	0.18	0.17	
0.064	0.11	-0.03	U	0.26	0.48	10.3		1.3	0.5	0.359	J	0.099	0.10	
0.071	0.12	-0.06	U	0.36	0.67	9.5		1.6	0.8	0.33	J	0.12	0.14	
0.094	0.16	-0.09	U	0.42	0.76	7.7		1.5	0.5	0.25	J	0.13	0.19	
0.13	0.23	0.08	U	0.29	0.52	10.1		1.5	0.3	0.19	J	0.12	0.18	
0.11	0.20	0.04	U	0.39	0.73	10.7		1.8	0.9	0.44	J	0.12	0.1	
0.11	0.19	0.01	U	0.31	0.56	12.8		1.6	0.6	0.57	J	0.12	0.12	
0.089	0.16	-0.07	U	0.39	0.71	9.7		1.5	0.4	0.41	J	0.12	0.12	
0.094	0.16	-0.05	U	0.33	0.63	9.5		1.6	0.5	0.37	J	0.12	0.11	0.26
0.12	0.22	0.04	U	0.34	0.65	9.1		1.7	0.5	0.54	J	0.14	0.1	
0.067	0.12	-0.003	U	0.12	0.26	9.4		1.3	0.5	0.39	J	0.10	0.10	
0.10	0.18	-0.16	U	0.38	0.66	9.5		1.6	0.4	0.38	J	0.13	0.14	
0.10	0.18	-0.09	U	0.42	0.77	11.2		1.8	0.5	0.33	J	0.13	0.17	
0.11	0.18	0.0	U	0.31	0.59	9.2		1.4	0.3	0.36	J	0.12	0.17	
0.070	0.13	0.12	U	0.27	0.48	10.2		1.5	0.9	0.32	J	0.11	0.15	
0.12	0.22	0.008	U	0.36	0.70	9.0		1.8	1.0	0.30	J	0.13	0.15	
0.066	0.12	0.07	U	0.20	0.36	10.3		1.3	0.5	0.45	J	0.11	0.11	0.15
0.094	0.17	-0.07	U	0.37	0.67	9.3		1.6	0.8	0.48	J	0.12	0.08	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.10	0.18	0.0	U	0.28	0.56	10.8		1.7	0.4	0.26	J	0.12	0.17	
0.12	0.21	0.06	U	0.35	0.67	7.9		1.6	1.0	0.33	J	0.13	0.13	
0.096	0.17	-0.04	U	0.30	0.56	10.1		1.4	0.3	0.29	J	0.11	0.15	
0.098	0.17	-0.003	U	0.19	0.38	8.7		1.3	0.8	0.36	J	0.12	0.16	
0.14	0.25	0.0	U	0.76	1.4	7.4		1.6	0.7	0.50	J	0.15	0.10	
0.12	0.20	0.05	U	0.36	0.68	8.9		1.6	0.5	0.56	J	0.13	0.09	
0.083	0.15	0.0	U	0.36	0.64	11.1		1.4	0.5	0.343	J	0.098	0.11	
0.063	0.11	-0.07	U	0.27	0.48	9.4		1.3	0.5	0.52	J	0.12	0.10	
0.11	0.19	-0.02	U	0.34	0.64	9.3		1.6	0.8	0.54	J	0.13	0.08	
0.12	0.22	0.06	U	0.30	0.56	8.6		1.5	0.4	0.72	J	0.18	0.15	0.24
0.14	0.24	-0.15	U	0.51	0.92	7.6		1.5	0.5	1.02		0.20	0.12	0.0
0.13	0.23	-0.06	U	0.42	0.77	9.1		1.7	0.5	0.75	J	0.16	0.10	
0.082	0.14	0.13	U	0.22	0.38	9.8		1.3	0.5	0.68	J	0.12	0.05	
0.098	0.17	-0.001	U	0.33	0.62	8.6		1.5	0.6	0.34	U	0.12	0.14	
0.11	0.20	-0.03	U	0.31	0.58	8.7		1.6	0.9	0.61	J	0.15	0.11	
0.13	0.24	-0.01	U	0.28	0.53	10.2		1.5	0.3	0.32	U	0.13	0.18	
0.11	0.20	0.08	U	0.41	0.74	9.7		1.4	0.3	0.36	J	0.12	0.16	
0.096	0.16	0.03	U	0.32	0.59	10		1.4	0.3	0.38	J	0.12	0.15	
0.14	0.25	-0.06	U	0.35	0.67	10.5		1.9	0.6	0.21	J	0.14	0.20	
0.098	0.18	-0.09	U	0.39	0.72	5.8		1.4	1.0	0.44	J	0.12	0.09	0.14
0.092	0.16	0.02	U	0.25	0.46	9.2		1.3	0.5	0.50	J	0.12	0.13	
0.092	0.16	0.0	U	0.34	0.64	7.3		1.4	0.9	0.41	J	0.11	0.06	
0.082	0.15	0.0	U	0.47	0.87	9.2		1.6	0.4	0.27	J	0.12	0.16	
0.090	0.16	-0.02	U	0.36	0.66	8.3		1.4	0.9	0.36	J	0.12	0.16	
0.091	0.16	-0.004	U	0.30	0.55	8.3		1.3	0.7	0.23	J	0.11	0.16	
0.11	0.20	-0.04	U	0.35	0.67	7.4		1.5	0.6	0.47	J	0.14	0.09	
0.10	0.18	0.0	U	0.078	0.29	7.3		1.5	0.5	0.53	J	0.15	0.13	
0.12	0.22	-0.08	U	0.48	0.87	8.2		1.6	0.5	0.47	J	0.16	0.15	
0.052	0.098	0.0	U	0.32	0.57	9.3		1.2	0.5	0.364	J	0.092	0.090	
0.086	0.16	0.06	U	0.24	0.45	10.5		1.6	0.4	0.49	J	0.11	0.04	
0.077	0.14	-0.02	U	0.22	0.40	9.2		1.3	0.5	0.34	J	0.10	0.1	
0.10	0.18	-0.03	U	0.28	0.54	10.0		1.6	0.4	0.55	J	0.13	0.09	0.0
0.089	0.16	0.03	U	0.34	0.61	9.6		1.4	0.3	0.33	J	0.11	0.15	
0.11	0.19	-0.005	U	0.35	0.65	8.8		1.6	1.0	0.30	J	0.11	0.14	
0.11	0.19	0.0	U	0.046	0.17	7.7		1.3	0.9	0.30	J	0.11	0.15	
0.071	0.13	0.006	U	0.26	0.49	9.1		1.2	0.5	0.41	J	0.10	0.11	
0.14	0.25	0.02	U	0.37	0.71	10.6		1.8	0.5	0.37	J	0.13	0.13	
0.10	0.18	-0.08	U	0.35	0.62	8.7		1.3	0.3	0.48	J	0.13	0.16	
0.095	0.17	-0.06	U	0.38	0.69	9.6		1.5	0.4	0.50	J	0.11	0.04	
0.096	0.18	-0.08	U	0.37	0.66	8.6		1.4	0.7	0.27	J	0.10	0.14	
0.11	0.20	-0.02	U	0.31	0.61	10.4		1.7	0.5	0.43	J	0.16	0.15	
0.098	0.17	-0.08	U	0.27	0.47	9.8		1.3	0.5	0.39	J	0.11	0.11	
0.092	0.17	0.0	U	0.40	0.75	7.9		1.5	1.0	0.38	J	0.12	0.12	
0.12	0.20	-0.19	U	0.53	0.92	8.4		1.6	0.5	0.67	J	0.17	0.10	
0.082	0.15	0.06	U	0.29	0.54	6.3		1.3	0.9	0.39	J	0.11	0.09	0.16

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.087	0.16	-0.009	U	0.19	0.37	9.1		1.2	0.5	0.395	J	0.098	0.086	
0.080	0.15	0.06	U	0.31	0.57	6.3		1.3	0.9	0.44	J	0.12	0.12	
0.098	0.18	0.0	U	0.30	0.59	8.7		1.6	0.5	0.34	J	0.13	0.16	0.08
0.099	0.17	0.0	U	0.34	0.67	7.2		1.6	0.9	0.39	J	0.16	0.16	
0.11	0.20	0.0	U	0.22	0.46	9.3		1.6	0.4	0.41	J	0.14	0.14	
0.080	0.15	0.13	U	0.30	0.52	10		1.6	0.4	0.46	J	0.13	0.12	
0.094	0.16	0.08	U	0.22	0.40	10.1		1.3	0.5	0.55	J	0.12	0.10	
0.086	0.16	0.08	U	0.34	0.62	8.0		1.5	0.8	0.54	J	0.12	0.04	
0.093	0.17	-0.10	U	0.38	0.68	8.7		1.5	0.4	0.47	J	0.12	0.09	
0.079	0.14	-0.03	U	0.25	0.45	9.9		1.3	0.5	0.313	J	0.092	0.10	
0.094	0.17	-0.03	U	0.29	0.54	9.6		1.5	0.4	0.40	J	0.13	0.14	
0.10	0.19	0.05	U	0.25	0.49	7.5		1.5	0.7	0.33	J	0.13	0.14	
0.092	0.17	0.0	U	0.068	0.25	7.8		1.4	0.4	0.45	J	0.12	0.09	
0.11	0.20	-0.005	U	0.31	0.62	9.1		1.6	0.5	0.53	J	0.16	0.14	
0.11	0.20	-0.14	U	0.44	0.79	8.0		1.6	0.5	0.33	J	0.13	0.17	
0.080	0.14	0.0	U	0.30	0.55	9.3		1.2	0.5	0.48	J	0.10	0.08	-0.02
0.10	0.18	0.09	U	0.35	0.63	10.0		1.6	0.4	0.40	J	0.12	0.14	
0.11	0.20	0.07	U	0.32	0.59	7.9		1.5	0.8	0.35	J	0.14	0.18	
0.082	0.15	-0.003	U	0.18	0.35	9.6		1.2	0.5	0.461	J	0.095	0.045	
0.079	0.15	0.03	U	0.27	0.51	7.7		1.3	0.4	0.311	J	0.094	0.082	
0.12	0.22	-0.10	U	0.43	0.78	7.5		1.5	0.6	0.52	J	0.13	0.1	
0.11	0.19	0.0	U	0.46	0.87	9.8		1.8	0.5	0.31	J	0.14	0.20	
0.11	0.19	-0.06	U	0.39	0.73	8.5		1.6	0.5	0.38	J	0.15	0.15	
0.084	0.15	0.0	U	0.038	0.14	9.4		1.2	0.5	0.427	J	0.097	0.084	
0.067	0.12	-0.11	U	0.37	0.65	7.6		1.4	0.8	0.32	J	0.11	0.12	
0.087	0.16	-0.04	U	0.37	0.70	8.7		1.6	0.6	0.52	J	0.17	0.16	
0.061	0.11	-0.07	U	0.20	0.36	6.37		0.93	0.44	0.321	J	0.089	0.088	0.03
0.11	0.20	-0.14	U	0.42	0.76	9.4		1.7	0.5	0.44	J	0.15	0.14	
0.092	0.17	0.0	U	0.64	1.2	7.4		1.5	0.8	0.33	J	0.13	0.17	
0.057	0.11	0.09	U	0.24	0.42	9.3		1.3	0.5	0.405	J	0.099	0.092	
0.10	0.18	0.0	U	0.67	1.2	7.6		1.4	0.8	0.52	J	0.15	0.10	
0.082	0.16	-0.02	U	0.37	0.70	8.0		1.6	0.9	0.22	J	0.12	0.17	0.12
0.084	0.15	-0.006	U	0.32	0.61	7.2		1.3	0.7	0.44	J	0.10	0.04	
0.077	0.14	-0.006	U	0.37	0.70	10.2		1.7	0.4	0.39	J	0.13	0.16	
0.13	0.22	0.01	U	0.35	0.64	9.6		1.4	0.3	0.32	J	0.12	0.17	
0.13	0.24	-0.01	U	0.37	0.72	8.9		1.7	0.6	0.63	J	0.15	0.06	
0.066	0.13	-0.08	U	0.35	0.64	6.7		1.3	0.5	0.31	J	0.12	0.15	
0.076	0.13	0.01	U	0.12	0.24	9.1		1.2	0.5	0.425	J	0.099	0.095	
0.088	0.16	-0.009	U	0.38	0.73	8.2		1.6	1.1	0.54	J	0.14	0.11	
0.081	0.14	0.23	U	0.23	0.36	8.0		1.3	0.3	0.33	J	0.10	0.12	
0.10	0.19	-0.00002	U	0.20	0.41	9.0		1.4	0.4	0.46	J	0.11	0.08	
0.070	0.13	-0.04	U	0.26	0.47	9.6		1.3	0.5	0.384	J	0.096	0.095	
0.13	0.23	0.005	U	0.30	0.57	9.6		1.5	0.4	0.22	J	0.10	0.13	
0.11	0.20	-0.06	U	0.35	0.65	9.5		1.6	0.5	0.45	J	0.13	0.11	
0.10	0.18	0.05	U	0.30	0.55	8.6		1.3	0.3	0.35	J	0.13	0.19	-0.03

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.17	0.32	0.12	U	0.44	0.77	10.6		1.4	0.3	6.07		0.51	0.22	
0.36	0.75	0.01	U	1.0	1.8	9.8		2.1	1.5	22.9		1.6	0.4	0.04
0.091	0.16	-0.01	U	0.30	0.56	7.4		1.1	0.3	0.27	J	0.10	0.15	
0.096	0.18	0.0	U	0.35	0.69	7.7		1.6	0.8	0.49	J	0.16	0.19	
0.11	0.19	-0.12	U	0.38	0.68	9.0		1.7	0.5	0.39	J	0.15	0.16	
0.12	0.21	0.006	U	0.29	0.57	8.5		1.6	0.5	0.52	J	0.17	0.15	
0.067	0.11	-0.02	U	0.24	0.44	6.36		0.996	0.65	0.401	J	0.092	0.083	
0.19	0.33	0.05	U	0.48	0.84	10.5		1.6	0.8	6.55		0.54	0.17	
0.10	0.19	-0.09	U	0.36	0.64	10.8		1.6	0.4	2.00		0.27	0.15	
0.15	0.25	-0.14	U	0.59	1.0	13.2		1.8	0.4	4.51		0.47	0.20	
0.17	0.30	0.15	U	0.47	0.84	13.7		2.0	0.5	2.72		0.35	0.16	
0.079	0.15	-0.06	U	0.36	0.67	8.7		1.6	0.5	0.57	J	0.13	0.05	
0.095	0.17	-0.05	U	0.35	0.65	8.9		1.5	0.4	0.87	J	0.16	0.08	
0.22	0.37	-0.004	U	0.52	0.95	6.5		1.4	1.2	7.16		0.63	0.19	
0.13	0.23	0.28	U	0.30	0.48	7.5		1.2	0.7	5.96		0.48	0.13	0.17
0.12	0.21	0.07	U	0.30	0.55	7.8		1.3	0.7	0.39	J	0.13	0.17	0.45
0.089	0.16	0.0	U	0.33	0.62	6.7		1.3	0.9	0.84	J	0.15	0.06	
0.10	0.18	-0.006	U	0.24	0.46	9.7		1.4	0.3	0.30	J	0.11	0.15	
0.099	0.17	0.06	U	0.22	0.40	5.9		1.0	0.6	0.61	J	0.14	0.16	
0.14	0.24	-0.003	U	0.22	0.43	4.97		0.96	0.31	1.14		0.18	0.15	
0.11	0.20	-0.09	U	0.42	0.77	6.3		1.3	0.5	1.62		0.24	0.05	
0.11	0.20	0.05	U	0.39	0.72	8.3		1.5	0.9	1.83		0.25	0.11	
0.077	0.14	-0.08	U	0.25	0.44	8.7		1.1	0.5	1.33		0.18	0.08	
0.070	0.13	-0.03	U	0.29	0.54	5.0		1.1	0.8	0.61	J	0.12	0.04	
0.097	0.17	0.0	U	0.059	0.22	7.6		1.3	0.4	0.40	J	0.11	0.12	
0.096	0.18	0.0	U	0.51	0.96	10.3		1.8	0.5	0.86	J	0.17	0.06	
0.12	0.21	-0.05	U	0.40	0.74	9.1		1.7	0.9	0.57	J	0.17	0.14	
0.11	0.21	0.14	U	0.43	0.78	10.0		1.8	0.5	0.43	J	0.15	0.18	
0.078	0.14	0.08	U	0.17	0.30	10.2		1.3	0.5	0.60	J	0.12	0.11	
0.080	0.15	0.1	U	0.27	0.48	10.3		1.4	0.6	0.68	J	0.14	0.1	
0.085	0.16	-0.08	U	0.37	0.66	8.4		1.4	0.5	0.29	J	0.11	0.14	
0.11	0.20	-0.04	U	0.35	0.63	9.5		1.4	0.3	0.23	J	0.10	0.15	
0.12	0.21	0.0	U	0.37	0.73	9.9		1.8	0.5	0.28	J	0.11	0.12	1.56
0.088	0.15	0.09	U	0.25	0.46	9.7		1.7	0.5	0.49	J	0.13	0.1	
0.10	0.19	-0.09	U	0.39	0.71	8.7		1.6	0.8	0.57	J	0.13	0.07	
0.098	0.18	-0.09	U	0.41	0.74	9.2		1.6	0.5	0.30	J	0.12	0.15	
0.10	0.18	-0.02	U	0.26	0.49	9.8		1.4	0.3	0.45	J	0.13	0.16	
0.065	0.11	-0.04	U	0.19	0.35	8.0		1.1	0.5	0.373	J	0.092	0.088	
0.12	0.21	0.05	U	0.28	0.55	10		1.7	0.5	0.43	J	0.15	0.14	
0.096	0.17	0.0007	U	0.32	0.59	8.3		1.4	0.4	0.42	J	0.10	0.06	
0.096	0.17	0.03	U	0.24	0.45	9.1		1.3	0.3	0.37	J	0.12	0.17	
0.13	0.22	-0.08	U	0.36	0.66	9.5		1.4	0.3	0.43	J	0.14	0.18	
0.094	0.17	0.0	U	0.42	0.78	9.1		1.5	0.4	0.43	J	0.12	0.10	
0.10	0.18	0.08	U	0.28	0.50	10.6		1.5	0.5	0.38	J	0.12	0.15	
0.10	0.18	-0.008	U	0.30	0.56	11.3		1.6	0.3	0.39	J	0.13	0.17	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.093	0.17	0.0	U	0.49	0.91	9.3		1.8	1.0	0.59	J	0.14	0.06	
0.16	0.28	0.0	U	0.091	0.33	8.2		1.7	0.6	0.76	J	0.18	0.07	
0.12	0.21	0.13	U	0.28	0.48	9.5		1.4	0.3	0.31	J	0.12	0.18	-0.21
0.10	0.19	-0.09	U	0.39	0.73	8.4		1.8	1.3	0.60	J	0.16	0.13	-0.12
0.11	0.19	0.005	U	0.29	0.55	8.3		1.3	0.3	0.27	J	0.11	0.17	
0.093	0.17	0.0	U	0.32	0.64	8.5		1.6	0.5	0.67	J	0.15	0.1	0.1
0.090	0.16	0.03	U	0.26	0.47	9.2		1.3	0.6	0.47	J	0.12	0.13	
0.070	0.12	-0.06	U	0.23	0.41	10.2		1.3	0.5	0.47	J	0.11	0.11	
0.089	0.16	0.19	U	0.31	0.53	8.1		1.6	1	0.49	J	0.12	0.05	
0.094	0.16	0.009	U	0.32	0.60	8.3		1.4	0.5	0.36	J	0.12	0.14	
0.12	0.22	0.14	U	0.38	0.68	9.3		1.8	0.9	0.41	J	0.15	0.17	
0.094	0.17	-0.0006	U	0.46	0.86	8.9		1.6	0.5	0.26	J	0.12	0.16	
0.083	0.16	-0.08	U	0.41	0.75	8.6		1.6	0.7	0.55	J	0.14	0.12	
0.082	0.14	-0.0007	U	0.19	0.37	9.2		1.2	0.5	0.378	J	0.099	0.10	
0.088	0.16	0.02	U	0.35	0.66	8.3		1.5	0.9	0.37	J	0.11	0.08	
0.079	0.15	0.06	U	0.35	0.67	8.7		1.7	0.5	0.44	J	0.13	0.10	
0.10	0.18	0.1	U	0.31	0.57	7.0		1.4	0.8	0.33	J	0.12	0.14	
0.075	0.14	-0.08	U	0.23	0.42	9.0		1.3	0.6	0.41	J	0.11	0.12	
0.077	0.14	0.06	U	0.27	0.48	6.8		1.1	0.3	0.36	J	0.11	0.14	
0.10	0.17	-0.08	U	0.32	0.57	9.3		1.4	0.3	0.36	J	0.12	0.15	
0.10	0.18	0.11	U	0.28	0.49	8.6		1.2	0.3	0.48	J	0.11	0.10	
0.13	0.22	0.002	U	0.31	0.62	7.9		1.5	0.5	0.64	J	0.16	0.09	
0.098	0.18	0.01	U	0.32	0.62	8.3		1.6	0.9	0.48	J	0.12	0.09	
0.090	0.16	-0.03	U	0.31	0.57	9.7		1.3	0.3	0.62	J	0.14	0.11	
0.099	0.18	-0.11	U	0.40	0.72	9.8		1.6	0.4	0.27	J	0.11	0.14	
0.14	0.25	-0.006	U	0.40	0.76	9.1		1.7	0.5	0.47	J	0.14	0.1	
0.076	0.14	0.0	U	0.22	0.41	8.1		1.1	0.4	0.405	J	0.092	0.065	
0.11	0.19	0.13	U	0.33	0.58	10.7		1.5	0.3	0.41	J	0.14	0.19	
0.080	0.15	0.03	U	0.31	0.57	8.4		1.4	0.4	0.30	J	0.11	0.13	
0.12	0.21	-0.08	U	0.37	0.66	9.5		1.4	0.3	0.53	J	0.14	0.12	
0.12	0.21	-0.03	U	0.29	0.58	8.2		1.7	0.6	0.42	J	0.17	0.22	
0.12	0.19	-0.19	U	0.54	0.96	7.7		1.7	1.2	0.51	J	0.16	0.14	
0.12	0.21	-0.13	U	0.39	0.70	8.0		1.5	0.7	0.76	J	0.15	0.07	-0.05
0.093	0.16	0.02	U	0.30	0.56	9.0		1.4	0.3	0.32	J	0.13	0.19	
0.097	0.17	0.00007	U	0.36	0.69	8.7		1.6	0.5	0.50	J	0.14	0.12	
0.098	0.17	0.04	U	0.35	0.64	8.7		1.4	0.9	0.23	J	0.10	0.15	-0.05
0.081	0.15	-0.0008	U	0.22	0.42	8.6		1.2	0.5	0.274	J	0.091	0.11	-0.08
0.11	0.20	-0.07	U	0.39	0.71	10.7		1.7	0.4	0.40	J	0.11	0.07	
0.12	0.21	0.14	U	0.42	0.76	7.2		1.7	1.2	0.35	J	0.14	0.14	
0.13	0.23	-0.02	U	0.48	0.91	9.6		1.8	0.6	0.40	J	0.15	0.15	
0.10	0.19	0.0	U	0.45	0.82	10.3		1.5	0.3	0.45	J	0.15	0.20	
0.11	0.20	0.0	U	0.45	0.84	10.1		1.7	0.5	0.38	J	0.16	0.16	
0.11	0.19	0.0	U	0.72	1.2	9.4		1.4	0.3	0.57	J	0.15	0.18	
0.18	0.31	0.09	U	0.35	0.67	9.0		1.8	0.6	0.39	J	0.15	0.18	
0.12	0.21	0.0	U	0.60	1.1	9.3		1.8	0.6	0.90	J	0.19	0.07	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.12	0.21	0.0	U	0.079	0.29	7.8		1.5	0.5	0.55	J	0.16	0.14	
0.14	0.25	0.0	U	0.50	0.94	8.7		1.8	1.1	0.87	J	0.18	0.11	
0.11	0.20	0.08	U	0.37	0.68	9.1		1.6	0.5	0.40	J	0.14	0.14	
0.070	0.13	0.05	U	0.22	0.40	9.8		1.3	0.5	0.519	J	0.099	0.032	
0.097	0.17	-0.01	U	0.42	0.76	9.2		1.5	1	0.31	J	0.13	0.18	
0.11	0.21	-0.16	U	0.42	0.74	9.0		1.6	0.8	0.59	J	0.15	0.09	
0.092	0.17	0.0	U	0.25	0.47	11.4		1.5	0.6	0.54	J	0.13	0.13	
0.10	0.19	0.0	U	0.34	0.67	11.3		1.9	0.5	0.27	J	0.13	0.17	
0.11	0.21	0.0	U	0.084	0.31	13.8		2.2	0.6	0.75	J	0.18	0.10	
0.11	0.20	0.0	U	0.43	0.84	7.5		1.7	1	0.29	J	0.14	0.18	-0.18
0.13	0.22	-0.07	U	0.40	0.73	9.7		1.5	0.4	0.35	J	0.14	0.20	
0.11	0.19	0.003	U	0.46	0.87	6.2		1.5	0.6	0.30	J	0.13	0.16	
0.12	0.22	0.0	U	0.37	0.73	10.1		1.9	0.6	0.18	U	0.13	0.21	
0.12	0.22	-0.03	U	0.40	0.76	8.6		1.7	0.5	0.45	J	0.14	0.13	0.16
0.088	0.17	-0.07	U	0.35	0.64	8.6		1.5	0.5	0.33	J	0.12	0.12	
0.11	0.19	-0.12	U	0.27	0.48	9.2		1.3	0.5	0.44	J	0.10	0.1	
0.090	0.17	0.0	U	0.056	0.21	9.7		1.5	0.3	0.32	J	0.12	0.17	
0.081	0.14	-0.08	U	0.30	0.53	9.4		1.3	0.5	0.55	J	0.12	0.11	
0.068	0.12	0.001	U	0.22	0.43	10		1.3	0.5	0.42	J	0.10	0.10	
0.10	0.19	-0.12	U	0.38	0.67	8.4		1.3	0.3	0.33	J	0.11	0.15	
0.088	0.16	-0.008	U	0.34	0.64	7.6		1.4	0.8	0.42	J	0.13	0.14	
0.11	0.19	0.0	U	0.28	0.55	8.6		1.6	0.7	0.28	J	0.12	0.15	
0.12	0.21	0.0	U	0.54	1.0	11.6		1.9	0.5	0.35	J	0.13	0.14	-0.22
0.10	0.18	-0.08	U	0.35	0.64	8.3		1.4	0.7	0.39	J	0.14	0.20	
0.093	0.17	-0.009	U	0.38	0.73	8.2		1.6	0.7	0.38	J	0.13	0.16	
0.14	0.25	-0.01	U	0.38	0.71	12.6		1.9	0.4	0.45	J	0.15	0.19	
0.17	0.31	0.30	U	0.60	1.1	12.5		2.7	0.9	0.95	J	0.24	0.10	
0.065	0.13	-0.08	U	0.35	0.65	8.4		1.6	0.5	0.47	J	0.13	0.1	
0.083	0.15	0.06	U	0.20	0.36	9.5		1.3	0.6	0.43	J	0.11	0.1	
0.13	0.22	0.02	U	0.31	0.58	10		1.5	0.3	0.50	J	0.14	0.16	
0.092	0.17	0.04	U	0.31	0.57	9.6		1.5	0.4	0.60	J	0.12	0.04	0.02
0.14	0.25	-0.10	U	0.48	0.87	9.0		1.6	0.5	0.45	J	0.14	0.14	
0.14	0.24	0.02	U	0.28	0.52	10.4		1.5	0.3	0.30	J	0.12	0.18	
0.15	0.27	-0.08	U	0.40	0.73	11.3		1.7	0.4	0.34	J	0.13	0.19	
0.12	0.21	-0.001	U	0.39	0.77	7.8		1.8	1.3	0.71	J	0.16	0.07	
0.11	0.20	-0.02	U	0.30	0.56	10.1		1.5	0.3	0.31	J	0.12	0.18	
0.097	0.18	-0.01	U	0.38	0.72	9.8		1.6	0.4	0.50	J	0.13	0.08	
0.12	0.22	-0.16	U	0.45	0.80	13.0		2.0	0.5	0.38	J	0.14	0.18	
0.12	0.22	-0.09	U	0.38	0.70	6.6		1.6	1.4	0.66	J	0.15	0.1	
0.099	0.17	0.004	U	0.23	0.44	8.4		1.2	0.6	0.359	J	0.098	0.099	
0.11	0.20	-0.04	U	0.32	0.59	9.6		1.4	0.3	0.34	J	0.12	0.16	
0.099	0.18	0.22	U	0.25	0.39	8.1		1.4	0.4	0.49	J	0.14	0.1	0.15
0.088	0.16	0.0	U	0.061	0.23	6.6		1.3	0.4	0.303	J	0.087	0.044	
0.14	0.24	-0.18	U	0.53	0.93	9.9		1.8	0.9	0.48	J	0.14	0.12	
0.095	0.17	0.05	U	0.35	0.63	8.2		1.3	0.3	0.14	U	0.11	0.18	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.20	-0.07	U	0.43	0.79	7.7		1.5	0.5	0.29	J	0.12	0.13	-0.12
0.087	0.16	0.13	U	0.26	0.46	8.6		1.6	0.5	0.57	J	0.14	0.09	
0.055	0.095	0.10	U	0.20	0.35	9.0		1.2	0.5	0.33	J	0.10	0.08	
0.087	0.15	-0.08	U	0.26	0.46	7.2		1.3	0.7	0.46	J	0.10	0.04	
0.055	0.10	0.0	U	0.24	0.44	7.2		1.0	0.5	0.381	J	0.095	0.096	
0.092	0.16	-0.006	U	0.33	0.63	8.5		1.5	0.4	0.187	J	0.097	0.13	
0.073	0.13	0.0	U	0.39	0.73	8.4		1.5	0.4	0.18	J	0.11	0.16	
0.11	0.19	-0.004	U	0.31	0.59	12.0		1.7	0.3	0.46	J	0.15	0.19	
0.11	0.20	-0.05	U	0.37	0.67	9.3		1.5	0.8	0.40	J	0.13	0.18	-0.14
0.11	0.19	0.04	U	0.39	0.71	11.4		1.6	0.3	0.37	J	0.13	0.18	
0.14	0.24	-0.06	U	0.53	0.99	11.2		2.1	0.6	0.66	J	0.16	0.07	
0.089	0.16	0.10	U	0.28	0.50	11.0		1.4	0.3	0.44	J	0.12	0.14	
0.12	0.22	0.0	U	0.48	0.89	10.0		1.7	0.5	0.62	J	0.14	0.05	
0.30	0.55	0.0	U	0.87	1.5	8.2		1.6	1.7	23.8		1.6	0.3	
0.16	0.27	0.07	U	0.43	0.77	7.0		1.3	1.2	5.30		0.51	0.20	
0.10	0.18	0.12	U	0.33	0.61	9.7		1.8	0.5	0.42	J	0.13	0.08	
0.091	0.17	0.03	U	0.37	0.70	10.7		1.8	0.5	0.51	J	0.14	0.11	
0.083	0.15	0.10	U	0.35	0.64	9.0	J	1.6	0.4	0.46	J	0.14	0.16	
0.068	0.12	-0.05	U	0.22	0.40	10.2		1.3	0.5	0.38	J	0.10	0.1	
0.061	0.098	0.06	U	0.17	0.31	7.7	J	1.1	0.5	0.43	J	0.10	0.10	0.03
0.086	0.16	0.09	U	0.25	0.45	7.5		1.3	0.4	0.193	J	0.090	0.12	
0.079	0.14	0.01	U	0.25	0.48	6.7	J	1.2	0.7	0.30	J	0.11	0.13	
0.11	0.19	-0.06	U	0.29	0.53	9.5	J	1.5	0.4	0.48	J	0.14	0.12	
0.12	0.21	-0.03	U	0.32	0.59	11.2	J	1.7	1	0.56	J	0.15	0.12	
0.11	0.19	0.01	U	0.28	0.51	10.8	J	1.4	0.3	0.44	J	0.12	0.15	
0.098	0.18	0.03	U	0.34	0.66	9.8	J	1.8	1.1	0.36	J	0.15	0.20	
0.012	0.023	0.0	U	0.034	0.068	1.01	J	0.18	0.05	0.058	J	0.016	0.014	
0.081	0.14	-0.02	U	0.18	0.33	10.9	J	1.2	0.4	0.464	J	0.097	0.084	
0.073	0.13	-0.08	U	0.33	0.60	11.4	J	1.6	0.3	0.70	J	0.12	0.04	
0.074	0.13	0.004	U	0.21	0.39	11.2		1.3	0.4	0.505	J	0.099	0.072	
0.086	0.15	0.13	U	0.22	0.38	8.9		1.4	0.6	0.262	J	0.095	0.12	0.06
0.087	0.16	-0.08	U	0.33	0.61	7.7		1.3	0.4	0.41	J	0.12	0.10	
0.059	0.10	-0.06	U	0.27	0.49	7.6		1.2	0.7	0.256	J	0.097	0.13	
0.11	0.19	0.04	U	0.29	0.56	6.9		1.4	0.6	0.58	J	0.13	0.05	
0.096	0.17	0.0	U	0.068	0.25	8.0		1.5	0.4	0.39	J	0.12	0.11	
0.070	0.13	0.05	U	0.20	0.36	8.0		1.1	0.4	0.356	J	0.084	0.080	
0.087	0.16	0.18	U	0.31	0.52	7.9		1.3	0.7	0.46	J	0.12	0.08	
0.096	0.17	-0.0007	U	0.30	0.57	10.6		1.6	0.4	0.35	J	0.11	0.13	
0.11	0.19	-0.004	U	0.30	0.56	12.0		1.5	0.3	0.50	J	0.13	0.16	
0.098	0.18	0.20	U	0.34	0.57	7.8		1.5	0.5	0.40	J	0.13	0.13	
0.15	0.37	0.01	U	0.39	0.71	10.2		1.3	0.3	6.60		0.53	0.16	
0.11	0.20	0.0	U	0.068	0.25	6.3		1.4	1	0.45	J	0.12	0.10	
0.073	0.13	0.0	U	0.26	0.47	8.3		1.1	0.4	0.370	J	0.088	0.081	
0.083	0.15	-0.02	U	0.27	0.50	8.9		1.5	1.0	0.24	J	0.10	0.13	
0.10	0.18	0.04	U	0.32	0.59	10.7		1.5	0.3	0.35	J	0.12	0.17	

Table G-3
Post-Excavation IR Site 1 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.12	0.22	-0.11	U	0.40	0.74	10.5		1.9	0.5	0.67	J	0.15	0.06	
0.099	0.18	0.12	U	0.33	0.60	7.0		1.5	0.6	0.48	J	0.14	0.12	
0.077	0.13	0.02	U	0.21	0.40	8.8		1.2	0.5	0.48	J	0.11	0.1	
0.080	0.15	-0.04	U	0.34	0.63	7.1		1.4	1.0	0.49	J	0.12	0.1	
0.090	0.16	0.09	U	0.35	0.64	10.7		1.8	0.5	0.42	J	0.14	0.16	
0.11	0.18	-0.12	U	0.37	0.65	10.3		1.4	0.3	0.38	J	0.13	0.17	
0.15	0.27	0.0	U	0.38	0.74	8.9		1.8	1.3	0.65	J	0.15	0.06	
0.084	0.16	-0.04	U	0.41	0.78	8.7		1.8	1.3	0.64	J	0.17	0.13	
0.087	0.15	-0.05	U	0.23	0.42	9.5		1.2	0.5	0.49	J	0.11	0.07	
0.082	0.15	-0.07	U	0.30	0.54	6.7		1.2	0.5	0.36	J	0.10	0.09	
0.095	0.17	-0.08	U	0.43	0.78	8.4		1.5	0.4	0.23	J	0.11	0.16	0.25
0.088	0.16	0.0	U	0.22	0.44	9.4		1.5	0.6	0.59	J	0.13	0.07	
0.11	0.19	0.12	U	0.24	0.42	10.1		1.5	0.6	0.57	J	0.14	0.15	
0.087	0.16	-0.002	U	0.26	0.49	10.8		1.5	0.3	0.68	J	0.16	0.11	-0.25
0.15	0.26	-0.03	U	0.46	0.87	10.5		1.9	0.6	0.56	J	0.15	0.12	

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
U	0.44	0.73	0.29	J	0.11	0.07	0.26	U	0.10	0.04	0.37		0.17	0.31
			0.21	J	0.11	0.08	0.34	U	0.13	0.06	0.24	U	0.16	0.30
			0.30	J	0.12	0.08	0.29	U	0.12	0.07	0.26	U	0.19	0.28
			0.40	J	0.17	0.14	0.31	U	0.14	0.08	0.25	U	0.15	0.26
			0.65	J	0.19	0.07	0.52	J	0.16	0.07	0.38		0.14	0.24
			0.42	J	0.16	0.1	0.40	J	0.15	0.07	0.34	U	0.25	0.36
			0.41	J	0.15	0.08	0.52	J	0.16	0.06	0.32		0.2	0.28
			0.38	J	0.14	0.08	0.49	U	0.15	0.06	0.10	U	0.15	0.26
			0.36	J	0.13	0.07	0.52	U	0.15	0.07	0.35		0.16	0.31
			0.34	J	0.13	0.06	0.54	U	0.16	0.03	0.40		0.20	0.35
U	0.47	0.76	0.32	J	0.15	0.12	0.30	J	0.14	0.08	0.22	U	0.16	0.24
			0.82	J	0.20	0.07	0.74	J	0.18	0.04	0.41		0.18	0.30
			0.30	J	0.13	0.08	0.55	U	0.17	0.05	0.34		0.16	0.25
			0.36	J	0.14	0.08	0.40	U	0.14	0.07	0.35	U	0.24	0.35
			1.09		0.24	0.07	0.72	J	0.19	0.03	0.29	U	0.17	0.38
			0.71	J	0.19	0.06	0.81	J	0.20	0.06	0.43		0.20	0.25
			0.25	J	0.11	0.08	0.60	U	0.17	0.06	0.21	U	0.15	0.35
			0.39	J	0.13	0.08	0.33	U	0.12	0.05	0.41		0.18	0.28
			0.47	J	0.15	0.08	0.52	U	0.16	0.06	0.41		0.19	0.39
			0.29	J	0.12	0.09	0.82	J	0.21	0.08	0.32		0.16	0.29
			0.55	J	0.17	0.06	0.50	U	0.16	0.03	0.65		0.23	0.37
			0.46	J	0.16	0.08	0.75	J	0.20	0.06	0.39		0.23	0.29
			0.45	J	0.15	0.08	0.64	J	0.18	0.05	0.22	U	0.16	0.23
			0.45	J	0.15	0.08	0.74	J	0.19	0.05	0.58		0.18	0.33
			0.55	J	0.16	0.07	0.63	J	0.17	0.06	0.53		0.16	0.20
U	0.27	0.48	0.48	J	0.15	0.09	0.28	U	0.11	0.05	0.18	U	0.26	0.44
			0.52	J	0.17	0.07	0.59	U	0.18	0.07	0.44		0.24	0.30
			0.45	J	0.14	0.08	0.49	U	0.15	0.06	0.20	U	0.20	0.34
			0.45	J	0.13	0.06	0.35	U	0.11	0.04	0.46		0.21	0.27
			0.45	J	0.14	0.07	0.61	J	0.16	0.05	0.17	U	0.24	0.41
			0.35	J	0.13	0.08	0.41	J	0.13	0.04	0.26		0.17	0.25
			0.41	J	0.14	0.07	0.59	J	0.17	0.03	0.37		0.18	0.20
			0.31	J	0.12	0.07	0.40	J	0.13	0.05	0.38		0.20	0.27
			0.36	J	0.12	0.06	0.56	J	0.16	0.03	0.13	U	0.19	0.33
			0.46	J	0.13	0.07	0.52	J	0.14	0.04	0.32		0.21	0.28
U	0.17	0.29	0.47	J	0.14	0.06	0.47	J	0.15	0.04	0.27		0.16	0.21
			0.38	J	0.12	0.05	0.28	J	0.10	0.05	0.21	U	0.18	0.27
			0.50	J	0.15	0.08	0.60	J	0.17	0.05	0.44		0.19	0.32
			0.33	J	0.15	0.10	0.36	J	0.15	0.07	0.23	U	0.18	0.27
			0.39	J	0.13	0.07	0.44	J	0.14	0.07	0.28		0.19	0.27
			0.60	J	0.17	0.06	0.49	J	0.15	0.03	0.43		0.16	0.26
			0.62	J	0.17	0.07	0.58	J	0.17	0.05	0.22	U	0.19	0.31
			0.252	J	0.090	0.052	0.42	J	0.12	0.03	0.20	U	0.15	0.22
			0.35	J	0.13	0.07	0.43	J	0.14	0.05	0.20	U	0.23	0.39
			0.31	J	0.12	0.07	0.37	J	0.13	0.07	0.30	U	0.17	0.33

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
U	0.18	0.32	0.44	J	0.15	0.1	0.45	J	0.14	0.06	0.56		0.23	0.27
			0.34	J	0.13	0.06	0.42	J	0.14	0.06	0.15	U	0.20	0.33
			0.55	J	0.16	0.08	0.39	J	0.13	0.06	0.15	U	0.17	0.30
			0.43	J	0.14	0.07	0.27	J	0.11	0.05	0.31		0.20	0.29
			0.35	J	0.12	0.07	0.50	J	0.15	0.05	0.11	U	0.21	0.37
			0.45	J	0.14	0.08	0.53	J	0.15	0.06	0.35		0.20	0.27
			0.32	J	0.12	0.08	0.35	J	0.13	0.06	0.31		0.17	0.23
			0.53	J	0.14	0.05	0.47	J	0.13	0.04	0.30		0.14	0.29
			0.29	J	0.11	0.06	0.47	J	0.14	0.05	0.19	UJ	0.19	0.30
			0.36	J	0.12	0.07	0.42	J	0.13	0.06	0.13	U	0.15	0.23
U	0.24	0.45	0.25	J	0.10	0.06	0.29	J	0.11	0.03	0.31		0.19	0.30
			0.35	J	0.12	0.06	0.39	J	0.12	0.04	0.34	U	0.25	0.38
			0.207	J	0.090	0.063	0.40	J	0.12	0.04	0.33	U	0.24	0.34
			0.41	J	0.13	0.07	0.31	J	0.11	0.05	0.41		0.18	0.21
			0.274	J	0.098	0.054	0.34	J	0.11	0.05	0.20	U	0.18	0.27
			0.59	J	0.17	0.09	0.62	J	0.17	0.05	0.41	U	0.28	0.44
			0.41	J	0.13	0.06	0.43	J	0.14	0.06	0.22	UJ	0.28	0.46
			0.30	J	0.12	0.1	0.53	U	0.15	0.03	0.16	U	0.21	0.37
			0.45	J	0.14	0.07	0.39	U	0.13	0.03	0.35		0.14	0.26
			0.43	J	0.14	0.07	0.33	U	0.12	0.03	0.33	U	0.20	0.38
U	0.32	0.55	0.33	J	0.12	0.08	0.46	U	0.14	0.05	0.14	U	0.21	0.36
			1.20		0.25	0.06	0.38	U	0.13	0.06	0.33		0.17	0.30
			0.39	J	0.15	0.09	0.58	J	0.18	0.06	0.38		0.15	0.23
			1.26		0.27	0.09	0.92	J	0.23	0.07	0.65		0.17	0.20
			0.52	J	0.20	0.13	0.65	J	0.22	0.08	0.35		0.20	0.24
			0.89	J	0.22	0.10	0.75	J	0.19	0.03	0.32	U	0.24	0.35
			0.46	J	0.15	0.08	0.53	U	0.16	0.05	0.34	U	0.24	0.35
			0.54	J	0.16	0.07	0.54	J	0.16	0.03	0.42		0.13	0.15
			0.47	J	0.15	0.07	0.62	J	0.17	0.03	0.23		0.16	0.22
			0.88	J	0.22	0.08	1.04		0.23	0.06	0.53		0.15	0.21
			0.50	J	0.16	0.09	0.38	U	0.14	0.06	0.55		0.17	0.28
			0.42	U	0.13	0.07	0.49	U	0.15	0.07	0.34		0.15	0.28
U	0.34	0.62	0.46	J	0.20	0.12	0.55	J	0.22	0.11	0.39	U	0.28	0.41
			0.58	J	0.23	0.15	0.68	J	0.25	0.11	0.31	U	0.22	0.32
			0.46	J	0.16	0.08	0.52	U	0.16	0.05	0.58		0.16	0.1
			0.38	U	0.15	0.09	0.53	U	0.17	0.07	0.30		0.13	0.21
			0.68	J	0.28	0.23	0.38	U	0.20	0.13	0.12	U	0.17	0.29
			0.62	J	0.22	0.12	0.41	U	0.18	0.12	0.67		0.21	0.23
			0.88	J	0.33	0.20	0.50	U	0.24	0.15	0.0	U	0.20	0.36
			0.74	J	0.19	0.08	0.73	J	0.19	0.05	0.52		0.17	0.18
			0.35	J	0.13	0.08	0.44	U	0.15	0.07	0.46		0.18	0.20
			0.32	J	0.13	0.11	0.52	U	0.16	0.06	0.36		0.15	0.32
U	0.29	0.50	0.53	J	0.18	0.08	0.87	J	0.23	0.08	0.23	U	0.21	0.32
			0.36	J	0.14	0.09	0.59	J	0.18	0.07	0.40		0.15	0.17
			0.45	J	0.15	0.09	0.61	J	0.18	0.07	0.21	U	0.16	0.24

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.53	J	0.18	0.12	0.86	J	0.22	0.03	0.36		0.25	0.35
			0.40	J	0.14	0.08	0.48	U	0.15	0.05	0.62		0.15	0.07
			0.94	J	0.22	0.08	0.28	U	0.12	0.06	0.40		0.18	0.21
			0.047	J	0.016	0.008	0.058	U	0.018	0.003	0.53		0.20	0.19
			0.43	J	0.16	0.07	0.78	J	0.22	0.06	0.41		0.23	0.31
			0.52	J	0.16	0.08	0.48	U	0.15	0.07	0.12	U	0.23	0.39
U	0.25	0.45	0.27	J	0.16	0.16	0.42	U	0.19	0.11	0.31		0.14	0.23
			0.47	J	0.21	0.15	1.18	U	0.33	0.11	0.34		0.16	0.29
			0.30	J	0.16	0.11	0.71	U	0.25	0.09	0.22	U	0.25	0.40
			0.25	J	0.15	0.13	0.65	U	0.23	0.1	0.48		0.18	0.30
			0.41	J	0.19	0.14	0.58	U	0.22	0.09	0.47		0.19	0.23
			0.47	J	0.21	0.15	0.30	U	0.17	0.13	0.33		0.20	0.27
			0.20	J	0.14	0.14	0.36	U	0.18	0.13	0.32		0.16	0.19
			0.30	J	0.18	0.20	0.25	U	0.15	0.11	0.43		0.22	0.30
			0.46	J	0.23	0.15	0.57	U	0.26	0.14	0.22	U	0.22	0.34
			0.46	J	0.22	0.17	0.46	U	0.21	0.12	0.47		0.22	0.26
U	0.31	0.54	0.40	J	0.14	0.09	0.38	U	0.14	0.06	0.38		0.19	0.37
			0.75	J	0.19	0.08	0.66	U	0.18	0.06	0.53		0.14	0.15
			0.38	J	0.14	0.07	0.37	U	0.14	0.06	0.35		0.19	0.26
			0.51	J	0.15	0.07	0.46	U	0.15	0.07	0.44		0.23	0.30
			0.25	U	0.11	0.06	0.147	U	0.082	0.030	0.0	U	0.20	0.37
			0.21	U	0.10	0.07	0.35	U	0.13	0.05	0.37		0.19	0.26
			0.70	J	0.20	0.09	0.49	U	0.16	0.05	0.61		0.20	0.20
			0.31	U	0.13	0.09	0.52	U	0.17	0.06	0.19	U	0.21	0.34
			0.28	U	0.12	0.08	0.40	U	0.14	0.07	0.29		0.11	0.17
U	0.30	0.49	0.63	J	0.26	0.18	0.63	U	0.25	0.12	0.41		0.15	0.17
			0.37	J	0.24	0.24	0.45	U	0.25	0.18	0.26	U	0.25	0.39
			0.46	J	0.21	0.17	0.53	U	0.22	0.13	0.30	U	0.26	0.40
			0.26	J	0.17	0.20	0.40	U	0.19	0.06	0.29		0.14	0.19
			0.35	J	0.18	0.15	0.61	U	0.23	0.08	0.31		0.13	0.24
			0.53	J	0.21	0.13	0.32	U	0.16	0.05	0.17	U	0.24	0.40
			0.28	J	0.16	0.13	0.29	U	0.15	0.06	0.37		0.19	0.25
			0.40	J	0.14	0.06	0.37	U	0.13	0.03	0.37		0.20	0.26
			0.53	J	0.16	0.08	0.48	U	0.15	0.05	0.45		0.15	0.21
			0.37	J	0.14	0.08	0.63	J	0.18	0.05	0.11	U	0.18	0.30
U	0.54	0.91	0.53	J	0.17	0.10	0.27	U	0.11	0.06	0.23	U	0.20	0.31
			0.53	J	0.16	0.06	0.50	U	0.15	0.06	0.16	U	0.19	0.32
			0.46	J	0.15	0.08	0.43	U	0.14	0.06	0.38		0.12	0.17
			0.30	J	0.13	0.09	0.28	U	0.12	0.06	0.35		0.14	0.24
			0.35	J	0.14	0.09	0.45	U	0.15	0.06	0.25	U	0.19	0.27
			0.35	U	0.18	0.12	0.27	U	0.15	0.11	0.30		0.16	0.27
			0.49	J	0.16	0.07	0.39	U	0.14	0.06	0.13	U	0.15	0.25
			0.80	J	0.20	0.08	0.49	J	0.16	0.08	0.42		0.22	0.28
U	0.22	0.36	0.26	J	0.19	0.22	0.38	U	0.21	0.15	0.37		0.12	0.20
			0.34	U	0.14	0.09	0.36	U	0.14	0.06	0.18	U	0.15	0.23

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.50	J	0.17	0.09	0.53	J	0.17	0.05	0.26	U	0.20	0.30
			0.32	U	0.14	0.1	0.30	U	0.13	0.07	0.43		0.23	0.29
			0.41	J	0.15	0.07	0.53	J	0.17	0.03	0.42		0.15	0.26
			0.54	J	0.18	0.12	0.55	J	0.17	0.07	0.61		0.20	0.21
			0.63	J	0.20	0.09	0.28	U	0.13	0.08	0.29	U	0.22	0.31
			0.33	U	0.22	0.22	0.46	J	0.24	0.16	0.30	U	0.21	0.30
			0.34	U	0.13	0.08	0.46	J	0.15	0.06	0.30		0.11	0.19
			0.44	J	0.14	0.08	0.55	J	0.15	0.04	0.48		0.15	0.23
			0.63	J	0.18	0.08	0.89	J	0.22	0.06	0.49		0.16	0.26
U	0.29	0.48	0.48	J	0.15	0.07	0.50	J	0.15	0.05	0.41		0.18	0.34
U	0.30	0.52	0.88	J	0.21	0.08	0.87	J	0.20	0.03	0.81		0.23	0.36
			0.44	J	0.15	0.09	0.56	J	0.17	0.03	0.56		0.25	0.29
			0.43	J	0.16	0.12	0.62	J	0.19	0.09	0.45		0.13	0.20
			1.01		0.22	0.08	0.84	J	0.20	0.06	0.48		0.17	0.30
			0.63	J	0.18	0.09	0.89	J	0.22	0.03	0.54		0.19	0.30
			0.51	J	0.15	0.07	0.47	J	0.14	0.05	0.32		0.15	0.28
			0.82	J	0.20	0.08	0.65	J	0.18	0.06	0.45		0.18	0.21
			0.30	J	0.12	0.1	0.53	J	0.16	0.06	0.32		0.16	0.21
			0.51	J	0.17	0.08	0.26	U	0.12	0.08	0.36		0.18	0.15
U	0.22	0.36	0.26	J	0.11	0.08	0.34	U	0.13	0.06	0.38		0.16	0.28
			0.85	J	0.21	0.08	0.56	J	0.16	0.05	0.34		0.12	0.18
			0.39	J	0.14	0.09	0.27	U	0.11	0.07	0.24	U	0.14	0.30
			0.45	J	0.16	0.11	0.61	J	0.17	0.03	0.25		0.16	0.21
			0.42	J	0.15	0.09	0.52	J	0.16	0.05	0.38		0.15	0.27
			0.29	J	0.12	0.07	0.40	U	0.14	0.03	0.24	U	0.18	0.27
			0.38	J	0.14	0.07	0.25	U	0.11	0.03	0.19	U	0.20	0.31
			0.38	J	0.14	0.06	0.49	J	0.15	0.05	0.28	U	0.20	0.28
			0.45	J	0.15	0.09	0.56	J	0.16	0.05	0.32		0.19	0.25
			0.43	U	0.15	0.08	0.56	J	0.17	0.06	0.37		0.14	0.17
			0.75	J	0.19	0.09	0.60	J	0.17	0.07	0.41		0.20	0.26
			0.41	J	0.15	0.09	0.39	U	0.14	0.06	0.33		0.15	0.20
U	0.35	0.61	0.56	U	0.17	0.11	0.34	U	0.13	0.03	0.39		0.19	0.22
			0.48	U	0.15	0.08	0.52	J	0.15	0.04	0.51		0.20	0.23
			0.36	J	0.13	0.07	0.60	J	0.17	0.08	0.25	U	0.19	0.29
			0.43	U	0.14	0.07	0.34	U	0.12	0.03	0.20	U	0.17	0.26
			0.41	J	0.14	0.07	0.175	U	0.088	0.059	0.40		0.12	0.15
			0.38	U	0.13	0.07	0.57	J	0.16	0.03	0.38		0.24	0.33
			0.68	U	0.18	0.06	0.75	J	0.19	0.05	0.61		0.18	0.27
			0.44	J	0.14	0.07	0.41	U	0.14	0.05	0.34		0.21	0.31
			0.39	U	0.13	0.06	0.49	J	0.15	0.05	0.32		0.18	0.25
			0.44	J	0.14	0.07	0.40	U	0.13	0.06	0.40		0.19	0.19
			0.46	J	0.15	0.08	0.45	J	0.14	0.05	0.45		0.12	0.18
			0.46	J	0.16	0.11	0.27	U	0.11	0.06	0.23	U	0.19	0.29
			0.50	U	0.16	0.09	0.70	J	0.19	0.06	0.28		0.18	0.25
U	0.35	0.60	0.39	U	0.12	0.05	0.280	U	0.099	0.040	0.29		0.15	0.17

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.94	J	0.22	0.07	0.54	J	0.16	0.07	0.48		0.14	0.18
			0.37	U	0.13	0.08	0.30	U	0.12	0.06	0.39		0.14	0.20
U	0.26	0.43	0.28	J	0.12	0.06	0.28	U	0.12	0.06	0.12	U	0.18	0.30
			0.42	J	0.14	0.07	0.40	U	0.13	0.05	0.35		0.24	0.33
			0.58	J	0.17	0.07	0.52	J	0.16	0.06	0.30	U	0.14	0.34
			0.39	J	0.14	0.08	0.40	J	0.14	0.06	0.40		0.19	0.24
			0.37	J	0.14	0.09	0.51	J	0.16	0.06	0.50		0.15	0.18
			0.44	J	0.15	0.08	0.61	J	0.17	0.06	0.32		0.20	0.28
			0.39	J	0.14	0.06	0.44	J	0.14	0.05	0.33		0.15	0.23
			0.39	J	0.14	0.07	0.46	J	0.15	0.07	0.43		0.13	0.17
			0.48	J	0.15	0.06	0.47	J	0.15	0.03	0.35		0.21	0.29
			0.36	U	0.13	0.07	0.43	J	0.14	0.05	0.26	U	0.19	0.27
			0.59	J	0.17	0.09	0.51	J	0.16	0.07	0.39		0.16	0.24
			0.54	J	0.16	0.07	0.55	J	0.16	0.04	0.26		0.17	0.22
			0.41	J	0.15	0.11	0.55	J	0.16	0.03	0.34		0.21	0.28
U	0.29	0.50	0.62	J	0.17	0.07	0.51	J	0.15	0.05	0.46		0.14	0.14
			0.40	J	0.13	0.09	0.25	U	0.10	0.05	0.38		0.15	0.26
			0.76	J	0.19	0.06	0.48	J	0.15	0.06	0.27	U	0.19	0.27
			0.46	J	0.15	0.08	0.51	J	0.15	0.04	0.31		0.10	0.17
			0.68	J	0.18	0.07	0.49	J	0.15	0.03	0.44		0.16	0.27
			0.36	J	0.13	0.06	0.39	U	0.13	0.03	0.52		0.19	0.24
			0.27	U	0.11	0.08	0.26	U	0.11	0.05	0.41		0.21	0.24
			0.91	J	0.22	0.09	0.52	J	0.16	0.06	0.23	U	0.18	0.26
			0.52	J	0.17	0.09	0.51	J	0.16	0.06	0.34		0.11	0.14
			0.48	J	0.15	0.07	0.41	J	0.13	0.05	0.23	U	0.17	0.26
			0.48	J	0.15	0.09	0.49	J	0.15	0.07	0.23	U	0.18	0.27
U	0.29	0.50	0.37	J	0.13	0.06	0.38	U	0.13	0.04	0.232		0.092	0.16
			0.23	U	0.11	0.1	0.25	U	0.10	0.03	0.28	U	0.21	0.31
			0.49	J	0.15	0.1	0.31	J	0.12	0.06	0.36		0.19	0.23
			0.30	U	0.11	0.08	0.33	U	0.12	0.04	0.35		0.13	0.21
			0.45	J	0.14	0.07	0.40	J	0.13	0.03	0.22	U	0.17	0.24
U	0.31	0.52	0.46	J	0.15	0.07	0.30	U	0.12	0.03	0.19	U	0.19	0.29
			0.50	J	0.15	0.07	0.48	J	0.14	0.05	0.38		0.15	0.25
			0.56	J	0.17	0.08	0.51	J	0.16	0.06	0.37		0.22	0.30
			0.42	J	0.14	0.09	0.28	J	0.11	0.07	0.26	U	0.14	0.28
			0.42	J	0.16	0.12	0.34	J	0.14	0.03	0.39	U	0.30	0.46
			0.42	J	0.15	0.07	0.49	J	0.16	0.05	0.15	U	0.17	0.28
			0.49	J	0.15	0.06	0.67	J	0.18	0.05	0.38		0.11	0.14
			0.44	J	0.14	0.07	0.61	J	0.17	0.07	0.20	U	0.19	0.30
			0.48	J	0.15	0.07	0.40	J	0.14	0.07	0.31		0.12	0.21
			0.50	J	0.15	0.06	0.182	J	0.089	0.029	0.27		0.14	0.26
			0.36	J	0.13	0.07	0.36	J	0.13	0.03	0.39		0.13	0.18
			0.39	J	0.13	0.06	0.229	J	0.096	0.026	0.25		0.15	0.20
			0.33	J	0.13	0.09	0.35	J	0.13	0.05	0.34		0.21	0.28
U	0.33	0.57	0.42	J	0.14	0.06	0.56	J	0.17	0.05	0.36		0.17	0.23

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.41	J	0.14	0.07	0.69	J	0.18	0.05	0.0	U	0.23	0.40
U	0.31	0.53	0.50	J	0.15	0.07	0.64	J	0.17	0.04	0.41	U	0.49	0.80
			0.63	J	0.18	0.07	0.47	J	0.15	0.06	0.27		0.16	0.22
			0.60	J	0.17	0.08	0.47	J	0.15	0.06	0.35		0.20	0.26
			0.76	J	0.20	0.07	0.41	J	0.15	0.06	0.28	U	0.21	0.30
			0.39	J	0.13	0.07	0.42	J	0.14	0.05	0.27	U	0.22	0.32
			0.53	U	0.16	0.07	0.41	U	0.14	0.05	0.29		0.11	0.17
			0.65	U	0.19	0.08	0.54	J	0.17	0.06	0.35	U	0.24	0.37
			0.54	U	0.16	0.07	0.50	J	0.15	0.06	0.18	U	0.18	0.28
			0.85	J	0.21	0.10	0.71	J	0.19	0.06	0.62		0.30	0.42
			0.69	J	0.19	0.07	0.58	J	0.17	0.06	0.47		0.29	0.42
			0.59	U	0.16	0.07	0.39	U	0.13	0.06	0.41		0.23	0.32
			0.32	U	0.12	0.08	0.43	J	0.14	0.05	0.33		0.19	0.26
			0.33	U	0.15	0.11	0.32	U	0.14	0.06	0.22	U	0.25	0.41
U	0.35	0.58	0.21	U	0.11	0.09	1.04		0.25	0.08	0.18	U	0.16	0.25
U	0.34	0.54	0.33	J	0.14	0.11	0.38	J	0.14	0.06	0.27		0.17	0.25
			0.43	U	0.15	0.10	0.51	J	0.16	0.06	0.29		0.19	0.28
			0.34	J	0.13	0.08	0.35	J	0.13	0.07	0.38		0.18	0.23
			0.42	U	0.14	0.06	0.44	J	0.14	0.06	0.22	U	0.16	0.24
			0.26	U	0.17	0.17	0.31	U	0.18	0.13	0.08	U	0.18	0.30
			0.26	U	0.12	0.09	0.39	J	0.14	0.06	0.20	U	0.23	0.38
			0.36	U	0.14	0.08	0.39	J	0.14	0.06	0.27		0.19	0.27
			0.38	U	0.13	0.06	0.36	U	0.13	0.06	0.23		0.14	0.21
			0.22	U	0.12	0.11	0.24	U	0.12	0.08	0.27		0.16	0.22
			0.34	U	0.13	0.08	0.34	U	0.12	0.04	0.28		0.18	0.26
			0.26	U	0.12	0.09	0.46	J	0.16	0.06	0.37		0.23	0.32
			0.33	J	0.14	0.09	0.45	J	0.15	0.07	0.16	U	0.21	0.34
			0.51	J	0.16	0.07	0.52	J	0.16	0.05	0.44		0.26	0.35
			0.61	J	0.18	0.09	0.42	J	0.14	0.07	0.33		0.12	0.19
			0.63	J	0.19	0.09	0.80	J	0.21	0.06	0.32		0.15	0.20
			0.35	J	0.14	0.11	0.45	J	0.15	0.03	0.13	U	0.16	0.26
			0.44	J	0.14	0.08	0.39	U	0.13	0.05	0.23	U	0.16	0.24
J	0.56	0.80	0.44	J	0.15	0.06	0.56	J	0.17	0.03	0.31		0.20	0.27
			0.45	J	0.20	0.15	0.37	J	0.17	0.08	0.40		0.21	0.28
			0.38	J	0.13	0.08	0.39	J	0.13	0.03	0.28	U	0.13	0.34
			0.34	J	0.12	0.06	0.39	U	0.13	0.03	0.20	U	0.20	0.31
			0.31	J	0.12	0.07	0.60	J	0.17	0.03	0.18	U	0.14	0.20
			0.48	J	0.16	0.08	0.52	J	0.16	0.06	0.36		0.14	0.18
			0.45	J	0.16	0.08	0.57	J	0.18	0.05	0.25	U	0.20	0.29
			0.49	J	0.16	0.08	0.50	J	0.15	0.05	0.31		0.14	0.26
			0.43	J	0.14	0.09	0.46	J	0.15	0.05	0.24	U	0.17	0.26
			0.39	J	0.14	0.08	0.39	J	0.14	0.06	0.39		0.22	0.32
			0.65	J	0.18	0.08	0.36	U	0.13	0.05	0.36		0.16	0.17
			0.49	J	0.16	0.08	0.58	J	0.17	0.07	0.35		0.15	0.18
			0.43	J	0.16	0.08	0.71	J	0.20	0.1	0.31	U	0.21	0.32

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.48	J	0.15	0.1	0.54	J	0.16	0.06	0.38		0.20	0.35
			0.62	J	0.20	0.09	0.53	J	0.18	0.09	0.60		0.28	0.34
U	0.30	0.54	0.34	UJ	0.22	0.22	0.43	J	0.25	0.22	0.26	U	0.18	0.27
U	0.32	0.59	0.40	J	0.15	0.09	0.39	J	0.14	0.07	0.50		0.18	0.30
			0.54	J	0.20	0.11	0.51	J	0.19	0.10	0.30		0.17	0.23
U	0.30	0.51	0.21	J	0.10	0.08	0.29	U	0.12	0.05	0.22	U	0.21	0.33
			0.75	J	0.21	0.09	0.50	U	0.17	0.09	0.39		0.13	0.19
			0.61	J	0.19	0.1	0.48	J	0.17	0.07	0.39		0.14	0.16
			1.02		0.30	0.10	0.50	J	0.20	0.08	0.27	U	0.20	0.28
			0.85	J	0.21	0.09	0.59	J	0.17	0.06	0.43		0.20	0.24
			0.26	J	0.13	0.11	0.40	J	0.15	0.07	0.16	U	0.25	0.42
			0.65	J	0.19	0.07	0.38	J	0.14	0.06	0.18	U	0.19	0.30
			0.40	J	0.14	0.09	0.53	J	0.16	0.06	0.34		0.20	0.26
			0.36	U	0.16	0.11	0.27	U	0.13	0.06	0.33		0.12	0.20
			0.26	U	0.13	0.10	0.40	J	0.15	0.07	0.18	U	0.17	0.26
			0.56	J	0.19	0.10	0.48	J	0.17	0.07	0.28	U	0.21	0.31
			0.67	J	0.29	0.17	0.68	J	0.29	0.14	0.25	U	0.20	0.29
			0.34	J	0.13	0.08	0.48	J	0.15	0.06	0.35		0.15	0.18
			0.40	J	0.14	0.09	0.187	U	0.094	0.063	0.15	U	0.15	0.24
			0.43	U	0.15	0.08	0.40	J	0.15	0.08	0.27		0.18	0.26
			0.39	J	0.15	0.11	0.60	J	0.17	0.03	0.41		0.16	0.18
			0.42	J	0.15	0.09	0.44	U	0.15	0.05	0.22	U	0.19	0.30
			0.58	J	0.17	0.07	0.57	J	0.17	0.03	0.43		0.17	0.28
			0.68	J	0.20	0.11	0.53	J	0.17	0.06	0.25		0.16	0.24
			0.52	J	0.16	0.09	0.46	J	0.15	0.05	0.36		0.18	0.20
			0.39	U	0.14	0.08	0.39	J	0.14	0.05	0.20	U	0.21	0.33
			0.39	J	0.13	0.07	0.33	U	0.12	0.03	0.27		0.13	0.16
			0.46	J	0.15	0.09	0.39	J	0.13	0.03	0.42		0.23	0.32
			0.35	J	0.13	0.09	0.57	J	0.17	0.05	0.37		0.16	0.18
			0.31	J	0.12	0.07	0.31	J	0.12	0.05	0.44		0.18	0.21
			0.39	J	0.13	0.07	0.36	J	0.12	0.03	0.39		0.24	0.33
			1.20		0.25	0.07	0.55	J	0.16	0.05	0.16	U	0.21	0.35
U	0.30	0.54	0.43	J	0.15	0.08	0.56	U	0.17	0.03	0.39		0.16	0.31
			0.25	J	0.11	0.07	0.21	U	0.10	0.07	0.20	U	0.19	0.29
			0.38	J	0.16	0.11	0.31	U	0.14	0.07	0.44		0.20	0.21
U	0.26	0.47	0.45	J	0.15	0.1	0.44	J	0.15	0.03	0.33		0.14	0.24
U	0.22	0.40	0.30	J	0.12	0.07	0.46	J	0.15	0.08	0.41		0.14	0.18
			0.50	J	0.16	0.08	0.52	J	0.16	0.06	0.19	U	0.19	0.30
			0.29	J	0.13	0.09	0.55	J	0.17	0.06	0.29	U	0.24	0.35
			0.50	J	0.15	0.08	0.32	J	0.12	0.03	0.24	U	0.20	0.29
			0.34	J	0.15	0.10	0.55	J	0.18	0.04	0.34		0.22	0.33
			0.38	J	0.14	0.08	0.41	J	0.14	0.03	0.24		0.17	0.23
			1.34		0.28	0.08	0.76	J	0.20	0.05	0.39		0.16	0.26
			0.36	J	0.15	0.12	0.35	U	0.14	0.09	0.15	U	0.22	0.38
			0.31	J	0.16	0.16	0.44	J	0.18	0.12	0.50		0.25	0.28

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.81	J	0.22	0.1	0.58	J	0.18	0.07	0.22	U	0.21	0.34
			0.61	J	0.23	0.15	0.43	J	0.19	0.1	0.44		0.19	0.36
			0.37	J	0.18	0.15	0.48	J	0.19	0.08	0.35		0.21	0.29
			1.20		0.28	0.11	0.61	J	0.19	0.06	0.46		0.12	0.18
			0.64	J	0.20	0.11	0.46	J	0.17	0.08	0.29		0.19	0.28
			0.73	J	0.21	0.11	0.57	J	0.18	0.03	0.30		0.19	0.25
			0.47	J	0.15	0.07	0.78	J	0.20	0.05	0.50		0.15	0.22
			0.24	J	0.12	0.10	0.18	U	0.10	0.06	0.45		0.17	0.18
			0.54	J	0.16	0.07	0.54	J	0.16	0.08	0.45		0.19	0.34
U	0.24	0.45	0.43	J	0.20	0.14	0.28	J	0.16	0.13	0.43		0.29	0.41
			0.30	J	0.11	0.08	0.28	U	0.11	0.05	0.19	U	0.19	0.30
			0.90	J	0.23	0.11	0.59	J	0.18	0.06	0.19	U	0.23	0.38
			0.29	J	0.12	0.08	0.44	J	0.15	0.06	0.0	U	0.23	0.43
U	0.26	0.43	0.52	J	0.18	0.09	0.16	U	0.10	0.08	0.33		0.22	0.31
			0.50	J	0.16	0.08	0.46	J	0.15	0.06	0.29	U	0.22	0.33
			0.43	J	0.15	0.11	0.43	J	0.14	0.08	0.40		0.14	0.18
			0.30	J	0.13	0.09	0.29	J	0.12	0.06	0.35		0.20	0.28
			0.72	J	0.22	0.13	0.61	J	0.20	0.04	0.36		0.12	0.17
			0.48	J	0.15	0.08	0.44	U	0.14	0.05	0.37		0.11	0.20
			0.39	J	0.14	0.09	0.30	J	0.12	0.06	0.22		0.15	0.22
			0.25	J	0.16	0.16	0.44	J	0.20	0.1	0.36		0.14	0.25
			0.21	J	0.10	0.07	0.34	U	0.13	0.05	0.34		0.16	0.29
U	0.30	0.56	0.27	J	0.12	0.07	0.39	U	0.14	0.08	0.31		0.20	0.27
			0.27	J	0.11	0.06	0.30	U	0.12	0.03	0.36		0.16	0.27
			0.41	J	0.14	0.09	0.35	J	0.12	0.04	0.49		0.22	0.25
			0.64	J	0.25	0.14	0.71	J	0.26	0.14	0.57		0.24	0.28
			0.59	J	0.18	0.08	0.65	J	0.18	0.08	0.49	U	0.40	0.60
			0.28	J	0.12	0.09	0.29	U	0.12	0.03	0.29	U	0.23	0.34
			0.50	J	0.17	0.09	0.29	U	0.13	0.09	0.40		0.13	0.21
			0.34	J	0.12	0.08	0.47	J	0.14	0.06	0.42		0.16	0.23
U	0.35	0.61	0.26	J	0.12	0.09	0.35	J	0.13	0.06	0.32		0.14	0.23
			0.50	J	0.16	0.09	0.61	J	0.18	0.03	0.34		0.19	0.25
			0.53	J	0.16	0.09	0.51	J	0.15	0.05	0.26	U	0.16	0.30
			0.32	J	0.13	0.08	0.26	U	0.11	0.05	0.42		0.24	0.35
			0.35	J	0.13	0.07	0.36	J	0.13	0.05	0.31	U	0.22	0.31
			0.22	J	0.11	0.11	0.38	U	0.14	0.08	0.47		0.19	0.23
			0.46	J	0.16	0.08	0.41	J	0.15	0.03	0.28		0.19	0.26
			0.69	J	0.19	0.08	0.70	U	0.19	0.08	0.25	U	0.24	0.38
			0.42	J	0.15	0.09	0.58	J	0.18	0.06	0.24	U	0.21	0.32
			0.55	J	0.19	0.11	0.37	J	0.15	0.08	0.33		0.12	0.20
			0.38	J	0.14	0.08	0.43	U	0.15	0.06	0.37		0.15	0.27
U	0.23	0.38	0.62	J	0.25	0.20	0.56	J	0.23	0.16	0.47		0.21	0.24
			0.39	J	0.13	0.08	0.48	U	0.15	0.03	0.19	U	0.20	0.31
			0.41	J	0.16	0.10	0.59	J	0.19	0.04	0.33		0.20	0.26
			0.38	J	0.14	0.08	0.48	U	0.15	0.05	0.23		0.16	0.23

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
U	0.24	0.44	0.29	J	0.12	0.1	0.44	U	0.14	0.07	0.01	U	0.15	0.29
			0.42	J	0.14	0.06	0.31	U	0.12	0.03	0.13	U	0.20	0.33
			0.31	J	0.12	0.08	0.32	U	0.12	0.05	0.28		0.11	0.20
			0.33	J	0.14	0.11	0.43	U	0.16	0.07	0.32		0.12	0.20
			0.44	J	0.17	0.11	0.37	J	0.15	0.07	0.36		0.11	0.12
			0.45	J	0.17	0.11	0.44	J	0.16	0.08	0.28		0.13	0.25
			0.37	J	0.14	0.09	0.35	J	0.13	0.05	0.27		0.17	0.23
			0.74	J	0.21	0.08	0.62	J	0.19	0.06	0.62		0.19	0.29
U	0.29	0.54	0.37	J	0.16	0.12	0.50	J	0.18	0.08	0.42		0.14	0.26
			0.56	J	0.17	0.09	0.58	J	0.18	0.05	0.44		0.16	0.24
			0.73	J	0.24	0.13	0.39	J	0.17	0.05	0.32	U	0.27	0.40
			0.78	J	0.21	0.09	0.78	U	0.21	0.06	0.52		0.14	0.23
			0.59	J	0.18	0.08	0.42	U	0.15	0.05	0.25	U	0.23	0.37
			0.55	J	0.16	0.1	0.46	U	0.15	0.07	0.19	U	0.36	0.60
			0.27	J	0.11	0.07	0.58	U	0.17	0.03	0.23	U	0.22	0.35
			0.55	J	0.17	0.12	0.51	U	0.17	0.09	0.35		0.21	0.28
			0.58	J	0.17	0.09	0.49	U	0.15	0.05	0.29	U	0.24	0.36
			0.59	J	0.20	0.14	0.77	J	0.22	0.11	0.27	U	0.20	0.29
			0.58	J	0.17	0.07	0.43	U	0.14	0.03	0.57		0.16	0.15
U	0.32	0.55	0.42	J	0.14	0.08	0.36	J	0.13	0.05	0.33		0.10	0.16
			0.33	J	0.13	0.09	0.43	U	0.15	0.06	0.29		0.13	0.22
			0.43	J	0.15	0.1	0.57	J	0.17	0.06	0.35		0.14	0.27
			0.33	J	0.14	0.11	0.50	J	0.16	0.05	0.34		0.17	0.20
			0.60	J	0.18	0.09	0.54	J	0.16	0.06	0.49		0.19	0.31
			0.64	J	0.18	0.09	0.51	J	0.15	0.05	0.47		0.17	0.25
			0.62	J	0.17	0.09	0.48	J	0.15	0.03	0.32	U	0.17	0.39
			0.71	J	0.19	0.08	0.84	J	0.20	0.05	0.057		0.024	0.027
			0.54	J	0.16	0.08	0.43	J	0.14	0.03	0.45		0.12	0.16
			0.45	J	0.16	0.11	0.61	J	0.18	0.03	0.52		0.14	0.22
			0.44	J	0.14	0.06	0.36	J	0.12	0.03	0.60		0.16	0.16
U	0.34	0.59	0.78	J	0.20	0.08	0.59	J	0.17	0.06	0.36		0.13	0.23
			0.33	U	0.12	0.07	0.41	J	0.14	0.07	0.32		0.18	0.24
			0.66	J	0.18	0.08	0.51	J	0.15	0.05	0.28		0.15	0.21
			0.58	J	0.17	0.09	0.54	J	0.16	0.05	0.37		0.18	0.19
			0.62	J	0.16	0.08	0.48	J	0.14	0.04	0.19	U	0.17	0.25
			0.39	U	0.14	0.07	0.72	J	0.19	0.06	0.51		0.11	0.05
			0.62	J	0.17	0.07	0.50	J	0.15	0.04	0.27		0.16	0.21
			0.79	J	0.20	0.08	0.43	J	0.14	0.03	0.66		0.18	0.22
			0.68	J	0.18	0.07	0.56	J	0.16	0.05	0.55		0.20	0.24
			0.32	J	0.12	0.07	0.54	J	0.16	0.07	0.44		0.23	0.31
			0.54	J	0.16	0.07	0.34	U	0.13	0.05	0.53		0.23	0.33
			0.34	J	0.13	0.08	0.33	U	0.12	0.06	0.26	U	0.21	0.31
			0.22	J	0.10	0.09	0.35	U	0.12	0.03	0.217		0.089	0.14
			0.49	J	0.15	0.07	0.43	J	0.14	0.04	0.37		0.13	0.19
			0.33	J	0.12	0.07	0.28	U	0.11	0.03	0.43		0.17	0.19

Table G-3
Post-Excavation IR Site 1 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.36	J	0.13	0.06	0.46	J	0.14	0.04	0.23	U	0.23	0.37
			0.36	J	0.13	0.07	0.32	U	0.12	0.07	0.26	U	0.21	0.31
			0.28	J	0.13	0.11	0.43	J	0.15	0.09	0.39		0.11	0.14
			0.26	J	0.11	0.08	0.37	U	0.13	0.06	0.27		0.18	0.25
			0.48	J	0.18	0.11	0.54	J	0.19	0.11	0.21	U	0.19	0.30
			0.44	J	0.15	0.08	0.52	J	0.16	0.03	0.46		0.16	0.22
			0.40	J	0.14	0.08	0.37	U	0.13	0.05	0.47		0.25	0.32
			0.42	J	0.15	0.09	0.38	U	0.14	0.06	0.39		0.24	0.32
			0.54	J	0.17	0.09	0.51	J	0.17	0.03	0.39		0.12	0.17
			0.34	J	0.12	0.06	0.31	U	0.12	0.04	0.0	U	0.11	0.21
U	0.25	0.40	0.29	J	0.12	0.09	0.37	U	0.13	0.05	0.38		0.21	0.28
			0.33	J	0.12	0.08	0.60	J	0.17	0.04	0.37		0.15	0.27
			0.34	J	0.12	0.08	0.40	J	0.13	0.04	0.29		0.17	0.23
U	0.39	0.69	0.46	J	0.15	0.08	0.54	J	0.16	0.06	0.42		0.15	0.25
			0.44	J	0.14	0.09	0.42	J	0.13	0.06	0.46		0.26	0.35

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.27	J	0.11	0.05	-0.0071	U	0.008	0.068	0.35	J	0.12	0.05
0.32	J	0.12	0.05	0.014	U	0.027	0.037	0.36	J	0.13	0.05
0.37	J	0.12	0.04	0.0	U	0.011	0.033	0.29	J	0.11	0.04
0.25	J	0.11	0.06	-0.0049	U	0.007	0.064	0.24	J	0.10	0.06
0.28	J	0.11	0.07	0.011	U	0.027	0.056	0.31	J	0.12	0.04
0.37	J	0.13	0.06	0.011	U	0.028	0.058	0.27	J	0.11	0.05
0.36	J	0.13	0.06	0.025	U	0.036	0.034	0.26	J	0.11	0.04
0.14	U	0.40	0.83	0.10	U	0.34	0.82	0.46	U	0.54	0.72
0.31	J	0.11	0.07	0.033	U	0.041	0.050	0.39	J	0.13	0.08
0.37	J	0.12	0.05	0.019	U	0.034	0.058	0.34	J	0.12	0.07
0.43	J	0.14	0.06	0.029	U	0.041	0.039	0.38	J	0.13	0.05
0.46	J	0.14	0.04	0.10	J	0.069	0.048	0.45	J	0.13	0.02
0.45	J	0.14	0.05	0.010	U	0.026	0.054	0.31	J	0.12	0.03
0.52	J	0.16	0.07	0.025	U	0.039	0.058	0.50	J	0.16	0.06
0.42	J	0.14	0.06	0.025	U	0.035	0.034	0.34	J	0.12	0.04
0.45	J	0.14	0.05	0.034	U	0.046	0.064	0.55	J	0.16	0.03
0.32	J	0.12	0.07	0.010	U	0.026	0.055	0.28	J	0.11	0.04
0.32	J	0.12	0.05	0.035	U	0.044	0.054	0.24	J	0.10	0.04
0.40	J	0.13	0.05	0.047	U	0.049	0.052	0.46	J	0.14	0.03
0.33	J	0.12	0.06	0.025	U	0.035	0.033	0.27	J	0.11	0.04
0.36	J	0.12	0.05	0.044	U	0.049	0.060	0.30	J	0.11	0.03
0.45	J	0.14	0.07	0.036	U	0.045	0.055	0.50	J	0.15	0.04
0.36	J	0.13	0.06	-0.0025	U	0.004	0.056	0.31	J	0.12	0.04
0.38	J	0.13	0.06	0.012	U	0.024	0.033	0.32	J	0.11	0.04
0.49	J	0.14	0.06	0.061	J	0.054	0.053	0.28	J	0.10	0.04
0.27	J	0.10	0.05	0.015	U	0.031	0.058	0.266	J	0.099	0.037
0.27	J	0.11	0.04	0.010	U	0.025	0.052	0.40	J	0.13	0.05
0.35	J	0.12	0.05	0.016	U	0.033	0.062	0.33	J	0.11	0.05
0.277	J	0.093	0.035	0.027	J	0.031	0.024	0.285	J	0.094	0.030
0.32	J	0.11	0.04	0.004	U	0.021	0.055	0.250	J	0.094	0.040
0.39	J	0.14	0.07	0.025	U	0.040	0.059	0.31	J	0.12	0.07
0.222	J	0.096	0.048	0.044	U	0.049	0.060	0.32	J	0.12	0.03
0.27	J	0.11	0.05	0.020	U	0.035	0.059	0.213	U	0.092	0.026
0.29	J	0.10	0.05	0.018	U	0.028	0.042	0.258	J	0.093	0.034
0.34	J	0.11	0.04	-0.0018	U	0.003	0.041	0.36	J	0.11	0.03
0.35	J	0.12	0.06	0.012	U	0.024	0.033	0.45	J	0.14	0.04
0.33	J	0.11	0.05	0.006	U	0.020	0.046	0.34	J	0.11	0.03
0.30	J	0.11	0.05	0.005	U	0.024	0.061	0.37	J	0.12	0.04
0.38	J	0.12	0.04	0.021	U	0.033	0.049	0.35	J	0.12	0.04
0.25	J	0.10	0.05	0.005	U	0.026	0.066	0.29	J	0.11	0.05
0.39	J	0.13	0.05	0.024	U	0.035	0.033	0.36	J	0.12	0.04
0.42	J	0.14	0.06	0.006	U	0.027	0.070	0.49	J	0.15	0.04
0.44	J	0.12	0.04	0.0	U	0.008	0.025	0.289	J	0.097	0.037
0.28	J	0.10	0.04	0.046	J	0.046	0.031	0.29	J	0.11	0.04
0.30	J	0.11	0.06	0.018	U	0.033	0.056	0.214	J	0.091	0.049

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.178	J	0.083	0.049	0.035	J	0.041	0.032	0.26	J	0.10	0.04
0.37	J	0.13	0.04	0.035	U	0.044	0.054	0.24	J	0.10	0.05
0.41	J	0.13	0.07	0.021	U	0.033	0.049	0.30	J	0.11	0.07
0.28	J	0.11	0.05	0.020	U	0.035	0.059	0.48	J	0.14	0.07
0.34	J	0.12	0.05	0.009	U	0.024	0.050	0.34	J	0.12	0.04
0.43	J	0.13	0.04	0.009	U	0.023	0.048	0.30	J	0.11	0.02
0.22	J	0.10	0.07	0.037	U	0.046	0.056	0.203	U	0.096	0.061
0.45	J	0.15	0.06	0.025	U	0.040	0.060	0.48	J	0.15	0.03
0.32	J	0.12	0.06	0.0	U	0.011	0.035	0.27	J	0.11	0.04
0.41	J	0.13	0.05	0.020	U	0.036	0.061	0.43	J	0.14	0.03
0.27	J	0.11	0.07	-0.0025	U	0.005	0.056	0.26	J	0.11	0.05
0.46	J	0.14	0.06	0.010	U	0.026	0.055	0.29	J	0.11	0.04
0.24	J	0.10	0.06	0.039	J	0.045	0.035	0.43	J	0.14	0.04
0.26	J	0.11	0.06	0.020	U	0.035	0.060	0.34	J	0.12	0.04
0.206	J	0.094	0.054	0.031	U	0.044	0.068	0.33	J	0.12	0.04
0.31	J	0.12	0.04	0.023	U	0.037	0.055	0.35	J	0.13	0.05
0.50	J	0.15	0.08	0.035	U	0.043	0.053	0.35	J	0.13	0.08
0.26	J	0.11	0.04	0.010	U	0.026	0.054	0.29	J	0.11	0.05
0.197	J	0.087	0.045	0.0	U	0.009	0.031	0.32	J	0.11	0.04
0.40	J	0.14	0.07	0.049	U	0.054	0.066	0.31	J	0.12	0.05
0.31	J	0.12	0.05	0.014	U	0.027	0.037	0.25	J	0.11	0.05
0.53	J	0.15	0.05	0.023	U	0.036	0.054	0.45	J	0.14	0.04
0.29	J	0.11	0.04	0.012	U	0.024	0.032	0.26	J	0.10	0.04
0.60	J	0.18	0.08	0.025	U	0.044	0.075	0.86	J	0.22	0.07
0.64	J	0.18	0.07	0.026	U	0.041	0.062	0.48	J	0.16	0.06
0.58	J	0.17	0.07	0.029	U	0.041	0.040	0.42	J	0.15	0.05
0.33	J	0.13	0.07	-0.0050	U	0.007	0.066	0.40	J	0.14	0.05
0.28	J	0.13	0.07	0.007	U	0.036	0.092	0.20	J	0.11	0.06
0.35	J	0.12	0.04	0.010	U	0.025	0.053	0.30	J	0.11	0.05
0.52	J	0.16	0.05	0.059	U	0.060	0.072	0.60	J	0.17	0.05
0.34	J	0.13	0.05	0.024	U	0.038	0.057	0.36	J	0.13	0.03
0.36	J	0.13	0.05	0.033	U	0.045	0.062	0.40	J	0.13	0.03
0.59	J	0.17	0.06	0.011	U	0.027	0.057	0.52	J	0.16	0.05
0.27	J	0.11	0.06	0.012	U	0.024	0.033	0.35	J	0.12	0.04
0.39	J	0.13	0.06	-0.0045	U	0.006	0.058	0.49	J	0.14	0.04
0.28	J	0.11	0.05	0.017	U	0.035	0.065	0.34	J	0.12	0.04
0.27	J	0.11	0.04	-0.0024	U	0.004	0.055	0.36	J	0.13	0.05
0.29	J	0.11	0.05	0.006	U	0.028	0.072	0.33	J	0.12	0.05
0.59	J	0.16	0.05	0.038	J	0.044	0.034	0.50	J	0.15	0.04
0.62	J	0.16	0.04	0.012	U	0.024	0.033	0.43	J	0.14	0.04
0.30	J	0.12	0.05	0.027	U	0.039	0.037	0.28	J	0.11	0.05
0.30	J	0.12	0.06	0.013	U	0.026	0.035	0.27	J	0.11	0.05
0.199	J	0.092	0.043	0.075	J	0.062	0.034	0.29	J	0.11	0.04
0.38	J	0.14	0.08	0.040	U	0.053	0.074	0.31	J	0.13	0.07
0.38	J	0.14	0.06	0.015	U	0.031	0.042	0.28	J	0.12	0.05

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.55	J	0.18	0.06	0.013	U	0.033	0.070	0.45	J	0.16	0.07
0.38	J	0.14	0.08	0.051	U	0.054	0.057	0.26	J	0.11	0.09
0.44	J	0.15	0.07	0.040	U	0.053	0.074	0.54	J	0.17	0.09
0.040	J	0.014	0.005	0.0091	J	0.007	0.0057	0.035	J	0.013	0.005
0.34	J	0.12	0.04	0.044	U	0.046	0.049	0.34	J	0.12	0.02
0.29	J	0.11	0.06	0.008	U	0.026	0.061	0.35	J	0.12	0.05
0.31	J	0.12	0.05	0.039	U	0.049	0.059	0.38	J	0.13	0.05
0.26	J	0.10	0.06	0.024	U	0.034	0.032	0.35	J	0.12	0.04
0.31	J	0.12	0.05	0.045	U	0.051	0.061	0.27	J	0.11	0.03
0.40	J	0.14	0.07	0.011	U	0.027	0.057	0.46	J	0.15	0.05
0.64	J	0.17	0.05	0.036	U	0.044	0.054	0.47	J	0.14	0.04
0.38	J	0.13	0.06	0.024	U	0.033	0.032	0.38	J	0.12	0.04
0.26	J	0.11	0.05	0.028	U	0.039	0.037	0.33	J	0.12	0.05
0.24	J	0.10	0.06	0.006	U	0.027	0.069	0.35	J	0.12	0.04
0.30	J	0.11	0.04	-0.0023	U	0.004	0.053	0.36	J	0.13	0.05
0.75	J	0.19	0.05	0.032	U	0.046	0.070	0.59	J	0.16	0.05
0.35	J	0.12	0.04	0.074	J	0.060	0.033	0.30	J	0.11	0.04
0.48	J	0.15	0.07	0.039	U	0.049	0.060	0.47	J	0.15	0.07
0.30	J	0.11	0.06	0.061	J	0.055	0.033	0.29	J	0.11	0.04
0.30	J	0.11	0.05	0.021	U	0.036	0.062	0.30	J	0.11	0.03
0.27	J	0.11	0.06	0.022	U	0.035	0.052	0.175	J	0.085	0.042
0.175	J	0.087	0.054	0.010	U	0.025	0.053	0.189	J	0.089	0.043
0.45	J	0.14	0.06	0.025	U	0.036	0.034	0.38	J	0.13	0.04
0.38	J	0.13	0.06	0.008	U	0.025	0.059	0.39	J	0.13	0.04
0.231	J	0.099	0.053	-0.0069	U	0.008	0.066	0.224	J	0.096	0.042
0.41	J	0.13	0.05	0.013	U	0.026	0.035	0.193	J	0.091	0.044
0.202	J	0.090	0.051	0.012	U	0.023	0.032	0.222	J	0.094	0.046
0.206	J	0.095	0.044	0.0	U	0.011	0.035	0.28	J	0.11	0.04
0.38	J	0.13	0.06	0.020	U	0.036	0.061	0.36	J	0.12	0.05
0.34	J	0.13	0.06	0.058	J	0.058	0.039	0.23	J	0.10	0.05
0.41	J	0.14	0.05	0.024	U	0.037	0.056	0.35	J	0.13	0.05
0.24	J	0.11	0.08	0.023	U	0.037	0.055	0.35	J	0.13	0.08
0.43	J	0.16	0.07	0.030	U	0.048	0.072	0.30	J	0.13	0.04
0.35	J	0.14	0.07	0.045	U	0.060	0.084	0.28	J	0.13	0.04
0.28	J	0.12	0.07	-0.0025	U	0.005	0.058	0.172	J	0.088	0.046
0.31	J	0.12	0.06	0.063	J	0.059	0.055	0.29	J	0.11	0.04
0.33	J	0.12	0.06	0.011	U	0.027	0.058	0.33	J	0.12	0.05
0.36	J	0.12	0.06	0.007	U	0.025	0.059	0.26	J	0.10	0.04
0.143	J	0.078	0.053	0.018	U	0.036	0.066	0.235	J	0.099	0.042
0.97	J	0.22	0.05	0.066	J	0.061	0.058	0.42	J	0.14	0.05
0.213	J	0.096	0.064	0.020	U	0.035	0.060	0.183	J	0.086	0.041
0.24	J	0.10	0.04	-0.0024	U	0.004	0.054	0.30	J	0.11	0.05
0.33	J	0.12	0.05	0.042	U	0.050	0.066	0.25	J	0.10	0.05
0.40	J	0.13	0.05	0.013	U	0.026	0.036	0.28	J	0.11	0.04
0.29	J	0.11	0.04	0.012	U	0.024	0.033	0.36	J	0.12	0.04

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.24	J	0.10	0.06	0.008	U	0.027	0.063	0.26	J	0.11	0.06
0.221	J	0.099	0.056	0.0	U	0.012	0.036	0.30	J	0.11	0.04
0.33	J	0.12	0.04	0.047	U	0.049	0.052	0.33	J	0.12	0.05
0.50	J	0.15	0.08	0.034	U	0.042	0.051	0.52	J	0.15	0.08
0.27	J	0.11	0.06	0.008	U	0.027	0.065	0.29	J	0.12	0.08
0.28	J	0.11	0.05	0.024	U	0.037	0.056	0.25	J	0.10	0.04
0.25	J	0.10	0.04	0.035	U	0.043	0.053	0.30	J	0.11	0.03
0.67	J	0.18	0.05	0.035	U	0.046	0.064	0.47	J	0.15	0.05
0.70	J	0.18	0.05	0.036	U	0.045	0.055	0.56	J	0.16	0.04
0.70	J	0.19	0.07	0.012	U	0.029	0.061	0.68	J	0.19	0.03
0.53	J	0.16	0.06	0.048	U	0.054	0.065	0.52	J	0.16	0.07
0.32	J	0.13	0.08	0.070	J	0.063	0.038	0.45	J	0.15	0.07
0.39	J	0.14	0.07	0.026	U	0.041	0.061	0.34	J	0.13	0.06
0.85	J	0.21	0.08	0.020	U	0.040	0.075	0.82	J	0.21	0.09
0.58	J	0.16	0.05	0.008	U	0.026	0.062	0.46	J	0.14	0.06
0.25	J	0.10	0.05	-0.0023	U	0.004	0.052	0.36	J	0.12	0.04
0.53	J	0.14	0.04	0.011	U	0.022	0.030	0.48	J	0.14	0.04
0.27	U	0.10	0.04	0.024	U	0.034	0.032	0.36	J	0.12	0.04
0.25	U	0.10	0.06	0.020	U	0.035	0.060	0.30	J	0.11	0.05
0.29	J	0.11	0.05	0.0	U	0.011	0.033	0.223	J	0.096	0.048
0.34	J	0.12	0.04	0.012	U	0.024	0.033	0.42	J	0.13	0.04
0.28	U	0.10	0.06	-0.0043	U	0.006	0.056	0.223	J	0.093	0.049
0.46	J	0.14	0.06	0.027	U	0.038	0.037	0.39	J	0.13	0.04
0.25	U	0.11	0.05	0.024	U	0.037	0.055	0.30	J	0.12	0.05
0.31	J	0.12	0.08	0.011	U	0.026	0.055	0.27	J	0.11	0.08
0.51	J	0.16	0.06	-0.0053	U	0.007	0.069	0.35	J	0.13	0.08
0.29	J	0.11	0.05	0.010	U	0.026	0.054	0.35	J	0.12	0.04
0.35	J	0.12	0.05	0.013	U	0.026	0.035	0.44	J	0.14	0.04
0.35	J	0.12	0.04	-0.0023	U	0.004	0.053	0.174	J	0.085	0.049
0.35	J	0.13	0.05	0.032	U	0.046	0.070	0.31	J	0.12	0.05
0.37	J	0.13	0.06	0.01	U	0.025	0.052	0.43	J	0.14	0.05
0.38	J	0.13	0.05	0.038	J	0.044	0.034	0.32	J	0.12	0.04
0.35	J	0.12	0.04	0.0	U	0.010	0.032	0.35	J	0.12	0.04
0.37	J	0.13	0.08	0.034	U	0.042	0.051	0.25	J	0.10	0.08
0.33	J	0.12	0.06	0.019	U	0.034	0.058	0.25	J	0.10	0.05
0.37	J	0.13	0.05	0.008	U	0.026	0.061	0.28	J	0.11	0.07
0.34	J	0.12	0.06	0.011	U	0.023	0.031	0.34	J	0.12	0.04
0.53	J	0.15	0.06	0.007	U	0.024	0.056	0.35	J	0.12	0.04
0.24	J	0.10	0.05	0.010	U	0.025	0.053	0.28	J	0.11	0.04
0.39	J	0.13	0.05	0.005	U	0.026	0.066	0.27	J	0.11	0.04
0.40	J	0.13	0.04	0.021	U	0.034	0.050	0.31	J	0.11	0.03
0.30	J	0.11	0.05	0.010	U	0.026	0.053	0.32	J	0.12	0.03
0.24	J	0.10	0.06	0.025	U	0.035	0.033	0.33	J	0.12	0.04
0.45	J	0.14	0.04	0.01	U	0.025	0.051	0.34	J	0.12	0.05
0.31	J	0.10	0.04	-0.0056	U	0.006	0.053	0.30	J	0.10	0.04

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.43	J	0.13	0.05	0.024	U	0.034	0.032	0.38	J	0.12	0.04
0.28	J	0.11	0.06	0.013	U	0.026	0.036	0.36	J	0.12	0.04
0.31	J	0.11	0.05	0.008	U	0.026	0.061	0.27	J	0.11	0.03
0.27	J	0.11	0.07	0.036	U	0.044	0.054	0.201	J	0.092	0.043
0.210	J	0.096	0.075	0.01	U	0.024	0.051	0.30	J	0.11	0.08
0.34	J	0.12	0.06	0.021	U	0.037	0.063	0.40	J	0.14	0.07
0.30	J	0.12	0.06	0.049	U	0.052	0.055	0.26	J	0.10	0.04
0.29	J	0.12	0.06	0.013	U	0.026	0.035	0.39	J	0.13	0.04
0.38	J	0.13	0.05	0.023	U	0.036	0.054	0.32	J	0.12	0.04
0.36	J	0.12	0.04	0.047	U	0.050	0.052	0.27	J	0.11	0.03
0.34	J	0.12	0.05	0.037	U	0.046	0.056	0.26	J	0.11	0.03
0.38	J	0.13	0.06	0.063	J	0.059	0.056	0.39	J	0.13	0.06
0.37	J	0.13	0.07	0.020	U	0.036	0.061	0.49	J	0.15	0.04
0.28	J	0.11	0.06	0.034	J	0.039	0.030	0.33	J	0.11	0.04
0.37	J	0.12	0.05	0.029	U	0.042	0.065	0.29	J	0.11	0.04
0.37	J	0.12	0.05	0.032	U	0.043	0.059	0.35	J	0.12	0.03
0.215	J	0.099	0.067	0.023	U	0.037	0.055	0.24	J	0.10	0.04
0.34	J	0.12	0.06	0.049	U	0.051	0.054	0.58	J	0.16	0.04
0.26	J	0.10	0.04	-0.0022	U	0.004	0.051	0.30	J	0.11	0.05
0.33	J	0.12	0.05	-0.0073	U	0.008	0.070	0.32	J	0.12	0.05
0.29	J	0.12	0.05	0.040	J	0.046	0.036	0.24	J	0.10	0.05
0.30	J	0.11	0.06	0.024	U	0.034	0.033	0.25	J	0.10	0.04
0.27	J	0.10	0.05	0.035	J	0.041	0.032	0.36	J	0.12	0.05
0.34	J	0.12	0.06	0.043	U	0.048	0.058	0.30	J	0.11	0.04
0.32	J	0.12	0.05	-0.0069	U	0.008	0.066	0.196	J	0.090	0.042
0.37	J	0.13	0.04	0.023	U	0.037	0.055	0.41	J	0.14	0.05
0.27	J	0.11	0.04	0.024	U	0.034	0.033	0.242	J	0.099	0.041
0.31	J	0.12	0.05	0.031	U	0.045	0.069	0.25	J	0.10	0.05
0.220	J	0.097	0.050	0.023	U	0.036	0.054	0.26	J	0.11	0.03
0.220	J	0.096	0.043	0.025	U	0.036	0.034	0.27	J	0.11	0.04
0.38	J	0.13	0.06	0.044	U	0.050	0.060	0.24	J	0.10	0.05
0.32	J	0.11	0.05	0.024	U	0.034	0.032	0.170	J	0.082	0.041
0.38	J	0.13	0.06	0.023	U	0.033	0.031	0.43	J	0.13	0.04
0.35	J	0.12	0.05	0.019	U	0.035	0.059	0.33	J	0.12	0.03
0.38	J	0.13	0.07	0.037	U	0.046	0.056	0.52	J	0.15	0.05
0.52	J	0.15	0.06	0.048	U	0.051	0.054	0.93	J	0.21	0.04
0.25	J	0.10	0.06	0.031	U	0.042	0.058	0.31	J	0.11	0.05
0.33	J	0.12	0.06	0.019	U	0.033	0.056	0.40	J	0.13	0.05
0.27	J	0.11	0.06	0.025	U	0.035	0.034	0.38	J	0.13	0.04
0.29	J	0.11	0.05	0.026	U	0.037	0.036	0.171	J	0.085	0.043
0.47	J	0.15	0.04	0.010	U	0.026	0.055	0.26	J	0.11	0.05
0.42	J	0.14	0.07	0.020	U	0.036	0.061	0.30	J	0.11	0.04
0.193	J	0.088	0.051	0.017	U	0.034	0.063	0.215	J	0.092	0.040
0.31	J	0.11	0.04	0.022	U	0.035	0.052	0.27	J	0.11	0.05
0.29	J	0.11	0.05	0.005	U	0.025	0.064	0.33	J	0.12	0.05

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.43	J	0.14	0.05	0.047	U	0.050	0.053	0.47	J	0.14	0.04
0.38	J	0.29	0.31	0.0	UJ	0.051	0.16	0.39	J	0.29	0.30
0.61	J	0.16	0.05	0.025	U	0.035	0.034	0.34	J	0.12	0.04
0.39	J	0.12	0.05	0.0	U	0.009	0.031	0.49	J	0.14	0.04
0.62	J	0.16	0.04	0.012	U	0.024	0.033	0.40	J	0.13	0.04
0.24	J	0.10	0.05	0.023	U	0.036	0.053	0.31	J	0.12	0.03
0.30	J	0.11	0.05	0.020	U	0.036	0.060	0.30	J	0.12	0.07
0.37	J	0.12	0.04	0.032	U	0.040	0.049	0.257	J	0.099	0.025
0.28	J	0.11	0.06	0.024	U	0.034	0.033	0.33	J	0.12	0.04
0.48	J	0.15	0.05	0.022	U	0.035	0.053	0.48	J	0.14	0.04
0.62	J	0.17	0.06	0.050	J	0.051	0.034	0.56	J	0.16	0.04
0.39	J	0.13	0.06	0.020	U	0.035	0.059	0.34	J	0.12	0.04
0.43	J	0.14	0.05	0.018	U	0.036	0.067	0.40	J	0.13	0.04
0.28	J	0.11	0.07	0.011	U	0.027	0.057	0.36	J	0.13	0.05
0.95	J	0.22	0.06	-0.0026	U	0.005	0.058	0.76	J	0.19	0.05
0.35	J	0.17	0.08	-0.0046	U	0.009	0.10	0.35	J	0.17	0.1
0.42	J	0.13	0.06	0.012	U	0.024	0.033	0.39	J	0.13	0.04
0.17	J	0.12	0.1	0.048	U	0.069	0.066	0.29	J	0.15	0.08
0.50	J	0.15	0.07	-0.0047	U	0.006	0.062	0.32	J	0.12	0.04
0.202	J	0.095	0.056	0.006	U	0.027	0.070	0.27	J	0.11	0.04
0.30	J	0.12	0.05	-0.0025	U	0.005	0.057	0.209	J	0.097	0.052
0.26	J	0.11	0.05	0.019	U	0.039	0.072	0.32	J	0.12	0.05
0.224	J	0.097	0.048	0.012	U	0.025	0.033	0.32	J	0.12	0.04
0.44	J	0.18	0.1	0.023	U	0.047	0.063	0.46	J	0.19	0.08
0.38	J	0.13	0.04	0.037	J	0.042	0.033	0.32	J	0.12	0.04
0.45	J	0.20	0.09	0.0	U	0.022	0.070	0.33	J	0.17	0.09
0.19	J	0.13	0.13	-0.01	U	0.014	0.13	0.23	J	0.14	0.11
0.57	J	0.16	0.03	0.038	J	0.044	0.034	0.48	J	0.15	0.05
0.28	J	0.15	0.10	0.0	U	0.021	0.065	0.19	J	0.12	0.1
0.53	J	0.15	0.05	0.022	U	0.035	0.052	0.56	J	0.16	0.03
0.48	J	0.21	0.11	0.079	J	0.092	0.072	0.26	J	0.15	0.09
0.43	J	0.14	0.06	0.045	U	0.050	0.061	0.38	J	0.13	0.05
0.27	J	0.11	0.05	0.078	J	0.064	0.035	0.27	J	0.11	0.04
0.47	J	0.20	0.09	0.021	U	0.053	0.11	0.31	J	0.17	0.10
0.35	J	0.11	0.04	0.019	U	0.031	0.045	0.33	J	0.11	0.04
0.41	J	0.14	0.05	0.011	U	0.027	0.056	0.42	J	0.14	0.05
0.42	J	0.19	0.14	0.087	U	0.092	0.097	0.36	J	0.18	0.15
0.32	J	0.12	0.08	0.010	U	0.025	0.053	0.26	J	0.11	0.08
0.60	J	0.17	0.03	0.036	U	0.045	0.055	0.54	J	0.16	0.03
0.41	J	0.14	0.06	-0.0052	U	0.007	0.068	0.34	J	0.13	0.08
0.44	J	0.20	0.11	0.043	U	0.076	0.13	0.56	J	0.23	0.15
0.38	J	0.13	0.07	0.025	U	0.035	0.033	0.27	J	0.11	0.07
0.32	J	0.12	0.05	0.010	U	0.025	0.053	0.34	J	0.12	0.04
0.32	J	0.11	0.04	0.01	U	0.024	0.050	0.40	J	0.13	0.03
0.53	J	0.15	0.05	0.032	U	0.043	0.061	0.38	J	0.13	0.06

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.45	J	0.14	0.05	0.010	U	0.025	0.053	0.33	J	0.12	0.03
0.53	J	0.15	0.05	0.021	U	0.034	0.050	0.39	J	0.13	0.04
0.41	J	0.13	0.04	0.025	U	0.036	0.034	0.36	J	0.12	0.04
0.48	J	0.15	0.06	0.011	U	0.027	0.056	0.45	J	0.14	0.04
0.38	J	0.13	0.04	0.036	U	0.045	0.054	0.25	J	0.10	0.05
0.24	J	0.11	0.07	0.054	U	0.057	0.060	0.173	J	0.092	0.066
0.37	J	0.13	0.07	-0.0022	U	0.004	0.051	0.44	J	0.14	0.07
0.26	J	0.11	0.05	0.049	U	0.055	0.066	0.38	J	0.13	0.03
0.56	J	0.16	0.08	0.060	J	0.056	0.053	0.44	J	0.14	0.08
0.46	J	0.14	0.06	0.025	U	0.035	0.034	0.50	J	0.15	0.04
0.27	J	0.11	0.05	0.010	U	0.025	0.053	0.27	J	0.11	0.04
0.42	J	0.13	0.05	0.068	J	0.060	0.059	0.45	J	0.14	0.07
0.35	J	0.12	0.07	0.010	U	0.026	0.054	0.42	J	0.14	0.04
0.19	J	0.10	0.06	-0.0029	U	0.005	0.066	0.41	J	0.15	0.05
0.27	J	0.10	0.04	-0.0022	U	0.004	0.049	0.32	J	0.11	0.03
0.41	J	0.13	0.06	0.013	U	0.025	0.034	0.31	J	0.12	0.04
0.49	J	0.15	0.05	0.023	U	0.036	0.053	0.53	J	0.15	0.03
0.39	J	0.13	0.06	0.042	U	0.046	0.056	0.36	J	0.12	0.04
0.41	J	0.14	0.06	0.051	U	0.054	0.057	0.33	J	0.12	0.05
0.36	J	0.13	0.06	0.024	U	0.037	0.055	0.39	J	0.13	0.06
0.35	J	0.12	0.06	0.012	U	0.024	0.032	0.218	J	0.094	0.041
0.28	J	0.11	0.06	0.019	U	0.033	0.056	0.28	J	0.11	0.04
0.32	J	0.12	0.06	-0.0073	U	0.008	0.070	0.32	J	0.12	0.04
0.31	J	0.12	0.06	0.026	U	0.036	0.035	0.40	J	0.13	0.04
0.35	J	0.12	0.06	0.006	U	0.027	0.070	0.32	J	0.12	0.04
0.34	J	0.13	0.05	0.022	U	0.039	0.066	0.42	J	0.14	0.03
0.30	J	0.11	0.04	0.010	U	0.026	0.054	0.40	J	0.13	0.05
0.39	J	0.13	0.04	0.085	J	0.067	0.053	0.47	J	0.14	0.05
0.39	J	0.13	0.05	0.005	U	0.025	0.065	0.239	J	0.099	0.048
0.178	J	0.090	0.052	-0.0075	U	0.008	0.072	0.209	J	0.097	0.052
0.214	J	0.097	0.051	0.065	J	0.058	0.035	0.28	J	0.11	0.04
0.55	J	0.16	0.06	0.027	U	0.038	0.036	0.35	J	0.13	0.05
0.44	J	0.14	0.05	0.013	U	0.026	0.035	0.51	J	0.15	0.04
0.22	J	0.11	0.05	0.026	U	0.042	0.062	0.29	J	0.12	0.06
0.47	J	0.14	0.06	-0.0047	U	0.006	0.062	0.35	J	0.12	0.05
0.34	J	0.14	0.07	0.043	U	0.057	0.079	0.40	J	0.15	0.09
0.36	J	0.13	0.05	0.041	J	0.048	0.037	0.35	J	0.13	0.05
0.54	J	0.16	0.07	0.051	U	0.057	0.070	0.22	J	0.10	0.06
0.21	J	0.10	0.06	0.028	U	0.044	0.065	0.29	J	0.12	0.05
0.22	J	0.10	0.05	0.011	U	0.029	0.060	0.28	J	0.11	0.03
0.34	J	0.13	0.08	0.079	J	0.065	0.035	0.42	J	0.14	0.05
0.31	J	0.13	0.07	0.009	U	0.031	0.073	0.31	J	0.13	0.07
0.85	J	0.20	0.06	0.063	J	0.059	0.055	0.65	J	0.17	0.03
0.28	J	0.13	0.07	0.034	U	0.049	0.046	0.28	J	0.12	0.06
0.51	J	0.15	0.06	0.022	U	0.035	0.053	0.41	J	0.13	0.05

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.39	J	0.14	0.09	0.025	U	0.040	0.059	0.37	J	0.14	0.09
0.33	J	0.14	0.08	0.011	U	0.036	0.086	0.35	J	0.14	0.07
0.35	J	0.14	0.08	0.013	U	0.033	0.069	0.42	J	0.15	0.04
0.36	J	0.14	0.06	0.024	U	0.042	0.072	0.56	J	0.17	0.08
0.41	J	0.16	0.04	0.016	U	0.040	0.083	0.45	J	0.17	0.07
0.35	J	0.14	0.06	0.044	U	0.055	0.067	0.47	J	0.16	0.05
0.54	J	0.17	0.06	-0.0028	U	0.005	0.065	0.57	J	0.17	0.03
0.27	J	0.12	0.06	-0.0031	U	0.006	0.070	0.21	J	0.11	0.04
0.51	J	0.16	0.07	0.011	U	0.027	0.056	0.55	J	0.16	0.06
0.25	J	0.13	0.09	0.016	U	0.041	0.086	0.33	J	0.15	0.08
0.40	J	0.15	0.06	0.012	U	0.031	0.065	0.26	J	0.11	0.03
0.41	J	0.14	0.07	0.015	U	0.029	0.039	0.44	J	0.15	0.05
0.37	J	0.13	0.05	-0.0026	U	0.005	0.058	0.43	J	0.14	0.06
0.36	J	0.14	0.06	-0.0057	U	0.008	0.074	0.35	J	0.13	0.03
0.49	J	0.15	0.07	0.054	J	0.054	0.037	0.42	J	0.14	0.05
0.24	J	0.11	0.07	0.011	U	0.029	0.060	0.36	J	0.13	0.05
0.29	J	0.12	0.06	0.042	U	0.056	0.078	0.36	J	0.14	0.03
0.46	J	0.17	0.06	-0.0069	U	0.009	0.090	0.37	J	0.15	0.04
0.33	J	0.12	0.06	0.022	U	0.034	0.051	0.39	J	0.13	0.05
0.27	J	0.12	0.08	-0.0027	U	0.005	0.062	0.30	J	0.12	0.05
0.42	J	0.16	0.04	0.054	J	0.062	0.048	0.31	J	0.14	0.07
0.074	U	0.062	0.062	-0.0027	U	0.005	0.061	0.31	J	0.12	0.05
0.30	J	0.12	0.07	0.028	U	0.040	0.038	0.22	J	0.10	0.05
0.24	J	0.11	0.07	-0.0053	U	0.007	0.070	0.26	J	0.11	0.05
0.39	J	0.15	0.06	0.060	U	0.064	0.067	0.44	J	0.15	0.03
0.40	J	0.17	0.09	0.050	U	0.073	0.11	0.53	J	0.19	0.07
0.54	J	0.15	0.04	0.047	U	0.050	0.053	0.60	J	0.16	0.05
0.112	U	0.079	0.063	-0.009	U	0.010	0.087	0.31	J	0.13	0.06
0.30	J	0.13	0.06	0.046	J	0.053	0.041	0.31	J	0.13	0.05
0.31	J	0.13	0.04	0.029	U	0.046	0.069	0.35	J	0.14	0.04
0.27	J	0.12	0.07	0.046	J	0.053	0.041	0.20	J	0.10	0.06
0.37	J	0.13	0.05	0.0	U	0.012	0.037	0.28	J	0.11	0.05
0.55	J	0.19	0.1	0.035	U	0.049	0.047	0.33	J	0.14	0.1
0.206	U	0.099	0.067	0.022	U	0.039	0.066	0.22	J	0.10	0.06
0.38	J	0.14	0.03	0.040	U	0.049	0.060	0.43	J	0.15	0.07
0.28	J	0.12	0.06	0.014	U	0.029	0.039	0.26	J	0.11	0.05
0.40	J	0.13	0.06	0.008	U	0.027	0.063	0.31	J	0.12	0.06
0.51	J	0.15	0.06	-0.0025	U	0.004	0.056	0.58	J	0.16	0.04
0.50	J	0.16	0.07	0.01	U	0.031	0.075	0.47	J	0.16	0.07
0.28	J	0.13	0.09	0.10	J	0.082	0.045	0.42	J	0.16	0.08
0.38	J	0.14	0.06	0.025	U	0.040	0.059	0.37	J	0.13	0.05
0.35	J	0.15	0.08	0.011	U	0.037	0.088	0.38	J	0.15	0.08
0.30	J	0.12	0.08	-0.0023	U	0.004	0.053	0.29	J	0.11	0.07
0.48	J	0.17	0.07	-0.0031	U	0.006	0.070	0.55	J	0.18	0.06
0.36	J	0.13	0.05	0.0	U	0.011	0.035	0.30	J	0.11	0.04

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.33	J	0.13	0.06	0.036	U	0.049	0.068	0.26	J	0.11	0.05
0.27	J	0.11	0.07	-0.0025	U	0.005	0.057	0.216	J	0.098	0.029
0.27	J	0.11	0.06	0.01	U	0.025	0.051	0.26	J	0.10	0.05
0.23	J	0.10	0.05	0.036	U	0.045	0.054	0.33	J	0.12	0.06
0.24	J	0.10	0.05	0.0	U	0.011	0.035	0.37	J	0.13	0.04
0.28	J	0.11	0.07	-0.0025	U	0.004	0.056	0.27	J	0.11	0.03
0.140	J	0.077	0.057	-0.0023	U	0.004	0.052	0.29	J	0.11	0.05
0.28	J	0.12	0.07	-0.0030	U	0.006	0.068	0.40	J	0.15	0.05
0.22	J	0.12	0.11	0.014	U	0.035	0.073	0.17	J	0.11	0.1
0.45	J	0.15	0.05	0.024	U	0.038	0.057	0.48	J	0.15	0.06
0.36	J	0.12	0.05	0.032	U	0.043	0.060	0.42	J	0.13	0.05
0.42	J	0.14	0.05	0.022	U	0.035	0.053	0.238	J	0.099	0.027
0.31	J	0.12	0.05	0.011	U	0.028	0.058	0.42	J	0.14	0.05
0.28	J	0.11	0.03	0.035	U	0.043	0.052	0.34	J	0.12	0.03
0.32	J	0.12	0.07	0.009	U	0.028	0.067	0.26	J	0.11	0.07
0.27	J	0.11	0.07	0.038	J	0.044	0.035	0.37	J	0.13	0.06
0.28	J	0.11	0.06	0.010	U	0.026	0.055	0.25	J	0.11	0.06
0.45	J	0.15	0.07	0.026	U	0.041	0.061	0.35	J	0.13	0.03
0.44	J	0.15	0.07	0.006	U	0.028	0.073	0.47	J	0.15	0.09
0.33	J	0.13	0.06	0.054	U	0.057	0.060	0.37	J	0.13	0.07
0.27	J	0.11	0.06	0.035	U	0.047	0.065	0.30	J	0.12	0.06
0.22	J	0.15	0.11	-0.011	U	0.015	0.14	0.24	J	0.15	0.11
0.26	J	0.11	0.03	0.027	U	0.039	0.037	0.28	J	0.11	0.05
0.44	J	0.14	0.05	0.011	U	0.027	0.056	0.38	J	0.13	0.03
0.51	J	0.16	0.05	0.024	U	0.038	0.057	0.59	J	0.17	0.05
0.51	J	0.15	0.03	0.010	U	0.026	0.054	0.37	J	0.13	0.03
0.56	J	0.16	0.06	0.021	U	0.038	0.065	0.62	J	0.17	0.07
0.37	J	0.13	0.07	0.013	U	0.025	0.034	0.30	J	0.12	0.06
0.54	J	0.16	0.07	0.011	U	0.028	0.058	0.49	J	0.15	0.06
0.40	J	0.14	0.08	0.0	U	0.012	0.037	0.31	J	0.12	0.05
0.52	J	0.15	0.06	0.034	U	0.042	0.051	0.44	J	0.13	0.05
0.128	U	0.071	0.046	0.021	U	0.033	0.050	0.218	J	0.094	0.055
0.228	U	0.095	0.045	0.019	U	0.033	0.057	0.42	J	0.13	0.05
0.40	J	0.13	0.03	0.0	U	0.011	0.034	0.25	J	0.10	0.05
0.41	J	0.13	0.05	0.022	U	0.035	0.052	0.34	J	0.12	0.03
0.247	U	0.097	0.044	0.020	U	0.032	0.047	0.33	J	0.11	0.04
0.31	J	0.11	0.03	-0.0023	U	0.004	0.051	0.35	J	0.12	0.03
0.48	J	0.15	0.07	0.037	J	0.043	0.034	0.38	J	0.13	0.07
0.35	J	0.13	0.07	0.013	U	0.026	0.035	0.37	J	0.13	0.06
0.74	J	0.18	0.05	0.035	U	0.043	0.052	0.68	J	0.18	0.06
0.50	J	0.16	0.08	0.034	U	0.050	0.076	0.39	J	0.14	0.09
0.27	J	0.11	0.05	0.035	U	0.044	0.054	0.31	J	0.12	0.04
0.35	J	0.13	0.05	0.022	U	0.039	0.067	0.48	J	0.15	0.05
0.40	J	0.14	0.03	0.027	U	0.038	0.036	0.35	J	0.13	0.05
0.41	J	0.14	0.05	-0.0025	U	0.005	0.057	0.37	J	0.13	0.03

Table G-3
Post-Excavation IR Site 1 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.40	J	0.14	0.06	0.040	U	0.050	0.061	0.41	J	0.14	0.05
0.36	J	0.13	0.03	0.024	U	0.037	0.056	0.38	J	0.13	0.03
0.35	J	0.13	0.06	0.034	U	0.046	0.064	0.29	J	0.12	0.07
0.21	J	0.10	0.07	0.014	U	0.028	0.037	0.20	J	0.10	0.07
0.35	J	0.14	0.08	-0.0030	U	0.006	0.069	0.55	J	0.18	0.07
0.73	J	0.20	0.06	0.039	U	0.052	0.072	0.60	J	0.18	0.07
0.55	J	0.16	0.06	0.025	U	0.039	0.059	0.40	J	0.14	0.05
0.43	J	0.16	0.07	0.013	U	0.034	0.070	0.55	J	0.18	0.06
0.44	J	0.16	0.09	0.058	U	0.061	0.065	0.32	J	0.13	0.09
0.36	J	0.13	0.05	0.0	U	0.011	0.035	0.34	J	0.12	0.04
0.38	J	0.14	0.07	-0.0054	U	0.007	0.071	0.34	J	0.13	0.06
0.39	J	0.14	0.07	0.015	U	0.029	0.039	0.43	J	0.15	0.05
0.42	J	0.13	0.04	0.008	U	0.026	0.061	0.28	J	0.11	0.04
0.48	J	0.15	0.04	0.038	J	0.044	0.034	0.47	J	0.14	0.04
0.33	J	0.12	0.05	0.014	U	0.028	0.037	0.43	J	0.14	0.05

Table G-4
Post-Excavation IR Site 2 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
IR2-160-1a	IR2-160-1a	RANDOM	15-239	10/24/2007	3	3.5	pCi/g	0.38		0.16
IR2-160-1b	IR2-160-1b	RANDOM	15-240	10/24/2007	3.5	4	pCi/g	0.37	U	0.19
IR2-171-1a	IR2-171-1a	RANDOM	15-241	10/24/2007	2	2.5	pCi/g	0.31		0.13
IR2-171-1b	IR2-171-1b	RANDOM	15-242	10/24/2007	2.5	3	pCi/g	0.28	U	0.18
IR2-172-1a	IR2-172-1a	RANDOM	15-243	10/24/2007	2	2.5	pCi/g	0.20	U	0.29
IR2-172-1b	IR2-172-1b	RANDOM	15-244	10/24/2007	2.5	3	pCi/g	0.28	U	0.28
IR2-182-1a	IR2-182-1a	RANDOM	15-245	10/24/2007	2	2.5	pCi/g	0.39		0.15
IR2-182-1b	IR2-182-1b	RANDOM	15-246	10/24/2007	2.5	3	pCi/g	0.41		0.19
IR2-183ABC-1a	IR2-183ABC-1a	RANDOM	15-247	10/25/2007	2	2.5	pCi/g	0.44		0.25
IR2-183ABC-1b	IR2-183ABC-1b	RANDOM	15-248	10/25/2007	2.5	3	pCi/g	0.43		0.22
IR2-187-1a	IR2-187-1a	RANDOM	15-249	10/25/2007	2	2.5	pCi/g	0.55		0.19
IR2-187-1b	IR2-187-1b	RANDOM	15-250	10/25/2007	2.5	3	pCi/g	0.30		0.17
IR2-188AB-1a	IR2-188AB-1a	RANDOM	15-251	10/25/2007	2	2.5	pCi/g	0.35		0.17
IR2-188AB-Ab	IR2-188AB-1b	RANDOM	15-252	10/25/2007	2.5	3	pCi/g	0.37		0.21
IR2-190ABC-1a	IR2-190ABC-1a	RANDOM	15-253	10/25/2007	2	2.5	pCi/g	0.34		0.14
IR2-190ABC-1b	IR2-190ABC-1b	RANDOM	15-254	10/25/2007	2.5	3	pCi/g	0.27	U	0.18
B-2IR-1a	IR2-B-1a	BIASED	15-648	12/13/2007	2	2.5	pCi/g	0.37		0.22
B-2IR-1b	IR2-B-1b	BIASED	15-649	12/13/2007	2.5	3	pCi/g	0.43		0.25
B-2IR-2a	IR2-B-2a	BIASED	15-650	12/13/2007	2	2.5	pCi/g	0.30		0.14
B-2IR-2b	IR2-B-2b	BIASED	15-651	12/13/2007	2.5	3	pCi/g	0.41		0.22
B-2IR-3a	IR2-B-3a	BIASED	15-652	12/13/2007	2	2.5	pCi/g	0.31	U	0.27
B-2IR-3b	IR2-B-3b	BIASED	15-653	12/13/2007	2.5	3	pCi/g	0.38		0.22
B-2IR-4a	IR2-B-4a	BIASED	15-654	12/13/2007	2	2.5	pCi/g	0.24	U	0.21
B-2IR-4b	IR2-B-4b	BIASED	15-655	12/13/2007	2.5	3	pCi/g	0.22	U	0.20
B-2IR-5a	IR2-B-5a	BIASED	15-656	12/13/2007	2	2.5	pCi/g	0.21		0.10
B-2IR-5b	IR2-B-5b	BIASED	15-657	12/13/2007	2.5	3	pCi/g	0.45		0.16
B-2IR-6a	IR2-B-6a	BIASED	15-658	12/14/2007	2	2.5	pCi/g	0.45		0.20
B-2IR-6b	IR2-B-6b	BIASED	15-659	12/14/2007	2.5	3	pCi/g	0.25	U	0.20
B-2IR-7a	IR2-B-7a	BIASED	15-660	12/14/2007	2	2.5	pCi/g	0.85		0.22
B-2IR-7b	IR2-B-7b	BIASED	15-661	12/14/2007	2.5	3	pCi/g	0.45		0.15
B-2IR-8a	IR2-B-8a	BIASED	15-662	12/14/2007	2	2.5	pCi/g	0.47		0.26
B-2IR-8b	IR2-B-8b	BIASED	15-663	12/14/2007	2.5	3	pCi/g	0.29	U	0.23
B-2IR-10a	IR2-B-B-10a	BIASED	15-664	12/14/2007	2	2.5	pCi/g	0.44		0.15
B-2IR-10b	IR2-B-10b	BIASED	15-665	12/14/2007	2.5	3	pCi/g	0.29		0.18
2IR-10-01a	IR2-10-01a	RANDOM	15-666	12/14/2007	0	0.5	pCi/g	0.20		0.14
2IR-10-01b	IR2-10-01b	RANDOM	15-667	12/14/2007	0.5	1	pCi/g	0.35		0.22
2IR-10-2a	IR2-10-02a	RANDOM	15-668	12/14/2007	0	0.5	pCi/g	0.78		0.25
2IR-10-2b	IR2-10-02b	RANDOM	15-669	12/14/2007	0.5	1	pCi/g	0.95		0.26
2IR-10-3a	IR2-10-03a	RANDOM	15-670	12/14/2007	0	0.5	pCi/g	0.24	U	0.20
2IR-10-3b	IR2-10-03b	RANDOM	15-671	12/14/2007	0.5	1	pCi/g	0.26	U	0.21
2IR-10-4a	IR2-10-04a	RANDOM	15-672	12/14/2007	0	0.5	pCi/g	0.35		0.12
B-2IR-232a	IR2-B-232a	BIASED	15-779	12/14/2007	2.5	3	pCi/g	0.34		0.13
2IR-10-4b	IR2-10-04b	RANDOM	15-673	12/14/2007	0.5	1	pCi/g	0.18	U	0.18
B-2IR-232b	IR2-B-232b	BIASED	15-780	12/14/2007	3	3.5	pCi/g	0.18	U	0.16
2IR-10-5a	IR2-10-05a	RANDOM	15-674	12/14/2007	0	0.5	pCi/g	0.30		0.19

Table G-4
Post-Excavation IR Site 2 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
2IR-10-5b	IR2-10-05b	RANDOM	15-675	12/14/2007	0.5	1	pCi/g	0.48		0.17
B-2IR-11Aa	IR2-B-11Aa	BIASED	15-676	12/14/2007	2	2.5	pCi/g	0.28		0.17
B-2IR-11Ab	IR2-B-11Ab	BIASED	15-677	12/14/2007	2.5	3	pCi/g	0.36		0.16
2IR-11A-01a	IR2-11A-01a	RANDOM	15-679	12/14/2007	2	2.5	pCi/g	0.50		0.16
2IR-11A-01b	IR2-11A-01b	RANDOM	15-680	12/14/2007	2.5	3	pCi/g	0.03	U	0.21
B-2IR-188a	IR2-B-188a	BIASED	15-740	12/14/2007	2	2.5	pCi/g	0.32	U	0.23
B-2IR-188b	IR2-B-188b	BIASED	15-741	12/14/2007	2.5	3	pCi/g	0.17	U	0.19
2IR-11A-02a	IR2-11A-02a	RANDOM	15-681	12/14/2007	2	2.5	pCi/g	0.49		0.27
2IR-11A-02b	IR2-11A-02b	RANDOM	15-682	12/14/2007	2.5	3	pCi/g	0.46		0.14
B-2IR-278a	IR2-B-278a	BIASED	15-782	12/14/2007	2	2.5	pCi/g	0.48		0.18
B-2IR-278b	IR2-B-278b	BIASED	15-783	12/14/2007	2.5	3	pCi/g	0.24	U	0.25
B-2IR-11Ba	IR2-B-11Ba	BIASED	15-683	12/14/2007	2	2.5	pCi/g	0.35		0.20
B-2IR-11Bb	IR2-B-11Bb	BIASED	15-684	12/14/2007	2.5	3	pCi/g	0.51		0.18
2IR-11B-01a	IR2-11B-01a	RANDOM	15-685	12/14/2007	2	2.5	pCi/g	0.49		0.22
2IR-11B-01b	IR2-11B-01b	RANDOM	15-686	12/14/2007	2.5	3	pCi/g	0.51		0.27
B-2IR-190a	IR2-B-190a	BIASED	15-743	12/14/2007	2	2.5	pCi/g	0.55		0.13
B-2IR-190b	IR2-B-190b	BIASED	15-744	12/14/2007	2.5	3	pCi/g	0.36		0.21
2IR-278-01a	IR2-278-01a	RANDOM	15-784	12/14/2007	0	0.5	pCi/g	0.43		0.19
2IR-11B-02a	IR2-11B-02a	RANDOM	15-687	12/14/2007	2	2.5	pCi/g	0.54		0.18
2IR-278-01b	IR2-278-01b	RANDOM	15-785	12/14/2007	0.5	1	pCi/g	0.58		0.18
2IR-11B-02b	IR2-11B-02b	RANDOM	15-688	12/14/2007	0.5	1	pCi/g	0.23	U	0.17
2IR-278-02a	IR2-278-02a	RANDOM	15-786	12/14/2007	0	0.5	pCi/g	0.86		0.29
2IR-278-02b	IR2-278-02b	RANDOM	15-787	12/14/2007	0.5	1	pCi/g	0.50		0.19
B-2IR-200a	IR2-B-200a	BIASED	15-745	12/14/2007	2	2.5	pCi/g	0.64		0.24
B-2IR-200b	IR2-B-200b	BIASED	15-746	12/14/2007	2.5	3	pCi/g	0.52		0.15
2IR-200-01a	IR2-200-01a	RANDOM	15-747	12/14/2007	0	0.5	pCi/g	0.25	U	0.24
2IR-200-01b	IR2-200-01b	RANDOM	15-748	12/14/2007	0.5	1	pCi/g	0.60		0.28
B-2IR-12a	IR2-B-12a	BIASED	15-689	12/14/2007	2	2.5	pCi/g	0.34		0.17
2IR-278-03a	IR2-278-03a	RANDOM	15-788	12/14/2007	0	0.5	pCi/g	0.48		0.14
2IR-278-03b	IR2-278-03b	RANDOM	15-789	12/14/2007	0.5	1	pCi/g	0.41		0.15
B-2IR-12b	IR2-B-12b	BIASED	15-690	12/14/2007	2.5	3	pCi/g	0.30		0.19
2IR-12-01a	IR2-12-01a	RANDOM	15-691	12/14/2007	0	0.5	pCi/g	0.33		0.13
2IR-278-04a	IR2-278-04a	RANDOM	15-790	12/14/2007	0	0.5	pCi/g	0.45		0.14
2IR-12-01b	IR2-12-01b	RANDOM	15-692	12/14/2007	0.5	1	pCi/g	0.22	U	0.22
2IR-200-02a	IR2-200-02a	RANDOM	15-749	12/14/2007	0	0.5	pCi/g	0.52		0.26
2IR-278-04b	IR2-278-04b	RANDOM	15-791	12/14/2007	0.5	1	pCi/g	0.48		0.16
2IR-20-02a	IR2-200-02b	RANDOM	15-750	12/14/2007	2.5	3	pCi/g	0.53		0.27
2IR-278-05a	IR2-278-05a	RANDOM	15-792	12/14/2007	0	0.5	pCi/g	0.63		0.12
2IR-12-02a	IR2-12-02a	RANDOM	15-693	12/14/2007	0	0.5	pCi/g	0.42		0.20
2IR-200-03a	IR2-200-03a	RANDOM	15-751	12/14/2007	0	0.5	pCi/g	0.34		0.23
2IR-200-03b	IR2-200-03b	RANDOM	15-752	12/14/2007	0.5	1	pCi/g	0.83		0.25
2IR-278-05b	IR2-278-05b	RANDOM	15-793	12/14/2007	0.5	1	pCi/g	0.65		0.19
2IR-12-02b	IR2-12-02b	RANDOM	15-694	12/14/2007	0.5	1	pCi/g	0.24		0.11
2IR-200-04a	IR2-200-04a	RANDOM	15-753	12/14/2007	0	0.5	pCi/g	0.48		0.17
2IR-200-04b	IR2-200-04b	RANDOM	15-754	12/14/2007	0.5	1	pCi/g	0.30	U	0.23

Table G-4
Post-Excavation IR Site 2 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
2IR-12-03a	IR2-12-03a	RANDOM	15-695	12/14/2007	0	0.5	pCi/g	0.63		0.17
2IR-12-03b	IR2-12-03b	RANDOM	15-696	12/14/2007	0.5	1	pCi/g	0.47		0.18
2IR-278-06a	IR2-278-06a	RANDOM	15-794	12/14/2007	0	0.5	pCi/g	0.22	U	0.17
2IR-12-04a	IR2-12-04a	RANDOM	15-697	12/14/2007	0	0.5	pCi/g	0.36		0.15
2IR-200-05a	IR2-200-05a	RANDOM	15-755	12/14/2007	0	0.5	pCi/g	0.43		0.18
2IR-200-05b	IR2-200-05b	RANDOM	15-756	12/14/2007	0.5	1	pCi/g	0.37		0.12
2IR-278-06b	IR2-278-06b	RANDOM	15-795	12/14/2007	0.5	1	pCi/g	0.43		0.16
2IR-12-04b	IR2-12-04b	RANDOM	15-698	12/14/2007	0.5	1	pCi/g	0.19	U	0.17
2IR-12-05a	IR2-12-05a	RANDOM	15-699	12/14/2007	0	0.5	pCi/g	0.46		0.20
2IR-12-05b	IR2-12-05b	RANDOM	15-700	12/14/2007	0.5	1	pCi/g	0.39		0.14
2IR-278-07a	IR2-278-07a	RANDOM	15-796	12/14/2007	0	0.5	pCi/g	0.52		0.15
2IR-278-07b	IR2-278-07b	RANDOM	15-797	12/14/2007	0.5	1	pCi/g	0.27	U	0.22
2IR-278-08a	IR2-278-08a	RANDOM	15-798	12/14/2007	0	0.5	pCi/g	0.24	U	0.14
2IR-278-08b	IR2-278-08b	RANDOM	15-799	12/14/2007	0.5	1	pCi/g	0.55		0.15
B-2IR-13a	IR2-B-13a	BIASED	15-701	12/14/2007	2	2.5	pCi/g	0.39	U	0.26
B-2IR-13b	IR2-B-13b	BIASED	15-702	12/14/2007	2.5	3	pCi/g	0.33		0.17
2IR-13-01a	IR2-13-01a	RANDOM	15-704	12/14/2007	0	0.5	pCi/g	0.20	U	0.16
B-2IR-230a	IR2-B-230a	BIASED	15-757	12/14/2007	2	2.5	pCi/g	0.27		0.16
2IR-13-01b	IR2-13-01b	RANDOM	15-705	12/14/2007	0.5	1	pCi/g	0.15	U	0.17
B-2IR-230b	IR2-B-230b	BIASED	15-758	12/14/2007	2.5	3	pCi/g	0.24		0.14
2IR-230-01a	IR2-230-01a	RANDOM	15-759	12/14/2007	0	0.5	pCi/g	0.18	U	0.17
2IR-230-01b	IR2-230-01b	RANDOM	15-760	12/14/2007	0.5	1	pCi/g	0.179		0.098
2IR-13-02a	IR2-13-02a	RANDOM	15-706	12/14/2007	2	2.5	pCi/g	0.15	U	0.14
2IR-230-02a	IR2-230-02a	RANDOM	15-761	12/14/2007	0	0.5	pCi/g	0.22	U	0.17
2IR-13-02b	IR2-13-02b	RANDOM	15-707	12/14/2007	2.5	3	pCi/g	0.0	U	0.071
2IR-278-09a	IR2-278-09a	RANDOM	15-800	12/14/2007	0	0.5	pCi/g	0.37		0.14
2IR-230-02b	IR2-230-02b	RANDOM	15-762	12/14/2007	0.5	1	pCi/g	0.06	U	0.14
2IR-278-09b	IR2-278-09b	RANDOM	15-801	12/14/2007	0.5	1	pCi/g	0.44		0.16
2IR-230-03a	IR2-230-03a	RANDOM	15-763	12/14/2007	0	0.5	pCi/g	0.22	U	0.22
2IR-230-03b	IR2-230-03b	RANDOM	15-764	12/14/2007	0.5	1	pCi/g	0.19	U	0.20
2IR-278-10a	IR2-278-10a	RANDOM	15-802	12/14/2007	0	0.5	pCi/g	0.39		0.15
2IR-278-10b	IR2-278-10b	RANDOM	15-803	12/14/2007	0.5	1	pCi/g	0.46		0.17
2IR-230-04a	IR2-230-04a	RANDOM	15-765	12/14/2007	0	0.5	pCi/g	0.33		0.13
B-2IR-160a	IR2-B-160a	BIASED	15-708	12/14/2007	2	2.5	pCi/g	0.38		0.20
2IR-230-04b	IR2-230-04b	RANDOM	15-766	12/14/2007	0.5	1	pCi/g	0.39		0.13
B-2IR-160b	IR2-B-160b	BIASED	15-709	12/14/2007	2.5	3	pCi/g	0.13	U	0.13
2IR-230-05a	IR2-230-05a	RANDOM	15-767	12/14/2007	0	0.5	pCi/g	0.23		0.16
2IR-230-05b	IR2-230-05b	RANDOM	15-768	12/14/2007	0.5	1	pCi/g	0.18	U	0.14
2IR-230-06a	IR2-230-06a	RANDOM	15-769	12/14/2007	0	0.5	pCi/g	0.20	U	0.18
2IR-230-06b	IR2-230-06b	RANDOM	15-770	12/14/2007	0.5	1	pCi/g	0.38		0.18
B-2IR-171a	IR2-B-171a	BIASED	15-710	12/14/2007	2	2.5	pCi/g	0.14	U	0.17
2IR-230-07a	IR2-230-07a	RANDOM	15-771	12/14/2007	0	0.5	pCi/g	0.26	U	0.18
B-2IR-171b	IR2-B-171b	BIASED	15-711	12/14/2007	2.5	3	pCi/g	0.37		0.17
2IR-230-07b	IR2-230-07b	RANDOM	15-772	12/14/2007	0.5	1	pCi/g	0.1	U	0.16
2IR-230-08a	IR2-230-08a	RANDOM	15-773	12/14/2007	0	0.5	pCi/g	0.37		0.12

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Post-Excavation IR Site 2 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-2IR-172a	IR2-B-172a	BIASED	15-712	12/14/2007	2	2.5	pCi/g	0.50		0.12
2IR-230-08b	IR2-230-08b	RANDOM	15-774	12/14/2007	0.5	1	pCi/g	0.17	U	0.21
2IR-230-09a	IR2-230-09a	RANDOM	15-775	12/14/2007	0	0.5	pCi/g	0.28		0.18
B-2IR-172b	IR2-B-172b	BIASED	15-713	12/14/2007	2.5	3	pCi/g	0.24	U	0.13
2IR-230-09b	IR2-230-09b	RANDOM	15-776	12/14/2007	0.5	1	pCi/g	0.17	U	0.14
2IR-230-10a	IR2-230-10a	RANDOM	15-777	12/14/2007	0	0.5	pCi/g	0.34		0.23
2IR-230-10b	IR2-230-10b	RANDOM	15-778	12/14/2007	0.5	1	pCi/g	0.29		0.20
B-2IR-182a	IR2-B-182a	BIASED	15-714	12/17/2007	2	2.5	pCi/g	0.42		0.18
B-2IR-182b	IR2-B-182b	BIASED	15-715	12/17/2007	2.5	3	pCi/g	0.39		0.20
B-2IR-183a	IR2-B-183a	BIASED	15-716	12/17/2007	2	2.5	pCi/g	0.21	U	0.21
B-2IR-183b	IR2-B-183b	BIASED	15-717	12/17/2007	2.5	3	pCi/g	0.38		0.12
B-2IR-187a	IR2-B-187a	BIASED	15-718	12/17/2007	2	2.5	pCi/g	0.18	U	0.18
B-2IR-187b	IR2-B-187b	BIASED	15-719	12/17/2007	2.5	3	pCi/g	0.36		0.18
B-2IR-187-02a	IR2-B-187-02a	BIASED	15-722	12/17/2007	0	0.5	pCi/g	0.50		0.16
B-2IR-187-02b	IR2-B-187-02b	BIASED	15-723	12/17/2007	0.5	1	pCi/g	0.43		0.15
2IR-187-03a	IR2-187-03a	RANDOM	15-724	12/17/2007	0	0.5	pCi/g	0.48		0.27
2IR-187-03b	IR2-187-03b	RANDOM	15-725	12/17/2007	0.5	1	pCi/g	0.51		0.19
2IR-187-04a	IR2-187-04a	RANDOM	15-726	12/17/2007	0	0.5	pCi/g	0.39		0.12
2IR-187-04b	IR2-187-04b	RANDOM	15-727	12/17/2007	0.5	1	pCi/g	0.35		0.15
2IR-187-05a	IR2-187-05a	RANDOM	15-728	12/17/2007	0	0.5	pCi/g	0.51		0.19
2IR-187-05b	IR2-187-05b	RANDOM	15-729	12/17/2007	0.5	1	pCi/g	0.58		0.22
2IR-187-06a	IR2-187-06a	RANDOM	15-730	12/17/2007	0	0.5	pCi/g	0.22	U	0.22
2IR-187-06b	IR2-187-06b	RANDOM	15-731	12/17/2007	0.5	1	pCi/g	0.40		0.12
2IR-187-07a	IR2-187-07a	RANDOM	15-732	12/17/2007	0	0.5	pCi/g	0.45		0.22
2IR-187-07b	IR2-187-07b	RANDOM	15-733	12/17/2007	0.5	1	pCi/g	0.37		0.23
2IR-187-08a	IR2-187-08a	RANDOM	15-734	12/17/2007	0	0.5	pCi/g	0.56		0.19
2IR-187-08b	IR2-187-08b	RANDOM	15-735	12/17/2007	0.5	1	pCi/g	0.34		0.13
2IR-187-09a	IR2-187-09a	RANDOM	15-736	12/17/2007	0	0.5	pCi/g	0.23	U	0.17
2ir-187-09B	IR2-187-09b	RANDOM	15-737	12/17/2007	0.5	1	pCi/g	0.34		0.19
2IR-187-10a	IR2-187-10a	RANDOM	15-738	12/17/2007	0	0.5	pCi/g	0.19	U	0.19
2IR-187-10b	IR2-187-10b	RANDOM	15-739	12/17/2007	0.5	1	pCi/g	0.25	U	0.19
B-2IR-341a	IR2-B-341a	BIASED	15-818	12/17/2007	1	1.5	pCi/g	0.25		0.16
B-2IR-341b	IR2-B-341b	BIASED	15-819	12/17/2007	1.5	2	pCi/g	0.44		0.24
B-2IR-342a	IR2-B-342a	BIASED	15-821	12/17/2007	1	1.5	pCi/g	0.31		0.18
B-2IR-342b	IR2-B-342b	BIASED	15-822	12/17/2007	1.5	2	pCi/g	0.40		0.14
2IR-342-01a	IR2-342-01a	RANDOM	15-823	12/17/2007	0	0.5	pCi/g	0.33	U	0.24
2IR-342-01b	IR2-342-01b	RANDOM	15-824	12/17/2007	0.5	1	pCi/g	0.29		0.13
2IR-342-02a	IR2-342-02a	RANDOM	15-825	12/17/2007	0	0.5	pCi/g	0.42		0.16
2IR-342-02b	IR2-342-02b	RANDOM	15-826	12/17/2007	0.5	1	pCi/g	0.54		0.12
2IR-342-03a	IR2-342-03a	RANDOM	15-827	12/17/2007	0	0.5	pCi/g	0.47		0.16
2IR-342-03b	IR2-342-03b	RANDOM	15-828	12/17/2007	0.5	1	pCi/g	0.69		0.21
2IR-342-04a	IR2-342-04a	RANDOM	15-829	12/17/2007	0	0.5	pCi/g	0.52		0.16
2IR-342-04b	IR2-342-04b	RANDOM	15-830	12/17/2007	0.5	1	pCi/g	0.33		0.19
2IR-342-05a	IR2-342-05a	RANDOM	15-831	12/17/2007	0	0.5	pCi/g	0.0	U	0.14
2IR-342-05b	IR2-342-05b	RANDOM	15-832	12/17/2007	0.5	1	pCi/g	0.38		0.23

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
2IR-342-06a	IR2-342-06a	RANDOM	15-833	12/17/2007	0	0.5	pCi/g	0.48		0.23
2IR-342-06b	IR2-342-06b	RANDOM	15-834	12/17/2007	0.5	1	pCi/g	0.51		0.14
2IR-342-07a	IR2-342-07a	RANDOM	15-835	12/17/2007	0	0.5	pCi/g	0.40		0.22
2IR-342-07b	IR2-342-07b	RANDOM	15-836	12/17/2007	0.5	1	pCi/g	0.62		0.18
2IR-342-08a	IR2-342-08a	RANDOM	15-837	12/17/2007	0	0.5	pCi/g	0.79		0.23
B-2IR-279a	IR2-B-279a	BIASED	15-804	12/17/2007	1.5	2	pCi/g	0.34	U	0.17
2IR-342-08b	IR2-342-08b	RANDOM	15-838	12/17/2007	0.5	1	pCi/g	0.45		0.15
B-2IR-279b	IR2-B-279b	BIASED	15-805	12/17/2007	2	2.5	pCi/g	1.24		0.25
2IR-342-09a	IR2-342-09a	RANDOM	15-839	12/17/2007	0	0.5	pCi/g	0.41		0.16
2IR-342-09b	IR2-342-09b	RANDOM	15-840	12/17/2007	0.5	1	pCi/g	0.66		0.13
2IR-342-10a	IR2-342-10a	RANDOM	15-841	12/17/2007	0	0.5	pCi/g	0.40		0.20
2IR-342-10b	IR2-342-10b	RANDOM	15-842	12/17/2007	0.5	1	pCi/g	0.40		0.15
B-2IR-343a	IR2-B-343a	BIASED	15-843	12/17/2007	1.5	2	pCi/g	0.25	U	0.22
B-2IR-343b	IR2-B-343b	BIASED	15-844	12/17/2007	2	2.5	pCi/g	0.43		0.22
B-2IR-282a	IR2-B-282a	BIASED	15-806	12/17/2007	1	1.5	pCi/g	0.28		0.17
B-2IR-282b	IR2-B-282b	BIASED	15-807	12/17/2007	1.5	2	pCi/g	0.57		0.17
2IR-343-01a	IR2-343-01a	RANDOM	15-845	12/17/2007	0	0.5	pCi/g	0.39		0.15
2IR-343-01b	IR2-343-01b	RANDOM	15-846	12/17/2007	0.5	1	pCi/g	0.42		0.21
2IR-282-01a	IR2-282-01a	RANDOM	15-808	12/17/2007	0	0.5	pCi/g	0.37		0.17
2IR-343-02a	IR2-343-02a	RANDOM	15-847	12/17/2007	0	0.5	pCi/g	0.33		0.21
2IR-343-02b	IR2-343-02b	RANDOM	15-848	12/17/2007	0.5	1	pCi/g	0.29	U	0.22
2IR-282-01b	IR2-282-01b	RANDOM	15-809	12/17/2007	0.5	1	pCi/g	0.31		0.19
2IR-343-03a	IR2-343-03a	RANDOM	15-849	12/17/2007	0	0.5	pCi/g	0.37		0.16
2IR-343-03b	IR2-343-03b	RANDOM	15-850	12/17/2007	0.5	1	pCi/g	0.50		0.15
2IR-282-02a	IR2-282-02a	RANDOM	15-810	12/17/2007	0	0.5	pCi/g	0.33		0.20
2IR-282-02b	IR2-282-02b	RANDOM	15-811	12/17/2007	0.5	1	pCi/g	0.38		0.14
2IR-343-04a	IR2-343-04a	RANDOM	15-851	12/17/2007	0	0.5	pCi/g	0.45		0.24
2IR-282-03a	IR2-282-03a	RANDOM	15-812	12/17/2007	0	0.5	pCi/g	0.24	U	0.18
2IR-343-04b	IR2-343-04b	RANDOM	15-852	12/17/2007	0.5	1	pCi/g	0.57		0.25
2IR-282-03b	IR2-282-03b	RANDOM	15-813	12/17/2007	0.5	1	pCi/g	0.43		0.19
2IR-282-04a	IR2-282-04a	RANDOM	15-814	12/17/2007	0	0.5	pCi/g	0.43		0.14
2IR-282-04b	IR2-282-04b	RANDOM	15-815	12/17/2007	0.5	1	pCi/g	0.35		0.20
2IR-282-05a	IR2-282-05a	RANDOM	15-816	12/17/2007	0	0.5	pCi/g	0.26	U	0.23
2IR-282-05b	IR2-282-05b	RANDOM	15-817	12/17/2007	0.5	1	pCi/g	0.31		0.18
2IR-343-05a	IR2-343-05a	RANDOM	15-853	12/19/2007	0	0.5	pCi/g	0.46		0.22
2IR-343-05b	IR2-343-05b	RANDOM	15-854	12/19/2007	0.5	1	pCi/g	0.38		0.14
B-2IR-344a	IR2-B-344a	BIASED	15-865	12/19/2007	2	2.5	pCi/g	0.42		0.16
2IR-343-06a	IR2-343-06a	RANDOM	15-855	12/19/2007	0	0.5	pCi/g	0.47		0.17
B-2IR-344b	IR2-B-344b	BIASED	15-866	12/19/2007	2.5	3	pCi/g	0.46		0.20
2IR-343-06b	IR2-343-06b	RANDOM	15-856	12/19/2007	0.5	1	pCi/g	0.45		0.19
2IR-343-07a	IR2-343-07a	RANDOM	15-857	12/19/2007	0	0.5	pCi/g	0.26	U	0.25
2IR-343-07b	IR2-343-07b	RANDOM	15-858	12/19/2007	0.5	1	pCi/g	0.57		0.20
2IR-343-08a	IR2-343-08a	RANDOM	15-859	12/19/2007	0	0.5	pCi/g	0.67		0.14
2IR-343-08b	IR2-343-08b	RANDOM	15-860	12/19/2007	0.5	1	pCi/g	0.46		0.20
2IR-343-09a	IR2-343-09a	RANDOM	15-861	12/19/2007	0	0.5	pCi/g	0.41		0.25

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Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
2IR-343-09b	IR2-343-09b	RANDOM	15-862	12/19/2007	0.5	1	pCi/g	0.61		0.25
2IR-343-10a	IR2-343-10a	RANDOM	15-863	12/19/2007	0	0.5	pCi/g	0.72		0.27
2IR-343-10b	IR2-343-10b	RANDOM	15-864	12/19/2007	0.5	1	pCi/g	0.52		0.16
B-2IR-348a	IR2-B-348a	BIASED	15-868	12/19/2007	2	2.5	pCi/g	0.29	U	0.21
B-2IR-348b	IR2-B-348b	BIASED	15-869	12/19/2007	2.5	3	pCi/g	0.61		0.12
B-2IR-349a	IR2-B-349a	BIASED	15-870	12/19/2007	2	2.5	pCi/g	0.39		0.13
B-2IR-349b	IR2-B-349b	BIASED	15-871	12/19/2007	2.5	3	pCi/g	0.36		0.15
2IR-349-01a	IR2-349-01a	RANDOM	15-872	12/19/2007	0	0.5	pCi/g	0.14	U	0.15
2IR-349-01b	IR2-349-01b	RANDOM	15-873	12/19/2007	0.5	1	pCi/g	0.28	U	0.16
2IR-349-02a	IR2-349-02a	RANDOM	15-874	12/19/2007	0	0.5	pCi/g	0.09	U	0.16
2IR-349-02b	IR2-349-02b	RANDOM	15-875	12/19/2007	0.5	1	pCi/g	0.30		0.20
2IR-349-03a	IR2-349-03a	RANDOM	15-876	12/19/2007	0	0.5	pCi/g	0.30		0.18
2IR-349-03b	IR2-349-03b	RANDOM	15-877	12/19/2007	0.5	1	pCi/g	0.30		0.15
2IR-349-04a	IR2-349-04a	RANDOM	15-878	12/19/2007	0	0.5	pCi/g	0.30		0.21
2IR-349-04b	IR2-349-04b	RANDOM	15-879	12/19/2007	0.5	1	pCi/g	0.23	U	0.20
2IR-349-05a	IR2-349-05a	RANDOM	15-880	12/19/2007	0	0.5	pCi/g	0.62		0.15
2IR-349-05b	IR2-349-05b	RANDOM	15-881	12/19/2007	0.5	1	pCi/g	0.35		0.16
2IR-349-06a	IR2-349-06a	RANDOM	15-882	12/19/2007	0	0.5	pCi/g	0.56		0.22
2IR-349-06b	IR2-349-06b	RANDOM	15-883	12/19/2007	0.5	1	pCi/g	0.19	U	0.17
2IR-349-07a	IR2-349-07a	RANDOM	15-884	12/19/2007	0	0.5	pCi/g	0.29		0.17
2IR-349-07b	IR2-349-07b	RANDOM	15-885	12/19/2007	0.5	1	pCi/g	0.35		0.10
2IR-349-08a	IR2-349-08a	RANDOM	15-886	12/19/2007	0	0.5	pCi/g	0.28		0.17
2IR-349-08b	IR2-349-08b	RANDOM	15-887	12/19/2007	0.5	1	pCi/g	0.31		0.18
2IR-349-09a	IR2-349-09a	RANDOM	15-888	12/19/2007	0	0.5	pCi/g	0.23	U	0.17
2IR-349-09b	IR2-349-09b	RANDOM	15-889	12/19/2007	0.5	1	pCi/g	0.11	U	0.14
2IR-349-10a	IR2-349-10a	RANDOM	15-890	12/19/2007	0	0.5	pCi/g	0.40		0.16
2IR-349-10b	IR2-349-10b	RANDOM	15-891	12/19/2007	0.5	1	pCi/g	0.39		0.15

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.29	0.001	U	0.088	0.15	0.0	U	0.080	0.14	-0.004	U	0.056	0.11	0.029	U
0.39	0.03	U	0.11	0.19	0.038	U	0.050	0.083	0.0	U	0.094	0.17	0.02	U
0.23	0.053	U	0.096	0.16	0.032	U	0.047	0.079	0.003	U	0.034	0.065	0.004	U
0.36	0.04	U	0.10	0.18	0.049	U	0.062	0.10	0.0	U	0.016	0.057	0.01	U
0.48	-0.01	U	1.0	0.4	0.057	U	0.095	0.17	-0.0008	U	0.059	0.12	0.03	U
0.46	-0.06	U	0.23	0.38	0.033	U	0.075	0.13	0.008	U	0.079	0.14	0.18	U
0.31	0.035	U	0.099	0.17	0.0	U	0.045	0.083	0.0	U	0.076	0.14	-0.02	U
0.38	0.08	U	0.11	0.18	0.032	U	0.064	0.11	-0.002	U	0.066	0.13	-0.03	U
0.34	0.039	U	0.088	0.15	-0.02	U	0.27	0.12	0.020	U	0.049	0.091	-0.00005	U
0.29	-0.001	U	0.086	0.15	0.013	U	0.045	0.081	0.0009	U	0.053	0.10	0.0	U
0.20	0.002	U	0.12	0.20	0.033	U	0.044	0.072	-0.006	U	0.046	0.087	-0.02	U
0.29	0.037	U	0.094	0.16	0.053	U	0.049	0.077	0.0	U	0.077	0.14	0.034	U
0.23	0.006	U	0.13	0.22	0.254		0.075	0.039	0.0	U	0.016	0.060	0.04	U
0.26	0.057	U	0.072	0.12	0.155	J	0.059	0.067	0.014	U	0.053	0.10	0.0	U
0.27	0.001	U	0.087	0.15	0.079	J	0.046	0.059	0.004	U	0.056	0.11	0.044	U
0.28	-0.05	U	0.12	0.21	0.043	U	0.061	0.10	-0.005	U	0.053	0.10	0.03	U
0.30	0.017	U	0.097	0.17	0.019	U	0.044	0.077	-0.017	U	0.064	0.12	-0.0006	U
0.35	-0.019	U	0.096	0.17	-0.012	U	0.055	0.099	0.0	U	0.076	0.14	0.023	U
0.24	-0.004	U	0.060	0.11	-0.007	U	0.039	0.072	0.003	U	0.047	0.091	0.026	U
0.29	0.0	U	0.12	0.21	0.003	U	0.046	0.086	0.0	U	0.065	0.12	0.02	U
0.42	0.04	U	0.14	0.23	-0.026	U	0.067	0.12	0.024	U	0.048	0.085	-0.01	U
0.32	-0.01	U	0.14	0.24	-0.011	U	0.057	0.10	0.006	U	0.051	0.093	-0.03	U
0.32	0.042	U	0.077	0.13	-0.015	U	0.054	0.098	0.0	U	0.015	0.054	-0.02	U
0.30	0.060	U	0.082	0.14	-0.011	U	0.096	0.10	0.001	U	0.059	0.12	-0.02	U
0.12	0.13	U	0.21	0.35	0.003	U	0.025	0.046	0.0005	U	0.027	0.052	0.0	U
0.25	-0.04	U	0.10	0.17	0.019	U	0.051	0.089	0.023	U	0.047	0.082	-0.002	U
0.23	-0.042	U	0.096	0.16	-0.010	U	0.050	0.089	-0.002	U	0.062	0.12	-0.007	U
0.30	0.021	U	0.084	0.15	-0.016	U	0.046	0.083	0.0	U	0.013	0.047	-0.002	U
0.26	-0.0004	U	0.12	0.20	0.021	U	0.048	0.083	0.0	U	0.046	0.091	0.0	U
0.21	-0.02	U	0.12	0.20	0.013	U	0.046	0.080	0.008	U	0.052	0.094	-0.012	U
0.36	-0.007	U	0.11	0.18	0.0	U	0.068	0.12	0.0	U	0.013	0.048	-0.02	U
0.35	0.0	U	0.11	0.18	-0.03	U	3.6	0.1	0.032	U	0.044	0.073	-0.003	U
0.16	0.05	U	0.26	0.46	-0.005	U	0.028	0.051	0.0	U	0.048	0.087	-0.025	U
0.26	-0.035	U	0.092	0.16	-0.0005	U	0.045	0.084	0.0	U	0.085	0.15	-0.03	U
0.19	0.034	U	0.061	0.10	-0.0001	U	0.039	0.074	0.0	U	0.055	0.11	0.005	U
0.31	0.051	U	0.086	0.14	0.015	U	0.045	0.080	0.0	U	0.076	0.14	-0.03	U
0.44	0.1	U	0.13	0.21	-0.009	U	0.068	0.12	0.020	U	0.081	0.15	-0.06	U
0.38	0.03	U	0.14	0.25	0.0003	U	0.059	0.11	0.0	U	0.094	0.17	0.002	U
0.29	0.038	U	0.092	0.16	0.026	U	0.058	0.10	0.002	U	0.048	0.097	-0.0003	U
0.31	0.024	U	0.085	0.15	0.106	J	0.063	0.097	0.0	U	0.012	0.046	0.0	U
0.19	0.0	U	0.34	0.59	-0.002	U	0.033	0.061	-0.0003	U	0.031	0.061	0.024	U
0.24	0.059	U	0.090	0.15	-0.000007	U	0.037	0.069	0.0	U	0.008	0.030	0.019	U
0.29	0.025	U	0.077	0.13	0.008	U	0.049	0.087	0.0	U	0.009	0.036	0.0	U
0.24	0.054	U	0.083	0.14	0.018	U	0.052	0.092	-0.006	U	0.041	0.081	0.045	U
0.27	-0.012	U	0.094	0.16	0.022	U	0.041	0.071	-0.008	U	0.048	0.091	0.016	U

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.29	0.0007	U	0.11	0.18	0.009	U	0.044	0.079	-0.002	U	0.046	0.086	0.05	U
0.24	-0.02	U	0.10	0.17	0.0	U	0.076	0.13	0.002	U	0.045	0.086	-0.04	U
0.27	0.0	U	0.12	0.20	-0.002	U	0.044	0.082	0.0	U	0.012	0.046	0.020	U
0.27	0.014	U	0.089	0.15	0.023	U	0.049	0.085	0.0	U	0.008	0.033	0.02	U
0.38	0.0	U	0.12	0.20	0.017	U	0.052	0.093	-0.0007	U	0.075	0.14	0.02	U
0.32	-0.002	U	0.11	0.19	0.088	U	0.071	0.11	0.0	U	0.015	0.056	-0.03	U
0.30	-0.016	U	0.085	0.15	0.035	U	0.059	0.11	0.029	U	0.062	0.11	-0.002	U
0.35	0.05	U	0.11	0.18	0.01	U	0.055	0.11	-0.0003	U	0.064	0.13	0.078	U
0.23	0.06	U	0.28	0.49	0.0	U	0.032	0.059	0.0	U	0.007	0.026	-0.003	U
0.27	0.12	U	0.32	0.55	0.032	U	0.043	0.071	-0.008	U	0.041	0.078	0.008	U
0.39	0.05	U	0.11	0.19	0.048	U	0.075	0.13	-0.024	U	0.094	0.17	0.02	U
0.28	-0.005	U	0.12	0.21	0.0	U	0.057	0.10	0.0	U	0.011	0.040	0.0	U
0.23	0.077	U	0.082	0.13	0.015	U	0.049	0.087	-0.023	U	0.068	0.12	0.0	U
0.28	-0.0009	U	0.10	0.18	0.0	U	0.070	0.12	-0.014	U	0.064	0.12	0.05	U
0.36	0.0	U	0.11	0.20	0.0	U	0.053	0.098	-0.021	U	0.064	0.11	0.02	U
0.13	-0.08	U	0.28	0.48	0.064	J	0.040	0.058	0.0	U	0.035	0.067	-0.021	U
0.28	0.053	U	0.097	0.16	0.070	U	0.061	0.094	0.002	U	0.059	0.11	-0.01	U
0.25	0.0	U	0.11	0.18	0.033	U	0.042	0.070	0.0	U	0.049	0.091	-0.03	U
0.26	-0.003	U	0.074	0.13	0.006	U	0.039	0.071	0.0	U	0.009	0.033	0.07	U
0.27	0.004	U	0.10	0.18	0.200	J	0.052	0.024	0.0	U	0.009	0.034	-0.05	U
0.24	0.01	U	0.11	0.19	-0.021	U	0.054	0.094	-0.001	U	0.029	0.065	-0.06	U
0.40	-0.003	U	0.12	0.22	0.105	U	0.076	0.11	-0.0005	U	0.072	0.14	-0.03	U
0.34	0.0007	U	0.097	0.17	-0.01	U	0.12	0.13	0.039	U	0.070	0.12	-0.01	U
0.22	-0.01	U	0.10	0.18	0.10	U	0.072	0.11	-0.026	U	0.076	0.14	-0.03	U
0.25	0.12	U	0.32	0.54	0.134	J	0.056	0.071	0.0	U	0.008	0.030	-0.001	U
0.37	0.002	U	0.094	0.16	0.048	U	0.064	0.11	0.002	U	0.054	0.10	0.0	U
0.36	0.03	U	0.12	0.21	0.037	U	0.055	0.092	-0.015	U	0.070	0.13	-0.04	U
0.23	0.003	U	0.085	0.15	0.016	U	0.039	0.068	0.017	U	0.045	0.080	0.0	U
0.14	0.0	U	0.27	0.47	0.015	U	0.032	0.055	-0.007	U	0.031	0.057	-0.014	U
0.26	-0.036	U	0.091	0.15	0.01	U	0.038	0.069	0.0	U	0.009	0.036	0.019	U
0.25	-0.008	U	0.090	0.16	0.0006	U	0.046	0.086	0.0	U	0.012	0.046	-0.006	U
0.21	0.029	U	0.091	0.16	0.0	U	0.062	0.11	-0.002	U	0.044	0.083	0.026	U
0.23	0.003	U	0.087	0.15	0.031	U	0.041	0.068	0.010	U	0.039	0.071	-0.03	U
0.35	0.031	U	0.097	0.17	0.041	U	0.052	0.085	0.008	U	0.036	0.072	0.03	U
0.30	0.06	U	0.11	0.18	0.022	U	0.069	0.13	0.035	U	0.064	0.11	-0.02	U
0.25	0.020	U	0.090	0.16	-0.04	U	0.22	0.1	-0.016	U	0.059	0.11	-0.009	U
0.34	0.0	U	0.12	0.22	0.040	U	0.061	0.10	0.031	U	0.061	0.11	-0.0008	U
0.06	-0.11	U	0.30	0.51	0.075	J	0.036	0.047	0.0	U	0.066	0.12	0.040	U
0.33	-0.004	U	0.099	0.17	0.003	U	0.057	0.12	-0.01	U	0.063	0.12	0.007	U
0.33	-0.002	U	0.087	0.16	0.011	U	0.065	0.13	-0.005	U	0.056	0.11	-0.005	U
0.20	0.05	U	0.14	0.23	0.069	U	0.076	0.12	-0.00005	U	0.055	0.11	-0.02	U
0.24	-0.004	U	0.067	0.12	0.042	U	0.054	0.088	0.0	U	0.012	0.043	0.04	U
0.18	0.13	U	0.29	0.50	0.130	J	0.044	0.035	0.006	U	0.032	0.060	-0.005	U
0.26	0.05	U	0.11	0.19	0.048	U	0.048	0.077	0.011	U	0.049	0.090	-0.006	U
0.33	0.03	U	0.10	0.17	0.074	U	0.065	0.10	0.0	U	0.015	0.056	0.006	U

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.25	0.004	U	0.098	0.17	0.033	U	0.052	0.087	0.0	U	0.011	0.039	-0.04	U
0.27	0.049	U	0.077	0.13	0.086	U	0.061	0.090	-0.017	U	0.059	0.11	0.03	U
0.24	0.054	U	0.093	0.16	0.048	U	0.046	0.072	0.0008	U	0.043	0.086	0.018	U
0.25	0.009	U	0.072	0.13	0.039	U	0.044	0.072	-0.002	U	0.048	0.089	-0.04	U
0.31	0.060	U	0.098	0.16	0.029	U	0.058	0.11	0.006	U	0.053	0.10	-0.003	U
0.19	0.1	U	0.27	0.46	0.058	U	0.040	0.060	-0.007	U	0.034	0.062	-0.046	U
0.28	0.004	U	0.089	0.15	0.035	U	0.040	0.066	0.0004	U	0.034	0.066	0.045	U
0.25	-0.018	U	0.078	0.14	-0.009	U	0.095	0.10	0.0	U	0.012	0.043	0.008	U
0.24	0.045	U	0.081	0.14	0.022	U	0.039	0.066	-0.008	U	0.050	0.094	-0.0001	U
0.21	0.021	U	0.093	0.16	0.013	U	0.037	0.065	0.0	U	0.007	0.028	-0.002	U
0.21	-0.030	U	0.099	0.17	-0.004	U	0.038	0.068	-0.008	U	0.046	0.084	-0.03	U
0.33	-0.01	U	0.10	0.17	0.010	U	0.049	0.090	0.0	U	0.076	0.14	0.03	U
0.32	-0.004	U	0.089	0.15	0.015	U	0.049	0.095	0.0	U	0.13	0.23	0.036	U
0.16	0.02	U	0.29	0.51	0.088	J	0.037	0.038	0.017	U	0.029	0.050	0.0	U
0.39	0.004	U	0.12	0.21	-0.003	U	0.053	0.098	0.0	U	0.013	0.048	-0.02	U
0.21	0.079	U	0.082	0.13	-0.005	U	0.071	0.10	0.021	U	0.046	0.082	0.02	U
0.24	0.040	U	0.078	0.13	0.045	U	0.051	0.083	0.0	U	0.011	0.042	-0.05	U
0.23	-0.016	U	0.085	0.15	0.020	U	0.046	0.080	0.0	U	0.009	0.035	-0.03	U
0.27	0.028	U	0.082	0.14	0.043	U	0.054	0.089	-0.001	U	0.043	0.082	-0.04	U
0.18	-0.06	U	0.10	0.17	-0.01	U	0.047	0.085	0.0	U	0.10	0.18	0.0	U
0.26	0.0006	U	0.089	0.15	0.102	J	0.041	0.032	-0.006	U	0.042	0.077	-0.002	U
0.13	0.009	U	0.24	0.42	0.012	U	0.028	0.049	0.016	U	0.023	0.038	-0.025	U
0.21	0.031	U	0.085	0.14	-0.005	U	0.039	0.070	0.002	U	0.036	0.069	0.036	U
0.25	0.031	U	0.083	0.14	0.053	U	0.054	0.085	-0.015	U	0.051	0.094	-0.03	U
0.15	0.023	U	0.085	0.15	0.011	U	0.036	0.066	0.002	U	0.039	0.076	0.025	U
0.19	0.012	U	0.088	0.15	0.009	U	0.038	0.069	0.0	U	0.011	0.040	-0.002	U
0.24	-0.032	U	0.090	0.15	0.015	U	0.044	0.077	0.001	U	0.033	0.065	-0.01	U
0.26	-0.05	U	0.10	0.17	0.045	U	0.049	0.079	0.011	U	0.051	0.096	-0.0004	U
0.35	0.02	U	0.11	0.20	0.067	U	0.066	0.11	0.0	U	0.13	0.23	0.05	U
0.33	0.025	U	0.081	0.14	0.026	U	0.049	0.092	-0.012	U	0.055	0.10	-0.007	U
0.25	-0.023	U	0.089	0.15	0.039	U	0.047	0.076	0.013	U	0.045	0.083	-0.001	U
0.30	0.035	U	0.096	0.16	-0.003	U	0.060	0.099	0.020	U	0.054	0.097	0.04	U
0.17	-0.04	U	0.23	0.39	0.01	U	0.027	0.047	0.006	U	0.022	0.041	-0.012	U
0.28	-0.017	U	0.096	0.17	0.043	U	0.043	0.068	-0.018	U	0.064	0.11	-0.03	U
0.18	0.005	U	0.080	0.14	0.026	U	0.040	0.067	0.002	U	0.045	0.086	0.001	U
0.20	0.032	U	0.072	0.12	0.024	U	0.041	0.069	0.0	U	0.046	0.087	-0.014	U
0.23	0.0	U	0.088	0.15	0.035	U	0.046	0.076	-0.007	U	0.053	0.099	0.056	U
0.21	-0.000006	U	0.080	0.14	0.027	U	0.040	0.068	0.010	U	0.037	0.067	-0.015	U
0.27	0.012	U	0.078	0.14	0.037	U	0.038	0.060	0.005	U	0.036	0.073	-0.03	U
0.24	0.030	U	0.086	0.15	-0.001	U	0.035	0.065	0.002	U	0.037	0.070	-0.009	U
0.27	-0.020	U	0.070	0.12	0.010	U	0.037	0.067	0.0	U	0.009	0.035	0.014	U
0.26	0.026	U	0.089	0.15	0.038	U	0.054	0.090	0.0007	U	0.054	0.11	-0.003	U
0.18	-0.048	U	0.097	0.16	0.007	U	0.046	0.083	-0.013	U	0.050	0.093	0.058	U
0.28	0.032	U	0.063	0.11	-0.03	U	0.64	0.09	0.008	U	0.056	0.11	-0.03	U
0.16	-0.13	U	0.32	0.54	0.092	J	0.046	0.063	-0.003	U	0.035	0.066	-0.006	U

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.06	-0.001	U	0.23	0.40	0.0	U	0.029	0.054	-0.00006	U	0.015	0.033	0.0	U
0.34	0.0002	U	0.10	0.18	0.0	U	0.038	0.074	0.0	U	0.013	0.047	0.05	U
0.26	-0.006	U	0.088	0.15	0.0	U	0.026	0.053	0.0	U	0.056	0.11	0.0	U
0.24	-0.016	U	0.086	0.15	0.035	U	0.039	0.063	-0.0002	U	0.024	0.049	-0.002	U
0.22	-0.034	U	0.087	0.15	0.023	U	0.037	0.062	-0.003	U	0.035	0.067	-0.016	U
0.32	-0.030	U	0.095	0.16	-0.004	U	0.054	0.10	0.007	U	0.051	0.10	0.0003	U
0.27	0.083	U	0.057	0.084	-0.001	U	0.055	0.10	0.0	U	0.065	0.12	0.008	U
0.22	0.033	U	0.096	0.16	0.021	U	0.041	0.071	-0.010	U	0.051	0.092	-0.03	U
0.22	-0.003	U	0.11	0.20	0.016	U	0.060	0.11	-0.013	U	0.078	0.15	-0.01	U
0.32	0.073	U	0.088	0.14	-0.004	U	0.059	0.098	0.0	U	0.10	0.18	0.0	U
0.20	0.16	U	0.25	0.42	0.017	U	0.031	0.053	0.020	U	0.034	0.058	-0.01	U
0.28	0.057	U	0.061	0.098	0.028	U	0.047	0.079	0.001	U	0.048	0.093	-0.012	U
0.23	0.052	U	0.082	0.14	0.056	U	0.045	0.067	0.019	U	0.041	0.073	-0.002	U
0.20	0.02	U	0.10	0.18	0.030	U	0.039	0.065	0.017	U	0.043	0.076	0.0004	U
0.19	-0.0005	U	0.090	0.16	0.051	U	0.048	0.075	-0.013	U	0.064	0.11	-0.01	U
0.35	0.03	U	0.11	0.19	0.058	U	0.072	0.12	0.0	U	0.015	0.056	0.02	U
0.35	-0.004	U	0.11	0.20	0.034	U	0.050	0.093	-0.004	U	0.054	0.11	0.003	U
0.17	-0.02	U	0.25	0.43	0.018	U	0.031	0.052	0.0	U	0.042	0.077	-0.001	U
0.25	-0.036	U	0.087	0.15	0.021	U	0.048	0.083	-0.018	U	0.054	0.096	-0.026	U
0.29	0.03	U	0.11	0.18	0.028	U	0.045	0.076	-0.016	U	0.057	0.10	-0.003	U
0.41	-0.02	U	0.13	0.22	0.008	U	0.051	0.094	-0.022	U	0.084	0.15	0.05	U
0.35	0.0	U	0.10	0.18	0.029	U	0.056	0.11	-0.0003	U	0.037	0.080	0.0	U
0.15	-0.01	U	0.27	0.47	0.037	U	0.033	0.051	0.0	U	0.047	0.086	-0.0001	U
0.29	0.02	U	0.10	0.18	0.065	U	0.055	0.084	0.009	U	0.039	0.075	-0.04	U
0.30	-0.014	U	0.099	0.17	0.117	J	0.075	0.11	0.015	U	0.057	0.11	0.014	U
0.31	0.055	U	0.086	0.14	0.004	U	0.054	0.11	0.0	U	0.068	0.13	0.033	U
0.18	-0.008	U	0.25	0.44	0.060	U	0.041	0.061	-0.007	U	0.035	0.065	0.026	U
0.24	-0.013	U	0.077	0.13	0.016	U	0.040	0.071	0.0	U	0.009	0.036	-0.028	U
0.25	-0.04	U	0.10	0.18	0.013	U	0.045	0.081	0.020	U	0.039	0.070	-0.009	U
0.29	-0.028	U	0.097	0.17	0.029	U	0.042	0.071	0.0	U	0.013	0.049	-0.02	U
0.27	0.084	U	0.088	0.14	0.017	U	0.055	0.11	0.031	U	0.059	0.10	0.047	U
0.24	0.0	U	0.11	0.18	0.0004	U	0.038	0.069	0.007	U	0.046	0.084	-0.04	U
0.32	0.0	U	0.11	0.18	0.014	U	0.058	0.10	0.0	U	0.012	0.044	0.003	U
0.23	-0.006	U	0.085	0.15	-0.005	U	0.072	0.10	0.0	U	0.012	0.045	-0.002	U
0.20	-0.05	U	0.27	0.46	0.039	U	0.033	0.050	-0.002	U	0.036	0.067	0.004	U
0.36	0.046	U	0.093	0.16	0.0009	U	0.056	0.11	0.021	U	0.053	0.095	0.006	U
0.21	0.038	U	0.076	0.13	0.0	U	0.038	0.073	-0.009	U	0.057	0.11	0.056	U
0.29	0.007	U	0.099	0.17	0.032	U	0.052	0.096	0.006	U	0.057	0.11	0.0008	U
0.17	0.002	U	0.26	0.45	0.050	J	0.033	0.047	-0.003	U	0.031	0.059	0.052	U
0.29	0.027	U	0.077	0.13	0.027	U	0.039	0.066	0.0	U	0.052	0.099	-0.029	U
0.11	0.02	U	0.11	0.19	0.040	U	0.048	0.078	0.0	U	0.061	0.12	0.02	U
0.19	0.06	U	0.25	0.44	0.027	U	0.032	0.053	0.0	U	0.049	0.090	-0.016	U
0.26	0.043	U	0.087	0.15	0.004	U	0.047	0.085	0.007	U	0.047	0.089	-0.02	U
0.25	0.015	U	0.099	0.17	0.014	U	0.040	0.069	0.0	U	0.047	0.088	-0.03	U
0.32	-0.01	U	0.11	0.19	0.024	U	0.055	0.096	0.002	U	0.049	0.098	0.01	U

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.29	0.040	U	0.094	0.16	0.065	U	0.058	0.099	-0.008	U	0.075	0.14	0.01	U
0.16	0.16	U	0.18	0.29	0.020	U	0.027	0.046	0.0003	U	0.034	0.063	-0.011	U
0.30	0.055	U	0.075	0.12	0.026	U	0.038	0.063	-0.011	U	0.059	0.11	-0.02	U
0.22	0.036	U	0.096	0.16	0.035	U	0.045	0.075	0.003	U	0.053	0.099	0.05	U
0.19	-0.006	U	0.097	0.17	0.029	U	0.039	0.065	0.013	U	0.047	0.084	0.03	U
0.36	-0.07	U	0.11	0.18	0.047	U	0.067	0.12	0.019	U	0.055	0.10	-0.001	U
0.21	0.0	U	0.097	0.17	-0.009	U	0.041	0.075	0.006	U	0.040	0.077	-0.017	U
0.34	-0.01	U	0.32	0.57	0.058	U	0.058	0.091	0.0	U	0.012	0.045	-0.02	U
0.26	0.058	U	0.074	0.12	-0.05	U	0.22	0.10	0.0	U	0.046	0.092	0.003	U
0.15	0.0	U	0.25	0.44	0.022	U	0.033	0.054	-0.012	U	0.035	0.062	0.008	U
0.25	-0.001	U	0.097	0.17	0.029	U	0.050	0.085	0.022	U	0.048	0.085	0.028	U
0.27	-0.013	U	0.085	0.15	0.007	U	0.037	0.068	-0.005	U	0.029	0.059	0.017	U
0.35	-0.03	U	0.10	0.17	0.014	U	0.057	0.11	-0.015	U	0.061	0.11	0.009	U
0.29	0.013	U	0.093	0.16	0.089	J	0.050	0.066	-0.019	U	0.063	0.11	0.071	U
0.22	-0.03	U	0.10	0.17	-0.0007	U	0.041	0.077	-0.01	U	0.041	0.079	-0.02	U
0.25	-0.03	U	0.10	0.18	-0.005	U	0.050	0.090	-0.0006	U	0.047	0.089	0.056	U
0.26	0.034	U	0.087	0.15	0.040	U	0.046	0.075	0.016	U	0.029	0.050	-0.03	U
0.39	0.05	U	0.13	0.22	0.061	U	0.069	0.11	0.0	U	0.016	0.058	0.04	U
0.20	-0.025	U	0.097	0.17	0.029	U	0.041	0.068	0.0002	U	0.049	0.092	0.0	U
0.29	0.072	U	0.067	0.11	0.051	U	0.059	0.10	0.0	U	0.013	0.049	-0.05	U
0.32	0.021	U	0.098	0.17	0.043	U	0.062	0.10	-0.0004	U	0.054	0.11	0.02	U
0.24	0.017	U	0.088	0.15	0.0	U	0.094	0.17	-0.011	U	0.054	0.10	-0.04	U
0.31	0.013	U	0.086	0.15	0.035	U	0.056	0.10	0.009	U	0.047	0.090	-0.005	U
0.21	0.07	U	0.28	0.48	0.087	J	0.040	0.039	0.004	U	0.037	0.068	-0.002	U
0.27	0.085	U	0.092	0.15	0.030	U	0.056	0.10	0.0	U	0.074	0.14	0.03	U
0.15	-0.01	U	0.25	0.44	0.007	U	0.028	0.050	-0.016	U	0.040	0.071	0.012	U
0.33	-0.012	U	0.099	0.17	0.106	J	0.057	0.075	0.0	U	0.012	0.044	-0.01	U
0.26	-0.04	U	0.11	0.19	0.044	U	0.038	0.056	-0.016	U	0.053	0.095	0.0	U
0.29	0.076	U	0.098	0.16	0.040	U	0.047	0.076	0.0	U	0.014	0.051	-0.001	U
0.25	0.01	U	0.10	0.18	0.018	U	0.043	0.074	0.0009	U	0.043	0.082	-0.03	U
0.20	-0.09	U	0.33	0.56	0.018	U	0.034	0.059	-0.014	U	0.046	0.081	0.038	U
0.26	0.005	U	0.10	0.18	0.00009	U	0.047	0.088	0.0	U	0.011	0.040	-0.008	U
0.36	0.019	U	0.088	0.15	0.033	U	0.062	0.11	-0.009	U	0.048	0.095	0.02	U
0.20	-0.001	U	0.079	0.14	-0.02	U	0.19	0.11	0.0	U	0.074	0.14	0.00004	U
0.28	0.042	U	0.078	0.13	0.028	U	0.037	0.061	-0.002	U	0.034	0.068	0.005	U
0.23	0.02	U	0.10	0.17	0.033	U	0.048	0.079	-0.002	U	0.042	0.085	0.017	U
0.26	0.05	U	0.10	0.17	-0.004	U	0.034	0.064	-0.007	U	0.048	0.089	-0.03	U
0.29	0.071	U	0.099	0.16	0.061	U	0.057	0.091	-0.010	U	0.062	0.11	-0.0006	U
0.25	0.0208	U	0.099	0.17	0.034	U	0.038	0.061	-0.009	U	0.055	0.10	-0.03	U
0.23	0.04	U	0.10	0.17	-0.002	U	0.054	0.096	0.001	U	0.053	0.098	0.03	U
0.39	-0.003	U	0.11	0.19	0.089	U	0.075	0.12	0.023	U	0.060	0.11	-0.001	U
0.30	0.077	U	0.091	0.15	0.044	U	0.052	0.095	-0.003	U	0.060	0.12	-0.0006	U
0.06	0.14	U	0.22	0.36	0.026	U	0.031	0.051	-0.01	U	0.031	0.057	-0.006	U
0.25	-0.022	U	0.099	0.17	0.017	U	0.046	0.081	-0.012	U	0.053	0.098	0.012	U
0.35	0.04	U	0.10	0.18	0.046	U	0.053	0.085	0.020	U	0.064	0.12	-0.05	U

Table G-4
Post-Excavation IR Site 2 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.32	-0.01	U	0.11	0.20	0.103	J	0.062	0.090	-0.0009	U	0.064	0.12	-0.02	U
0.33	0.06	U	0.11	0.18	0.094	U	0.067	0.10	0.013	U	0.071	0.13	-0.05	U
0.21	-0.07	U	0.29	0.51	0.121	J	0.041	0.029	0.004	U	0.038	0.072	0.037	U
0.29	0.029	U	0.075	0.13	0.019	U	0.038	0.066	-0.007	U	0.060	0.11	0.01	U
0.06	-0.01	U	0.21	0.38	0.039	U	0.031	0.047	-0.0001	U	0.030	0.057	-0.013	U
0.22	0.032	U	0.071	0.12	0.004	U	0.038	0.069	-0.01	U	0.046	0.085	0.0	U
0.25	0.030	U	0.077	0.13	0.013	U	0.040	0.070	0.0	U	0.050	0.094	0.008	U
0.24	0.018	U	0.084	0.14	0.014	U	0.033	0.057	-0.005	U	0.047	0.086	0.001	U
0.28	-0.040	U	0.081	0.14	0.013	U	0.051	0.092	0.01	U	0.044	0.085	-0.02	U
0.28	0.001	U	0.083	0.15	0.035	U	0.048	0.088	0.009	U	0.048	0.091	0.061	U
0.29	0.016	U	0.083	0.14	-0.0003	U	0.026	0.052	-0.012	U	0.060	0.11	0.046	U
0.25	0.039	U	0.076	0.13	0.098	J	0.057	0.080	0.016	U	0.046	0.085	0.05	U
0.19	-0.0006	U	0.070	0.12	0.049	U	0.040	0.061	0.0004	U	0.037	0.070	0.027	U
0.29	0.007	U	0.094	0.16	0.125	J	0.071	0.099	0.0	U	0.075	0.14	-0.02	U
0.30	0.004	U	0.092	0.16	0.011	U	0.044	0.087	0.0	U	0.062	0.12	0.004	U
0.11	-0.05	U	0.24	0.41	0.081	J	0.036	0.044	0.013	U	0.029	0.051	0.033	U
0.19	-0.048	U	0.098	0.16	0.071	U	0.051	0.077	0.0	U	0.009	0.036	0.023	U
0.24	0.063	U	0.095	0.16	0.086	U	0.059	0.086	0.0	U	0.012	0.044	-0.005	U
0.27	0.042	U	0.098	0.17	0.039	U	0.055	0.092	0.008	U	0.043	0.080	-0.03	U
0.25	0.051	U	0.083	0.14	0.139	J	0.059	0.077	0.0	U	0.048	0.090	0.048	U
0.15	0.13	U	0.21	0.36	0.070	J	0.033	0.034	0.014	U	0.023	0.039	0.0004	U
0.25	-0.034	U	0.069	0.12	0.019	U	0.043	0.074	0.006	U	0.045	0.085	-0.025	U
0.25	0.032	U	0.079	0.14	0.032	U	0.038	0.062	-0.020	U	0.057	0.10	-0.005	U
0.25	0.001	U	0.10	0.18	0.004	U	0.033	0.061	0.0	U	0.083	0.15	-0.027	U
0.23	0.027	U	0.075	0.13	0.010	U	0.053	0.096	-0.007	U	0.062	0.12	-0.02	U
0.27	0.033	U	0.095	0.16	0.122	J	0.070	0.11	0.003	U	0.056	0.11	0.0	U
0.17	0.01	U	0.28	0.49	0.102	J	0.042	0.053	0.0	U	0.006	0.024	0.012	U

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.093	0.16	0.06	U	0.32	0.60	7.9		1.5	0.7	0.57	J	0.14	0.10	
0.13	0.24	0.0	U	0.44	0.82	9.4		1.6	1	0.33	J	0.14	0.20	
0.10	0.19	0.05	U	0.28	0.51	7.6		1.2	0.7	0.41	J	0.12	0.16	
0.10	0.19	0.0	U	0.089	0.33	7.0		1.6	0.7	0.31	J	0.13	0.17	
0.20	0.36	0.0	U	0.62	1.1	11.0		2.0	0.6	6.62		0.66	0.25	
0.14	0.42	-0.30	U	0.60	1.0	10.2		1.7	1	7.59		0.63	0.19	
0.11	0.20	-0.12	U	0.35	0.61	12.5		1.7	1.0	0.42	J	0.13	0.18	
0.14	0.25	0.0	U	0.41	0.80	10.5		2.0	0.7	0.55	J	0.15	0.12	
0.11	0.21	0.05	U	0.45	0.83	10.3		1.8	0.5	0.27	J	0.13	0.19	
0.11	0.20	-0.09	U	0.38	0.68	7.3		1.4	0.8	0.33	J	0.12	0.14	0.28
0.11	0.20	0.0	U	0.46	0.84	11.0		1.6	0.8	0.31	J	0.13	0.19	
0.093	0.16	0.0	U	0.32	0.60	7.2		1.3	1.0	0.29	J	0.13	0.19	
0.15	0.26	0.0	U	0.79	1.4	9.0		1.8	0.6	0.51	J	0.15	0.12	
0.13	0.24	0.005	U	0.29	0.59	8.3		1.7	1	0.44	J	0.13	0.12	
0.091	0.16	-0.001	U	0.29	0.57	9.5		1.6	0.4	0.49	J	0.12	0.06	
0.11	0.20	-0.12	U	0.40	0.71	9.1		1.5	0.9	0.34	J	0.15	0.22	
0.091	0.17	0.13	U	0.33	0.59	10.5		1.7	0.5	0.57	J	0.15	0.11	0.02
0.090	0.16	-0.12	U	0.39	0.71	9.6		1.7	0.5	0.27	J	0.12	0.16	
0.093	0.16	0.14	U	0.33	0.58	8.1		1.4	0.4	0.41	J	0.11	0.06	
0.10	0.19	0.18	U	0.36	0.63	8.9		1.6	0.5	0.26	J	0.12	0.17	
0.17	0.30	0.11	U	0.37	0.67	8.9		1.6	0.5	3.48		0.38	0.11	
0.16	0.28	0.05	U	0.36	0.65	10.6		1.5	0.3	2.70		0.30	0.19	
0.13	0.23	0.0	U	0.38	0.74	10.2		1.8	0.6	0.48	J	0.13	0.06	
0.11	0.21	-0.14	U	0.46	0.83	7.5		1.5	0.5	0.38	J	0.14	0.16	
0.095	0.17	0.03	U	0.21	0.39	8.0		1.1	0.6	0.364	J	0.089	0.084	
0.088	0.16	-0.1	U	0.43	0.77	7.4		1.4	1	0.84	J	0.15	0.07	
0.097	0.18	-0.08	U	0.30	0.55	8.7		1.6	1	0.47	J	0.12	0.09	0.55
0.11	0.20	-0.13	U	0.37	0.67	10.2		1.7	0.5	0.22	J	0.13	0.19	
0.13	0.23	0.0	U	0.54	0.97	8.9		1.5	0.4	0.93	J	0.18	0.08	
0.091	0.16	0.07	U	0.34	0.60	9.3		1.3	0.3	0.52	J	0.13	0.15	
0.13	0.23	0.04	U	0.40	0.75	9.8		1.7	0.5	0.78	J	0.17	0.09	
0.11	0.19	-0.1	U	0.41	0.74	11.4		1.8	0.5	0.65	J	0.15	0.09	
0.080	0.14	0.006	U	0.21	0.40	8.3		1.2	0.5	0.390	J	0.097	0.095	
0.10	0.18	0.0	U	0.062	0.23	8.4		1.5	0.5	0.30	J	0.11	0.12	
0.077	0.14	0.004	U	0.27	0.52	5.3		1.2	0.7	0.183	J	0.097	0.14	
0.13	0.23	0.04	U	0.31	0.57	10.5		1.5	0.3	0.44	J	0.14	0.18	
0.17	0.30	0.0	U	0.092	0.34	19.2		2.8	0.6	1.35		0.23	0.07	0.39
0.13	0.24	-0.05	U	0.44	0.81	19.6		2.4	0.4	0.86	J	0.20	0.23	
0.12	0.23	0.05	U	0.45	0.83	7.7		1.5	0.5	0.42	J	0.12	0.06	
0.078	0.15	0.009	U	0.41	0.78	10.1		1.7	0.5	0.51	J	0.14	0.12	
0.056	0.099	0.1	U	0.24	0.43	10.6		1.4	0.7	0.50	J	0.12	0.11	
0.083	0.15	0.18	U	0.33	0.57	10.8		1.5	0.3	0.32	J	0.12	0.17	
0.074	0.14	0.0	U	0.056	0.20	7.9		1.4	0.7	0.32	J	0.10	0.10	
0.099	0.17	-0.07	U	0.33	0.62	7.5		1.4	0.5	0.51	J	0.15	0.11	
0.082	0.15	-0.03	U	0.36	0.67	8.5		1.5	0.4	0.27	J	0.11	0.16	

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.10	0.18	0.03	U	0.27	0.50	11.1		1.5	0.3	0.51	J	0.14	0.17	
0.13	0.23	-0.09	U	0.40	0.72	11.3		1.6	0.9	0.35	J	0.13	0.18	
0.082	0.15	-0.04	U	0.33	0.62	9.3		1.6	0.5	0.37	J	0.12	0.13	0.63
0.13	0.22	0.0	U	0.053	0.19	11.0		1.5	0.3	0.42	J	0.14	0.19	
0.12	0.21	-0.005	U	0.40	0.78	10.1		1.8	0.6	0.36	J	0.14	0.17	
0.14	0.25	0.15	U	0.31	0.56	6.5		1.6	1.2	0.50	J	0.16	0.17	
0.12	0.22	0.11	U	0.30	0.56	9.0		1.7	0.6	0.50	J	0.16	0.14	
0.087	0.14	0.0	U	0.51	0.96	12.1		2.1	0.6	0.66	J	0.19	0.16	
0.087	0.16	0.13	U	0.26	0.45	11.7		1.5	0.7	0.69	J	0.14	0.12	
0.079	0.15	-0.08	U	0.34	0.61	7.6		1.4	0.9	0.37	J	0.13	0.15	
0.15	0.28	0.0	U	0.55	1.1	7.2		1.8	0.8	0.30	J	0.15	0.18	
0.072	0.14	0.003	U	0.35	0.66	10.4		1.7	0.8	0.77	J	0.16	0.08	
0.12	0.22	-0.04	U	0.41	0.76	11.3		1.8	0.5	0.50	J	0.15	0.14	
0.13	0.23	0.03	U	0.34	0.63	12.0		1.7	0.3	0.62	J	0.16	0.20	
0.12	0.21	0.0	U	0.32	0.63	10.7		1.8	0.5	0.61	J	0.13	0.05	
0.085	0.15	-0.06	U	0.25	0.44	9.3		1.3	0.5	0.43	J	0.10	0.1	
0.12	0.21	-0.15	U	0.48	0.84	9.4		1.6	0.5	0.65	J	0.14	0.05	
0.12	0.20	0.0	U	0.43	0.77	10.3		1.4	0.3	0.36	J	0.12	0.16	
0.10	0.17	0.09	U	0.27	0.48	11.7		1.6	0.3	0.43	J	0.14	0.19	
0.11	0.20	0.05	U	0.36	0.66	13.2		1.7	0.3	0.29	J	0.12	0.18	
0.14	0.25	0.06	U	0.38	0.70	10.7	J	1.8	0.5	0.62	J	0.16	0.12	-0.14
0.15	0.28	0.0	U	0.63	1.2	13.5		2.3	0.7	0.81	J	0.21	0.13	
0.13	0.23	-0.10	U	0.46	0.83	12.2		2.0	0.6	0.27	J	0.13	0.18	
0.16	0.27	0.15	U	0.43	0.77	14.3		2.2	0.5	0.62	J	0.18	0.16	
0.081	0.15	0.08	U	0.25	0.45	12.2		1.6	0.6	0.57	J	0.13	0.13	
0.14	0.25	-0.003	U	0.40	0.76	12.5		2.0	0.5	0.53	J	0.14	0.08	
0.14	0.25	-0.03	U	0.34	0.66	12.5		2.1	0.6	0.43	J	0.14	0.13	0.51
0.086	0.16	0.005	U	0.32	0.59	9.6	J	1.4	0.3	0.31	J	0.11	0.15	
0.076	0.13	-0.004	U	0.23	0.42	10		1.2	0.5	0.478	J	0.099	0.085	-0.003
0.086	0.15	-0.1	U	0.38	0.67	8.2		1.4	0.8	0.57	J	0.12	0.04	
0.10	0.19	0.03	U	0.30	0.58	8.0	J	1.5	0.8	0.63	J	0.16	0.09	
0.093	0.16	0.1	U	0.32	0.56	10.4	J	1.4	0.3	0.35	J	0.11	0.14	
0.11	0.18	0.08	U	0.28	0.51	11.5		1.5	0.3	0.33	J	0.11	0.15	
0.11	0.20	0.09	U	0.35	0.65	9.4	J	1.7	0.5	0.30	J	0.13	0.16	
0.13	0.23	-0.1	U	0.45	0.83	10.4		2.2	1.6	0.34	J	0.16	0.21	
0.11	0.19	-0.003	U	0.26	0.52	11.3		1.8	1.0	0.58	J	0.14	0.10	
0.11	0.21	0.0	U	0.40	0.79	10.3		1.9	0.6	0.64	J	0.18	0.11	
0.072	0.12	-0.07	U	0.22	0.40	10.3		1.3	0.5	0.53	J	0.11	0.1	
0.097	0.18	0.0	U	0.082	0.30	11.9	J	2.0	0.5	0.64	J	0.19	0.17	
0.12	0.23	-0.004	U	0.28	0.58	12.9		2.1	0.6	0.55	J	0.16	0.13	
0.14	0.25	-0.08	U	0.48	0.86	14.0		1.9	0.4	0.56	J	0.18	0.23	
0.10	0.18	-0.04	U	0.32	0.61	12.0		1.8	0.4	0.51	J	0.13	0.09	
0.073	0.13	-0.08	U	0.25	0.44	9.1	J	1.2	0.5	0.51	J	0.12	0.11	
0.099	0.18	0.0	U	0.47	0.85	12.2		1.6	0.3	0.29	J	0.13	0.19	
0.12	0.23	-0.02	U	0.46	0.86	9.6		1.8	0.6	0.47	J	0.13	0.06	

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.12	0.20	-0.19	U	0.43	0.74	10.8	J	1.7	0.6	0.59	J	0.15	0.15	
0.12	0.21	-0.06	U	0.42	0.78	10.5	J	1.7	0.5	0.37	J	0.14	0.17	
0.095	0.17	-0.01	U	0.30	0.59	7.1		1.3	0.4	0.42	J	0.11	0.09	
0.11	0.19	-0.05	U	0.36	0.65	10.4	J	1.4	0.3	0.32	J	0.11	0.16	
0.12	0.21	-0.009	U	0.34	0.66	12.6		2.0	0.5	0.45	J	0.16	0.17	
0.091	0.16	0.05	U	0.24	0.43	12.4		1.5	0.5	0.45	J	0.11	0.11	
0.089	0.15	0.05	U	0.27	0.49	8.9		1.3	0.5	0.39	J	0.13	0.16	
0.085	0.16	0.05	U	0.30	0.56	7.1		1.4	0.4	0.29	J	0.12	0.16	0.21
0.089	0.16	0.03	U	0.32	0.60	9.6		1.6	0.4	0.59	J	0.15	0.12	
0.10	0.18	0.12	U	0.24	0.42	11.4		1.5	0.3	0.64	J	0.14	0.15	
0.11	0.18	-0.007	U	0.24	0.46	9.5		1.3	0.3	0.44	J	0.12	0.15	
0.11	0.20	0.003	U	0.37	0.71	9.7		1.7	0.5	0.41	J	0.13	0.13	
0.089	0.16	-0.16	U	0.44	0.77	9.4		1.7	1.0	0.60	J	0.15	0.11	-0.24
0.085	0.15	0.0	U	0.19	0.37	10.2		1.3	0.5	0.50	J	0.12	0.12	
0.12	0.22	0.0	U	0.67	1.2	7.5		1.5	0.9	1.66		0.24	0.05	
0.11	0.20	-0.002	U	0.32	0.62	7.5		1.5	0.7	0.97	J	0.18	0.11	
0.13	0.22	0.007	U	0.26	0.51	7.3		1.4	0.9	0.70	J	0.14	0.09	
0.10	0.18	0.0	U	0.055	0.20	8.7		1.5	0.9	0.47	J	0.12	0.07	
0.11	0.20	-0.09	U	0.35	0.62	8.9		1.3	0.3	0.71	J	0.16	0.18	
0.11	0.19	-0.03	U	0.33	0.62	10.8		1.7	0.4	0.47	J	0.13	0.11	0.31
0.088	0.16	0.0	U	0.21	0.41	7.4		1.1	0.3	1.00		0.16	0.14	
0.068	0.12	0.02	U	0.18	0.33	8.4		1.1	0.4	0.512	J	0.096	0.075	
0.085	0.15	0.0	U	0.38	0.68	7.0		1.1	0.7	0.74	J	0.13	0.09	
0.12	0.22	0.007	U	0.37	0.70	9.4		1.6	0.6	0.94	J	0.18	0.12	
0.081	0.14	0.03	U	0.32	0.60	8.9		1.5	0.6	0.82	J	0.16	0.11	
0.079	0.15	-0.01	U	0.35	0.66	9.0		1.6	1	0.371	J	0.097	0.045	
0.090	0.16	-0.12	U	0.34	0.59	7.6		1.2	0.8	0.54	J	0.13	0.14	
0.11	0.20	0.0	U	0.41	0.78	10.2		1.7	0.6	0.47	J	0.12	0.09	
0.11	0.18	-0.16	U	0.54	0.96	10.6		1.8	0.5	1.26		0.22	0.12	
0.10	0.19	0.0	U	0.22	0.45	8.7		1.5	0.4	0.90	J	0.18	0.12	
0.11	0.20	0.0	U	0.52	0.95	8.3		1.5	0.4	0.37	J	0.13	0.16	
0.11	0.20	0.05	U	0.36	0.66	16.0		2.2	0.4	0.51	J	0.15	0.17	
0.070	0.12	0.06	U	0.22	0.39	6.92		0.97	0.43	0.56	J	0.11	0.08	
0.11	0.20	0.0	U	0.26	0.51	7.9		1.3	0.3	0.44	J	0.13	0.16	0.14
0.087	0.16	0.0	U	0.23	0.44	7.4		1.3	0.6	0.52	J	0.12	0.12	
0.060	0.11	0.0	U	0.046	0.17	6.9		1.1	0.3	0.25	J	0.11	0.15	
0.085	0.14	-0.08	U	0.37	0.68	8.3		1.4	0.4	0.68	J	0.15	0.11	
0.095	0.17	-0.05	U	0.36	0.65	6.8		1.1	0.3	0.40	J	0.11	0.14	0.1
0.11	0.20	-0.008	U	0.15	0.34	8.4		1.5	0.5	0.63	J	0.14	0.05	
0.094	0.17	-0.06	U	0.30	0.54	8.8		1.2	0.3	0.44	J	0.12	0.14	
0.072	0.13	0.0	U	0.32	0.60	6.6		1.2	0.6	0.130	J	0.083	0.12	
0.088	0.17	0.01	U	0.32	0.63	7.7		1.6	0.9	0.43	J	0.11	0.05	
0.089	0.15	0.11	U	0.29	0.52	9.1		1.5	0.4	0.36	J	0.13	0.12	
0.11	0.19	-0.05	U	0.34	0.63	8.6		1.5	0.5	0.44	J	0.12	0.09	
0.085	0.15	-0.02	U	0.27	0.50	10.5		1.4	0.5	0.75	J	0.14	0.11	

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.081	0.15	-0.05	U	0.20	0.36	8.8		1.1	0.5	0.437	J	0.093	0.054	
0.10	0.17	-0.07	U	0.35	0.65	9.9		1.7	0.5	0.59	J	0.15	0.13	
0.093	0.17	0.0	U	0.062	0.23	8.4		1.4	0.4	0.22	J	0.11	0.15	
0.079	0.14	0.01	U	0.23	0.43	7.6		1.2	0.3	0.34	J	0.11	0.15	
0.091	0.16	0.0	U	0.29	0.53	8.0		1.2	0.3	0.55	J	0.12	0.1	
0.082	0.16	0.0	U	0.079	0.29	10		1.8	0.9	0.29	J	0.11	0.12	
0.094	0.17	0.05	U	0.33	0.63	7.9		1.5	0.5	0.51	J	0.14	0.15	-0.16
0.11	0.19	0.0	U	0.21	0.41	12.4		1.6	0.3	0.31	U	0.11	0.14	
0.12	0.22	0.0	U	0.086	0.32	8.0		1.6	0.6	0.46	J	0.15	0.10	
0.094	0.18	0.11	U	0.34	0.63	10.6		1.8	0.5	0.50	J	0.16	0.19	
0.076	0.14	0.0	U	0.19	0.37	10.6		1.3	0.5	0.397	J	0.097	0.093	
0.081	0.15	0.0	U	0.056	0.21	8.8		1.4	0.4	0.280	U	0.099	0.11	-0.17
0.093	0.17	0.07	U	0.27	0.51	8.4		1.4	0.4	0.46	J	0.14	0.12	
0.096	0.17	-0.006	U	0.37	0.67	11.0		1.5	0.3	0.26	U	0.12	0.17	
0.11	0.19	-0.01	U	0.32	0.59	12.6		1.6	0.3	0.38	J	0.12	0.16	
0.13	0.23	-0.12	U	0.47	0.85	9.5		1.9	1.1	0.60	J	0.15	0.06	
0.080	0.15	0.0	U	0.69	1.2	10.1		1.8	0.5	0.46	J	0.15	0.17	
0.045	0.085	-0.08	U	0.23	0.40	10.3		1.3	0.5	0.57	J	0.11	0.10	
0.098	0.17	0.05	U	0.36	0.66	9.9		1.5	0.4	0.42	J	0.12	0.12	
0.10	0.19	0.06	U	0.31	0.58	11.9		1.8	0.4	0.59	J	0.16	0.15	0.05
0.14	0.25	0.12	U	0.40	0.72	15.5		2.3	0.5	0.72	J	0.17	0.11	
0.12	0.22	-0.03	U	0.37	0.71	9.7		1.7	0.5	0.54	J	0.16	0.14	
0.067	0.12	-0.03	U	0.24	0.43	10.8		1.3	0.5	0.354	J	0.090	0.087	
0.13	0.22	0.03	U	0.34	0.64	8.5		1.6	1.1	0.39	J	0.14	0.18	
0.093	0.17	0.03	U	0.39	0.74	9.7		1.9	1.1	0.49	J	0.14	0.10	
0.089	0.16	-0.11	U	0.40	0.73	11.8		1.9	0.5	0.29	J	0.14	0.20	
0.081	0.14	-0.007	U	0.20	0.38	11.8		1.5	0.5	0.42	J	0.11	0.12	
0.093	0.16	-0.03	U	0.29	0.54	8.5		1.4	0.6	0.34	J	0.11	0.13	
0.098	0.18	0.01	U	0.37	0.70	8.9		1.5	0.4	0.51	J	0.13	0.11	
0.12	0.21	0.01	U	0.38	0.73	7.2		1.5	0.5	0.46	J	0.13	0.09	0.23
0.090	0.16	-0.14	U	0.47	0.84	10.5		1.8	0.5	0.58	J	0.18	0.15	
0.11	0.19	0.11	U	0.28	0.48	15.9		1.7	0.3	0.44	J	0.11	0.13	-0.16
0.096	0.18	-0.07	U	0.45	0.82	15.2		2.1	0.4	0.71	J	0.16	0.09	
0.089	0.17	-0.05	U	0.35	0.64	7.9		1.5	0.5	0.31	J	0.12	0.12	
0.080	0.14	0.05	U	0.22	0.40	9.2		1.2	0.5	0.44	J	0.11	0.08	
0.096	0.18	-0.09	U	0.36	0.66	9.4		1.8	0.8	0.56	J	0.15	0.11	
0.084	0.14	-0.06	U	0.34	0.63	8.9		1.5	0.4	0.43	J	0.12	0.10	
0.073	0.14	0.0002	U	0.40	0.76	9.5		1.6	0.4	0.62	J	0.17	0.15	
0.070	0.12	0.12	U	0.18	0.30	8.9		1.1	0.5	0.48	J	0.11	0.1	-0.11
0.099	0.17	0.02	U	0.31	0.57	8.2		1.4	0.8	0.45	J	0.12	0.11	
0.11	0.20	-0.005	U	0.37	0.70	10.2		1.7	0.4	0.57	J	0.14	0.11	0.05
0.077	0.14	0.0	U	0.26	0.48	9.9		1.4	0.9	0.47	J	0.12	0.12	
0.11	0.19	0.19	U	0.37	0.63	8.2		1.5	0.9	0.35	J	0.12	0.14	
0.10	0.18	0.06	U	0.27	0.50	10.9		1.4	0.3	0.32	J	0.11	0.15	
0.11	0.20	0.05	U	0.35	0.66	9.6		1.7	0.5	0.63	J	0.14	0.05	

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.20	0.0	U	0.54	1.0	11.2		1.9	0.5	0.57	J	0.15	0.11	
0.068	0.12	0.07	U	0.23	0.41	10.1		1.3	0.5	0.46	J	0.12	0.09	
0.10	0.18	-0.0004	U	0.36	0.67	12.3		1.8	0.4	0.47	J	0.14	0.11	
0.11	0.18	0.07	U	0.32	0.58	11.3		1.5	0.3	0.38	J	0.12	0.15	
0.11	0.20	0.04	U	0.37	0.66	10.1		1.5	0.7	0.4	J	4.2	0.2	
0.11	0.20	-0.11	U	0.47	0.86	7.2		1.6	1.1	0.43	J	0.14	0.16	
0.089	0.16	0.06	U	0.31	0.58	8.0		1.4	0.4	0.46	J	0.11	0.08	-0.30
0.12	0.22	0.0	U	0.64	1.1	7.0		1.4	1	0.52	J	0.17	0.21	
0.10	0.19	-0.06	U	0.37	0.69	10.1		1.7	0.4	0.32	J	0.13	0.17	
0.071	0.13	0.09	U	0.21	0.37	10.1		1.2	0.5	0.484	J	0.097	0.060	
0.098	0.17	-0.1	U	0.39	0.69	11.2		1.7	0.4	0.51	J	0.12	0.05	
0.077	0.14	0.0	U	0.060	0.22	8.1		1.4	0.4	0.27	J	0.12	0.17	
0.12	0.21	0.0	U	0.42	0.80	9.7		1.8	0.6	0.65	J	0.17	0.13	
0.092	0.15	-0.16	U	0.43	0.75	11.6		1.8	0.4	0.37	J	0.13	0.13	
0.11	0.19	0.04	U	0.24	0.46	5.9		1.3	0.7	0.57	J	0.16	0.14	
0.095	0.16	0.06	U	0.32	0.59	9.8		1.4	0.3	0.52	J	0.14	0.16	
0.10	0.18	0.0	U	0.43	0.77	11.9		1.6	0.3	0.36	J	0.12	0.16	
0.11	0.19	-0.08	U	0.52	0.95	9.8		1.9	1.1	0.35	J	0.14	0.16	
0.13	0.22	-0.01	U	0.30	0.56	9.4		1.4	0.3	0.30	J	0.12	0.16	-0.20
0.11	0.20	0.04	U	0.38	0.71	11.9		1.9	0.5	0.51	J	0.14	0.12	
0.13	0.23	0.0	U	0.094	0.35	10.4		2.0	0.6	0.46	J	0.13	0.07	0.52
0.13	0.23	-0.03	U	0.42	0.79	7.6		1.6	0.8	0.39	J	0.12	0.06	
0.12	0.22	-0.14	U	0.42	0.75	9.3		1.7	0.8	0.44	J	0.14	0.13	
0.077	0.14	0.02	U	0.23	0.43	10.5		1.4	0.6	0.38	J	0.10	0.12	
0.12	0.21	0.0	U	0.65	1.2	8.3		1.6	0.5	0.46	J	0.16	0.15	
0.083	0.15	-0.09	U	0.26	0.47	9.1		1.2	0.5	0.395	J	0.096	0.070	
0.11	0.19	0.0	U	0.65	1.2	10.9		1.8	0.8	0.22	J	0.11	0.15	
0.11	0.20	0.11	U	0.34	0.61	8.3		1.5	1	0.92	J	0.17	0.08	
0.10	0.19	0.15	U	0.30	0.53	10.4		1.8	0.5	0.22	J	0.12	0.17	
0.10	0.18	0.02	U	0.30	0.55	10.3		1.4	0.3	1.09		0.18	0.13	
0.086	0.15	0.04	U	0.24	0.44	9.6		1.3	0.5	1.66		0.21	0.09	
0.097	0.17	-0.10	U	0.36	0.65	7.6		1.4	0.4	0.48	J	0.13	0.14	
0.12	0.21	0.0	U	0.53	0.99	9.9		1.8	0.6	0.70	J	0.16	0.06	
0.10	0.19	0.0	U	0.57	1.0	8.1		1.6	0.5	0.29	J	0.13	0.17	
0.090	0.16	-0.009	U	0.31	0.59	7.8		1.4	0.4	0.47	J	0.12	0.07	
0.091	0.16	-0.12	U	0.39	0.70	9.7		1.6	0.4	0.44	J	0.13	0.11	
0.10	0.18	-0.10	U	0.36	0.64	10.3		1.4	0.3	0.57	J	0.15	0.14	
0.093	0.17	-0.007	U	0.32	0.60	12.0		1.6	0.3	0.24	J	0.12	0.19	
0.12	0.21	-0.03	U	0.34	0.63	11.0		1.5	0.3	0.48	J	0.12	0.10	
0.11	0.19	-0.05	U	0.35	0.63	10.4		1.5	0.3	0.32	J	0.12	0.17	
0.14	0.25	-0.004	U	0.59	1.1	11.9		2.0	0.6	0.60	J	0.18	0.12	
0.11	0.21	-0.03	U	0.42	0.78	10.6		1.8	0.5	0.46	J	0.14	0.12	0.12
0.076	0.14	0.03	U	0.20	0.36	9.3		1.2	0.5	0.325	J	0.088	0.093	
0.089	0.16	-0.12	U	0.41	0.73	9.3		1.5	0.4	0.37	J	0.12	0.14	
0.14	0.24	-0.01	U	0.45	0.85	13.3		2.1	0.5	0.33	J	0.14	0.20	

Table G-4
Post-Excavation IR Site 2 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.20	-0.03	U	0.40	0.74	14.0		1.8	0.4	0.44	J	0.16	0.22	
0.16	0.27	0.0	U	0.44	0.82	11.6		1.8	1.0	0.47	J	0.17	0.23	
0.095	0.16	0.0	U	0.19	0.37	12.3		1.6	0.6	0.44	J	0.12	0.12	
0.10	0.19	0.16	U	0.36	0.64	7.6		1.5	0.5	0.52	J	0.13	0.06	0.26
0.075	0.13	0.0	U	0.25	0.47	9.0		1.2	0.5	0.49	J	0.11	0.08	
0.089	0.16	0.03	U	0.27	0.51	7.5		1.3	0.7	0.39	J	0.12	0.14	
0.087	0.16	0.1	U	0.29	0.51	9.5		1.4	0.3	0.28	J	0.12	0.17	
0.083	0.15	-0.02	U	0.28	0.52	7.9		1.2	0.3	0.35	J	0.11	0.14	
0.10	0.19	-0.07	U	0.38	0.71	7.9		1.5	0.8	0.43	J	0.11	0.05	
0.098	0.17	0.0	U	0.069	0.25	9.1		1.6	0.5	0.49	J	0.15	0.13	
0.082	0.14	-0.05	U	0.34	0.63	7.6		1.4	0.9	0.32	J	0.11	0.13	
0.11	0.20	0.06	U	0.28	0.53	9.3		1.5	0.4	0.74	J	0.15	0.09	
0.078	0.14	0.08	U	0.26	0.46	8.0		1.2	0.6	0.26	J	0.11	0.15	
0.11	0.21	0.0	U	0.67	1.2	9.5		1.7	0.5	0.60	J	0.15	0.09	0.99
0.10	0.19	0.14	U	0.22	0.36	8.1		1.5	0.7	0.55	J	0.14	0.11	
0.069	0.12	0.04	U	0.20	0.36	8.7		1.2	0.5	0.49	J	0.10	0.08	
0.066	0.12	-0.07	U	0.36	0.65	8.7		1.4	0.4	0.63	J	0.12	0.04	
0.094	0.17	-0.06	U	0.37	0.69	10.2		1.7	0.4	0.44	J	0.14	0.17	
0.12	0.21	0.07	U	0.35	0.63	8.8		1.4	0.9	0.51	J	0.15	0.19	
0.090	0.15	0.11	U	0.26	0.45	8.6		1.3	0.3	0.42	J	0.12	0.16	
0.068	0.12	0.04	U	0.20	0.36	8.2		1.1	0.4	0.402	J	0.097	0.10	
0.090	0.16	-0.09	U	0.35	0.63	8.7		1.4	0.3	0.49	J	0.13	0.09	
0.084	0.16	-0.14	U	0.36	0.64	5.9		1.3	0.9	0.87	J	0.17	0.12	
0.094	0.16	-0.05	U	0.27	0.50	9.1		1.4	0.8	0.51	J	0.13	0.11	-0.17
0.11	0.20	0.005	U	0.32	0.63	7.0		1.4	0.5	0.67	J	0.14	0.05	
0.12	0.23	0.09	U	0.43	0.78	7.6		1.5	0.5	0.44	J	0.13	0.12	
0.065	0.12	-0.02	U	0.26	0.47	10.5		1.3	0.5	0.77	J	0.14	0.09	

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.58	J	0.16	0.05	0.61	U	0.16	0.04	0.38		0.16	0.29
			0.37	J	0.13	0.06	0.46	U	0.14	0.06	0.37	U	0.19	0.39
			0.47	J	0.16	0.09	0.50	U	0.16	0.06	0.31		0.13	0.23
			0.34	J	0.13	0.06	0.50	U	0.16	0.05	0.28	U	0.18	0.36
			0.38	J	0.13	0.07	0.32	U	0.12	0.07	0.20	U	0.29	0.48
			0.54	J	0.16	0.06	0.51	U	0.15	0.03	0.28	U	0.28	0.46
			0.44	J	0.14	0.07	0.38	U	0.13	0.05	0.39		0.15	0.31
			0.61	J	0.17	0.07	0.74	U	0.18	0.04	0.41		0.19	0.38
			0.67	J	0.16	0.07	0.44	U	0.12	0.05	0.44		0.25	0.34
U	0.36	0.59	0.32	J	0.12	0.07	0.51	U	0.15	0.03	0.43		0.22	0.29
			0.47	J	0.14	0.06	0.55	U	0.15	0.03	0.55		0.19	0.20
			0.46	J	0.14	0.05	0.47	U	0.15	0.06	0.30		0.17	0.29
			0.39	J	0.14	0.09	0.60	U	0.17	0.05	0.35		0.17	0.23
			0.196	J	0.089	0.065	0.35	U	0.12	0.02	0.37		0.21	0.26
			0.47	J	0.15	0.08	0.53	U	0.16	0.05	0.34		0.14	0.27
			0.38	J	0.12	0.05	0.36	U	0.11	0.04	0.27	U	0.18	0.28
U	0.21	0.37	0.41	J	0.14	0.08	0.41	U	0.14	0.05	0.37		0.22	0.30
			0.42	J	0.16	0.10	0.32	U	0.13	0.06	0.43		0.25	0.35
			0.46	J	0.15	0.09	0.40	U	0.13	0.04	0.30		0.14	0.24
			0.56	J	0.17	0.09	0.43	U	0.14	0.03	0.41		0.22	0.29
			0.75	J	0.19	0.08	0.40	U	0.14	0.05	0.31	U	0.27	0.42
			0.60	J	0.20	0.11	0.45	U	0.17	0.04	0.38		0.22	0.32
			0.47	J	0.18	0.09	0.61	U	0.20	0.06	0.24	U	0.21	0.32
			0.29	J	0.11	0.07	0.43	U	0.14	0.06	0.22	U	0.20	0.30
			0.27	J	0.12	0.08	0.70	U	0.19	0.06	0.21		0.10	0.12
			0.80	J	0.22	0.09	0.97	U	0.24	0.06	0.45		0.16	0.25
U	0.54	0.87	0.58	J	0.17	0.08	0.55	J	0.17	0.08	0.45		0.20	0.23
			0.38	J	0.13	0.08	0.48	J	0.15	0.03	0.25	U	0.20	0.30
			0.91	J	0.23	0.09	1.01		0.24	0.05	0.85		0.22	0.26
			0.33	J	0.13	0.08	0.56	U	0.17	0.08	0.45		0.15	0.21
			0.57	J	0.17	0.07	0.94	J	0.22	0.03	0.47		0.26	0.36
			0.52	J	0.17	0.09	0.72	J	0.19	0.06	0.29	U	0.23	0.35
			0.40	J	0.14	0.09	0.38	U	0.13	0.05	0.44		0.15	0.16
			0.29	J	0.12	0.08	0.24	U	0.10	0.06	0.29		0.18	0.26
			0.34	J	0.13	0.09	0.56	J	0.17	0.05	0.20		0.14	0.19
			0.37	J	0.13	0.08	0.32	U	0.12	0.03	0.35		0.22	0.31
U	0.48	0.79	0.74	J	0.20	0.09	0.62	J	0.17	0.03	0.78		0.25	0.44
			0.85	J	0.20	0.07	0.62	J	0.17	0.05	0.95		0.26	0.38
			0.47	J	0.15	0.08	0.46	J	0.14	0.03	0.24	U	0.20	0.29
			0.39	J	0.13	0.06	0.38	U	0.13	0.04	0.26	U	0.21	0.31
			0.43	J	0.14	0.07	0.43	J	0.14	0.06	0.35		0.12	0.19
			0.36	J	0.14	0.09	0.43	U	0.15	0.07	0.34		0.13	0.24
			0.47	J	0.15	0.08	0.51	J	0.15	0.05	0.18	U	0.18	0.29
			0.47	J	0.16	0.10	0.53	U	0.16	0.03	0.18	U	0.16	0.24
			0.44	J	0.14	0.08	0.49	J	0.15	0.05	0.30		0.19	0.27

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.40	J	0.14	0.08	0.53	J	0.17	0.08	0.48		0.17	0.29
			0.47	J	0.15	0.07	0.50	J	0.15	0.05	0.28		0.17	0.24
U	0.47	0.74	0.77	J	0.19	0.08	0.83	J	0.20	0.03	0.36		0.16	0.27
			0.74	J	0.19	0.10	0.66	J	0.18	0.07	0.50		0.16	0.27
			0.38	J	0.14	0.09	0.44	J	0.15	0.06	0.03	U	0.21	0.38
			0.45	J	0.15	0.07	0.47	J	0.15	0.07	0.32	U	0.23	0.32
			0.58	J	0.16	0.08	0.50	J	0.15	0.05	0.17	U	0.19	0.30
			0.42	J	0.14	0.09	0.43	J	0.14	0.05	0.49		0.27	0.35
			0.39	J	0.13	0.07	0.43	J	0.13	0.05	0.46		0.14	0.23
			0.40	J	0.15	0.1	0.41	U	0.14	0.06	0.48		0.18	0.27
			0.40	J	0.15	0.1	0.38	U	0.14	0.03	0.24	U	0.25	0.39
			0.28	J	0.13	0.11	0.57	J	0.18	0.06	0.35		0.20	0.28
			0.50	J	0.15	0.09	0.48	J	0.15	0.04	0.51		0.18	0.23
			0.85	J	0.21	0.08	0.55	J	0.16	0.05	0.49		0.22	0.28
			0.59	J	0.17	0.08	0.50	J	0.16	0.03	0.51		0.27	0.36
			0.51	J	0.16	0.08	0.42	J	0.14	0.08	0.55		0.13	0.13
			0.59	J	0.17	0.07	0.68	J	0.18	0.06	0.36		0.21	0.28
			0.45	J	0.14	0.08	0.57	U	0.16	0.03	0.43		0.19	0.25
			0.92	J	0.21	0.06	0.64	J	0.17	0.04	0.54		0.18	0.26
			0.62	J	0.18	0.08	0.76	U	0.20	0.03	0.58		0.18	0.27
U	0.38	0.66	0.52	J	0.18	0.09	0.43	J	0.16	0.09	0.23	U	0.17	0.24
			0.60	J	0.17	0.07	0.79	U	0.20	0.07	0.86		0.29	0.40
			0.56	J	0.17	0.09	0.76	U	0.20	0.06	0.50		0.19	0.34
			0.48	J	0.24	0.20	0.88	J	0.32	0.07	0.64		0.24	0.22
			0.57	J	0.17	0.08	0.69	J	0.19	0.05	0.52		0.15	0.25
			0.41	J	0.15	0.11	0.63	J	0.18	0.09	0.25	U	0.24	0.37
U	0.35	0.55	0.66	J	0.19	0.07	0.73	J	0.20	0.05	0.60		0.28	0.36
			0.53	J	0.18	0.10	0.41	J	0.15	0.07	0.34		0.17	0.23
U	0.34	0.60	0.36	J	0.14	0.09	0.69	U	0.19	0.06	0.48		0.14	0.14
			0.62	J	0.20	0.1	0.73	U	0.21	0.1	0.41		0.15	0.26
			0.38	J	0.13	0.08	0.49	J	0.15	0.06	0.30		0.19	0.25
			0.46	J	0.15	0.08	0.38	J	0.14	0.08	0.33		0.13	0.21
			0.62	J	0.18	0.07	0.56	U	0.17	0.06	0.45		0.14	0.23
			0.59	J	0.18	0.08	0.43	J	0.15	0.06	0.22	U	0.22	0.35
			0.65	J	0.19	0.09	0.54	J	0.17	0.07	0.52		0.26	0.30
			0.53	J	0.16	0.09	0.54	J	0.16	0.06	0.48		0.16	0.25
			0.35	J	0.13	0.07	0.64	J	0.17	0.05	0.53		0.27	0.34
			0.65	J	0.20	0.11	0.68	J	0.20	0.07	0.63		0.12	0.06
			0.48	J	0.17	0.09	0.59	J	0.18	0.03	0.42		0.20	0.33
			0.47	J	0.15	0.08	0.58	U	0.16	0.03	0.34		0.23	0.33
			0.58	J	0.17	0.08	0.74	J	0.19	0.05	0.83		0.25	0.20
			0.66	J	0.20	0.11	0.63	J	0.19	0.06	0.65		0.19	0.24
			0.35	J	0.15	0.09	0.41	J	0.15	0.06	0.24		0.11	0.18
			0.51	J	0.16	0.1	0.54	U	0.16	0.07	0.48		0.17	0.26
			0.54	J	0.16	0.06	0.62	J	0.17	0.03	0.30	U	0.23	0.33

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.39	J	0.15	0.11	0.57	J	0.17	0.08	0.63		0.17	0.25
			0.57	J	0.17	0.07	0.47	J	0.15	0.05	0.47		0.18	0.27
			0.24	J	0.11	0.09	0.45	J	0.15	0.06	0.22	U	0.17	0.24
			0.40	J	0.14	0.09	0.51	J	0.16	0.06	0.36		0.15	0.25
			0.51	J	0.16	0.08	0.62	J	0.17	0.05	0.43		0.18	0.31
			0.45	J	0.15	0.09	0.64	J	0.18	0.05	0.37		0.12	0.19
			0.40	J	0.14	0.09	0.50	J	0.15	0.05	0.43		0.16	0.28
U	0.28	0.47	0.41	J	0.14	0.06	0.32	J	0.12	0.04	0.19	U	0.17	0.25
			0.40	J	0.13	0.07	0.66	J	0.17	0.03	0.46		0.20	0.24
			0.56	J	0.16	0.06	0.45	J	0.14	0.04	0.39		0.14	0.21
			0.33	J	0.14	0.11	0.33	J	0.13	0.03	0.52		0.15	0.21
			0.50	J	0.19	0.14	0.67	J	0.22	0.07	0.27	U	0.22	0.33
U	0.56	0.99	0.41	J	0.14	0.07	0.51	J	0.16	0.07	0.24	U	0.14	0.32
			0.90	J	0.22	0.09	0.62	J	0.18	0.06	0.55		0.15	0.16
			0.49	J	0.15	0.07	0.50	J	0.15	0.07	0.39	U	0.26	0.39
			0.47	J	0.15	0.08	0.46	J	0.15	0.05	0.33		0.17	0.21
			0.49	J	0.16	0.09	0.52	J	0.16	0.06	0.20	U	0.16	0.24
			0.58	J	0.16	0.08	0.74	J	0.18	0.05	0.27		0.16	0.23
			0.41	J	0.14	0.07	0.40	J	0.14	0.07	0.15	U	0.17	0.27
U	0.29	0.47	0.58	J	0.17	0.09	0.43	U	0.14	0.06	0.24		0.14	0.18
			0.34	J	0.12	0.08	0.30	U	0.11	0.04	0.18	U	0.17	0.26
			0.40	U	0.14	0.07	0.46	J	0.15	0.03	0.179		0.098	0.13
			0.62	J	0.17	0.07	0.53	J	0.16	0.05	0.15	U	0.14	0.21
			0.44	J	0.15	0.08	0.31	J	0.12	0.05	0.22	U	0.17	0.25
			0.51	J	0.16	0.08	0.36	J	0.13	0.03	0.0	U	0.071	0.15
			0.33	J	0.13	0.09	0.42	J	0.14	0.06	0.37		0.14	0.19
			0.47	J	0.15	0.07	0.42	J	0.14	0.07	0.06	U	0.14	0.24
			0.46	J	0.15	0.08	0.66	J	0.18	0.08	0.44		0.16	0.26
			0.41	J	0.14	0.08	0.46	J	0.15	0.06	0.22	U	0.22	0.35
			0.20	J	0.10	0.08	0.32	J	0.12	0.08	0.19	U	0.20	0.33
			0.84	J	0.20	0.08	0.53	J	0.15	0.05	0.39		0.15	0.25
			0.55	J	0.17	0.08	0.59	J	0.17	0.03	0.46		0.17	0.30
			0.54	J	0.18	0.09	0.62	J	0.19	0.07	0.33		0.13	0.17
U	0.35	0.60	0.42	J	0.14	0.07	0.35	J	0.13	0.04	0.38		0.20	0.28
			0.38	J	0.14	0.09	0.68	J	0.19	0.03	0.39		0.13	0.18
			0.52	J	0.16	0.10	0.45	J	0.14	0.07	0.13	U	0.13	0.20
			0.46	J	0.15	0.08	0.50	J	0.16	0.05	0.23		0.16	0.23
U	0.34	0.59	0.35	J	0.14	0.12	0.33	J	0.13	0.09	0.18	U	0.14	0.21
			0.35	J	0.13	0.07	0.52	J	0.16	0.05	0.20	U	0.18	0.27
			0.58	J	0.17	0.07	0.46	J	0.15	0.08	0.38		0.18	0.24
			0.34	J	0.13	0.07	0.37	J	0.13	0.03	0.14	U	0.17	0.27
			0.34	U	0.13	0.07	0.52	J	0.15	0.06	0.26	U	0.18	0.26
			0.46	J	0.15	0.08	0.53	J	0.16	0.05	0.37		0.17	0.18
			0.53	J	0.16	0.08	0.40	J	0.14	0.06	0.1	U	0.16	0.28
			0.24	U	0.10	0.07	0.54	J	0.15	0.05	0.37		0.12	0.16

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.32	J	0.13	0.09	0.56	J	0.17	0.06	0.50		0.12	0.06
			1.03		0.23	0.08	0.64	J	0.18	0.08	0.17	U	0.21	0.34
			0.34	U	0.12	0.06	0.51	J	0.15	0.05	0.28		0.18	0.26
			0.38	J	0.13	0.08	0.45	J	0.14	0.06	0.24	U	0.13	0.24
			0.39	U	0.13	0.07	0.38	J	0.13	0.03	0.17	U	0.14	0.22
			0.36	U	0.13	0.07	0.43	J	0.14	0.06	0.34		0.23	0.32
U	0.28	0.53	0.45	J	0.15	0.10	0.38	J	0.13	0.08	0.29		0.20	0.27
			0.96	J	0.23	0.1	0.63	J	0.18	0.03	0.42		0.18	0.22
			0.33	J	0.13	0.08	0.50	J	0.16	0.06	0.39		0.20	0.22
			0.70	J	0.19	0.08	0.58	J	0.16	0.03	0.21	U	0.21	0.32
			0.24	J	0.12	0.1	0.30	U	0.13	0.04	0.38		0.12	0.20
U	0.29	0.52	0.42	J	0.15	0.10	0.43	U	0.14	0.08	0.18	U	0.18	0.28
			0.95	J	0.23	0.08	0.77	J	0.20	0.07	0.36		0.18	0.23
			0.40	J	0.13	0.07	0.61	J	0.16	0.06	0.50		0.16	0.20
			0.56	J	0.16	0.07	0.59	J	0.17	0.07	0.43		0.15	0.19
			0.64	J	0.19	0.08	0.70	J	0.20	0.08	0.48		0.27	0.35
			0.67	J	0.19	0.09	0.70	J	0.19	0.06	0.51		0.19	0.35
			0.57	J	0.17	0.08	0.57	J	0.17	0.08	0.39		0.12	0.17
			0.41	J	0.14	0.08	0.50	J	0.16	0.06	0.35		0.15	0.25
U	0.54	0.93	0.58	J	0.17	0.08	0.61	J	0.17	0.03	0.51		0.19	0.29
			0.85	J	0.22	0.09	0.77	J	0.21	0.05	0.58		0.22	0.41
			0.50	J	0.16	0.08	0.54	J	0.16	0.05	0.22	U	0.22	0.35
			0.74	J	0.21	0.08	0.57	J	0.18	0.04	0.40		0.12	0.15
			0.68	J	0.20	0.1	0.82	J	0.22	0.06	0.45		0.22	0.29
			0.80	J	0.23	0.11	0.47	J	0.17	0.08	0.37		0.23	0.30
			0.37	J	0.15	0.11	0.34	U	0.14	0.06	0.56		0.19	0.31
			0.58	J	0.20	0.12	0.51	J	0.18	0.08	0.34		0.13	0.18
			0.51	J	0.16	0.07	0.50	J	0.16	0.03	0.23	U	0.17	0.24
			0.39	J	0.14	0.09	0.36	U	0.13	0.04	0.34		0.19	0.25
U	0.43	0.71	0.47	J	0.16	0.1	0.71	J	0.19	0.03	0.19	U	0.19	0.29
			0.44	J	0.16	0.09	0.46	J	0.16	0.06	0.25	U	0.19	0.27
U	0.25	0.47	0.97	J	0.22	0.08	0.72	J	0.19	0.06	0.25		0.16	0.24
			0.75	J	0.21	0.09	0.82	J	0.22	0.09	0.44		0.24	0.32
			0.33	J	0.12	0.08	0.39	J	0.13	0.03	0.31		0.18	0.23
			0.44	J	0.15	0.07	0.53	J	0.16	0.05	0.40		0.14	0.20
			0.40	J	0.14	0.07	0.60	J	0.17	0.07	0.33	U	0.24	0.36
			0.70	J	0.19	0.08	0.64	J	0.18	0.05	0.29		0.13	0.21
			1.00		0.22	0.08	0.50	J	0.15	0.06	0.42		0.16	0.29
U	0.29	0.53	0.57	J	0.16	0.07	0.47	J	0.15	0.07	0.54		0.12	0.17
			0.56	J	0.17	0.08	0.57	J	0.17	0.06	0.47		0.16	0.29
U	0.48	0.81	0.46	J	0.15	0.07	0.54	U	0.16	0.06	0.69		0.21	0.11
			0.55	J	0.18	0.09	0.70	U	0.20	0.05	0.52		0.16	0.19
			0.48	J	0.16	0.11	0.59	U	0.18	0.08	0.33		0.19	0.26
			0.61	J	0.18	0.08	0.56	U	0.17	0.03	0.0	U	0.14	0.25
			0.44	J	0.21	0.17	0.56	U	0.23	0.11	0.38		0.23	0.32

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.53	J	0.20	0.13	0.51	U	0.20	0.09	0.48		0.23	0.29
			0.66	J	0.19	0.10	0.55	U	0.17	0.06	0.51		0.14	0.16
			0.44	J	0.15	0.08	0.53	U	0.16	0.06	0.40		0.22	0.30
			0.66	J	0.18	0.09	0.53	U	0.16	0.05	0.62		0.18	0.22
			0.77	J	0.21	0.11	0.67	U	0.19	0.05	0.79		0.23	0.19
			0.73	J	0.20	0.08	0.77	J	0.21	0.08	0.34	U	0.17	0.36
U	0.30	0.59	0.59	J	0.17	0.11	0.42	J	0.14	0.08	0.45		0.15	0.21
			1.55		0.30	0.09	0.79	J	0.20	0.06	1.24		0.25	0.34
			0.50	J	0.16	0.09	0.56	J	0.17	0.06	0.41		0.16	0.26
			0.40	J	0.14	0.09	0.44	J	0.14	0.05	0.66		0.13	0.15
			0.36	J	0.13	0.07	0.44	J	0.14	0.05	0.40		0.20	0.25
			0.55	J	0.16	0.08	0.57	J	0.16	0.05	0.40		0.15	0.27
			0.73	J	0.19	0.06	0.40	J	0.13	0.04	0.25	U	0.22	0.35
			0.77	J	0.20	0.09	0.52	J	0.16	0.05	0.43		0.22	0.29
			0.54	J	0.16	0.08	0.38	J	0.13	0.05	0.28		0.17	0.22
			0.49	J	0.15	0.07	0.62	J	0.17	0.06	0.57		0.17	0.25
			0.39	J	0.14	0.09	0.39	J	0.13	0.03	0.39		0.15	0.26
			0.51	J	0.15	0.07	0.47	J	0.15	0.05	0.42		0.21	0.39
U	0.32	0.60	0.35	J	0.13	0.08	0.34	J	0.12	0.03	0.37		0.17	0.20
			0.37	J	0.13	0.06	0.42	J	0.13	0.04	0.33		0.21	0.29
U	0.58	0.94	0.51	J	0.27	0.25	0.50	U	0.25	0.08	0.29	U	0.22	0.32
			0.56	J	0.17	0.08	0.50	J	0.15	0.05	0.31		0.19	0.24
			0.56	J	0.16	0.09	0.59	J	0.17	0.05	0.37		0.16	0.31
			0.67	J	0.18	0.08	0.55	U	0.16	0.03	0.50		0.15	0.21
			0.98	J	0.23	0.10	0.40	J	0.14	0.08	0.33		0.20	0.27
			0.32	J	0.12	0.06	0.36	J	0.12	0.03	0.38		0.14	0.15
			0.57	J	0.18	0.08	0.66	U	0.19	0.05	0.45		0.24	0.33
			0.46	J	0.15	0.08	0.37	J	0.13	0.05	0.24	U	0.18	0.26
			0.56	J	0.21	0.11	0.57	U	0.22	0.13	0.57		0.25	0.29
			0.35	J	0.13	0.09	0.51	J	0.16	0.05	0.43		0.19	0.25
			0.64	J	0.18	0.08	0.54	J	0.16	0.03	0.43		0.14	0.20
			0.43	J	0.15	0.07	0.33	U	0.13	0.05	0.35		0.20	0.26
			0.43	J	0.15	0.08	0.49	J	0.16	0.07	0.26	U	0.23	0.36
			0.78	J	0.20	0.08	0.41	J	0.14	0.06	0.31		0.18	0.20
			0.49	J	0.16	0.07	0.44	J	0.15	0.09	0.46		0.22	0.28
			0.49	J	0.17	0.09	0.59	J	0.19	0.08	0.38		0.14	0.23
			0.38	J	0.13	0.08	0.51	J	0.15	0.05	0.42		0.16	0.26
			0.65	J	0.18	0.08	0.62	J	0.17	0.06	0.47		0.17	0.29
			0.57	J	0.16	0.07	0.50	J	0.15	0.05	0.46		0.20	0.25
			0.94	J	0.22	0.08	0.96	J	0.22	0.06	0.45		0.19	0.23
			0.57	J	0.18	0.09	0.55	J	0.18	0.09	0.26	U	0.25	0.39
U	0.52	0.88	0.28	J	0.12	0.08	0.45	J	0.15	0.06	0.57		0.20	0.30
			0.73	J	0.20	0.08	0.58	J	0.17	0.03	0.67		0.14	0.06
			0.21	J	0.11	0.10	0.37	J	0.13	0.07	0.46		0.20	0.25
			0.58	J	0.17	0.09	0.65	J	0.18	0.06	0.41		0.25	0.35

Table G-4
Post-Excavation IR Site 2 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.74	J	0.20	0.11	0.70	J	0.19	0.08	0.61		0.25	0.32
			0.52	J	0.16	0.09	0.58	J	0.17	0.06	0.72		0.27	0.33
			0.64	J	0.17	0.08	0.54	J	0.15	0.05	0.52		0.16	0.21
U	0.30	0.48	0.35	J	0.13	0.09	0.40	J	0.14	0.05	0.29	U	0.21	0.29
			0.39	J	0.14	0.09	0.32	J	0.12	0.04	0.61		0.12	0.06
			0.37	J	0.13	0.08	0.32	J	0.12	0.03	0.39		0.13	0.22
			1.27		0.26	0.07	0.62	J	0.18	0.07	0.36		0.15	0.25
			0.36	J	0.13	0.07	0.45	J	0.14	0.03	0.14	U	0.15	0.24
			0.49	J	0.15	0.06	0.58	J	0.16	0.04	0.28	U	0.16	0.28
			0.43	J	0.14	0.07	0.34	J	0.12	0.06	0.09	U	0.16	0.28
			0.36	J	0.13	0.08	0.53	J	0.16	0.08	0.30		0.20	0.29
			0.43	J	0.14	0.07	0.62	J	0.17	0.05	0.30		0.18	0.25
			0.47	J	0.15	0.07	0.60	J	0.17	0.03	0.30		0.15	0.19
J	0.45	0.67	0.42	J	0.14	0.08	0.40	J	0.13	0.05	0.30		0.21	0.29
			0.55	J	0.17	0.09	0.50	J	0.15	0.06	0.23	U	0.20	0.30
			1.04		0.23	0.09	0.62	J	0.17	0.05	0.62		0.15	0.11
			0.46	J	0.15	0.08	0.48	J	0.15	0.06	0.35		0.16	0.19
			0.54	J	0.16	0.09	0.72	J	0.18	0.05	0.56		0.22	0.24
			0.61	J	0.18	0.1	0.67	J	0.18	0.05	0.19	U	0.17	0.27
			0.39	J	0.14	0.09	0.49	J	0.15	0.03	0.29		0.17	0.25
			0.48	J	0.15	0.09	0.36	J	0.13	0.04	0.35		0.10	0.15
			0.51	J	0.16	0.09	0.50	J	0.15	0.05	0.28		0.17	0.25
			0.40	J	0.14	0.1	0.38	J	0.14	0.05	0.31		0.18	0.25
U	0.52	0.92	0.39	J	0.14	0.1	0.35	J	0.13	0.03	0.23	U	0.17	0.25
			0.70	J	0.19	0.08	0.65	J	0.18	0.05	0.11	U	0.14	0.23
			0.31	J	0.12	0.07	0.41	J	0.13	0.03	0.40		0.16	0.27
			0.44	J	0.15	0.07	0.45	J	0.15	0.05	0.39		0.15	0.17

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.55	J	0.15	0.05	-0.0041	U	0.005	0.054	0.62	J	0.16	0.05
0.290	J	0.099	0.042	0.020	U	0.028	0.027	0.41	J	0.12	0.03
0.28	J	0.10	0.04	0.051	J	0.048	0.046	0.29	J	0.11	0.04
0.28	J	0.10	0.06	0.038	U	0.041	0.043	0.29	J	0.10	0.07
0.35	J	0.12	0.05	0.019	U	0.033	0.057	0.41	J	0.13	0.07
0.186	J	0.084	0.044	0.043	U	0.045	0.048	0.34	J	0.11	0.04
0.268	J	0.093	0.032	0.026	U	0.033	0.040	0.277	J	0.094	0.020
0.31	J	0.10	0.04	0.008	U	0.021	0.043	0.43	J	0.12	0.02
0.48	J	0.13	0.04	0.031	J	0.035	0.028	0.51	J	0.14	0.04
0.29	J	0.11	0.04	0.067	J	0.055	0.030	0.44	J	0.13	0.04
0.24	J	0.10	0.06	0.032	U	0.043	0.060	0.32	J	0.12	0.05
0.33	J	0.12	0.05	0.025	U	0.036	0.034	0.32	J	0.12	0.04
0.234	J	0.093	0.037	0.009	U	0.022	0.045	0.34	J	0.11	0.04
0.34	J	0.11	0.06	0.018	U	0.028	0.042	0.29	J	0.10	0.06
0.32	J	0.11	0.05	0.018	U	0.033	0.055	0.36	J	0.12	0.06
0.256	J	0.099	0.044	0.020	U	0.032	0.047	0.28	J	0.10	0.04
0.37	J	0.13	0.05	-0.0048	U	0.006	0.063	0.47	J	0.14	0.05
0.40	J	0.13	0.03	0.0	U	0.011	0.036	0.52	J	0.16	0.05
0.46	J	0.15	0.05	-0.0026	U	0.005	0.059	0.28	J	0.11	0.03
0.30	J	0.12	0.06	-0.0027	U	0.005	0.061	0.40	J	0.14	0.05
0.44	J	0.14	0.03	0.047	U	0.050	0.052	0.45	J	0.14	0.03
0.42	J	0.14	0.06	-0.0050	U	0.007	0.066	0.38	J	0.14	0.07
0.45	J	0.15	0.07	0.013	U	0.027	0.036	0.39	J	0.14	0.07
0.43	J	0.14	0.06	-0.0022	U	0.004	0.051	0.31	J	0.11	0.05
0.40	J	0.14	0.07	0.019	U	0.038	0.070	0.34	J	0.13	0.09
0.47	J	0.15	0.06	-0.0051	U	0.007	0.066	0.28	J	0.12	0.06
0.29	J	0.12	0.06	0.008	U	0.027	0.065	0.31	J	0.12	0.06
0.36	J	0.13	0.06	-0.0026	U	0.005	0.059	0.28	J	0.11	0.05
0.83	J	0.21	0.08	0.094	J	0.073	0.059	0.86	J	0.21	0.08
0.43	J	0.14	0.05	0.067	J	0.060	0.036	0.62	J	0.17	0.05
0.64	J	0.18	0.06	0.048	U	0.054	0.066	0.53	J	0.16	0.05
0.42	J	0.14	0.07	0.011	U	0.028	0.058	0.48	J	0.15	0.03
0.30	J	0.12	0.07	-0.0026	U	0.005	0.059	0.34	J	0.13	0.05
0.26	J	0.10	0.05	-0.0023	U	0.004	0.052	0.208	J	0.094	0.057
0.39	J	0.13	0.05	-0.0047	U	0.006	0.062	0.27	J	0.11	0.05
0.39	J	0.14	0.03	0.014	U	0.028	0.038	0.32	J	0.12	0.05
0.54	J	0.16	0.05	0.025	U	0.039	0.058	0.59	J	0.17	0.03
0.50	J	0.15	0.05	0.011	U	0.027	0.056	0.62	J	0.17	0.04
0.37	J	0.13	0.03	0.011	U	0.029	0.060	0.29	J	0.12	0.03
0.23	J	0.10	0.06	0.035	U	0.047	0.065	0.28	J	0.12	0.07
0.25	J	0.10	0.06	0.012	U	0.024	0.032	0.27	J	0.11	0.06
0.36	J	0.13	0.06	-0.0024	U	0.004	0.055	0.34	J	0.12	0.04
0.39	J	0.13	0.06	0.024	U	0.037	0.056	0.37	J	0.13	0.06
0.28	J	0.12	0.07	0.043	U	0.054	0.066	0.31	J	0.13	0.05
0.30	J	0.12	0.07	0.019	U	0.039	0.072	0.31	J	0.12	0.09

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.38	J	0.13	0.06	0.035	U	0.047	0.066	0.37	J	0.13	0.06
0.38	J	0.13	0.06	0.024	U	0.038	0.056	0.39	J	0.13	0.05
0.54	J	0.16	0.06	0.053	U	0.056	0.059	0.40	J	0.14	0.05
0.46	J	0.14	0.03	0.025	U	0.035	0.034	0.48	J	0.15	0.05
0.45	J	0.15	0.07	0.026	U	0.037	0.035	0.44	J	0.14	0.07
0.43	J	0.15	0.07	0.023	U	0.036	0.053	0.27	J	0.11	0.03
0.41	J	0.14	0.06	0.022	U	0.035	0.053	0.43	J	0.15	0.07
0.41	J	0.15	0.07	-0.0027	U	0.005	0.062	0.38	J	0.14	0.06
0.40	J	0.14	0.08	0.006	U	0.029	0.075	0.44	J	0.15	0.09
0.39	J	0.13	0.05	0.059	J	0.055	0.052	0.32	J	0.12	0.04
0.32	J	0.12	0.08	0.024	U	0.038	0.056	0.39	J	0.14	0.07
0.32	J	0.12	0.06	0.022	U	0.039	0.066	0.35	J	0.13	0.06
0.35	J	0.12	0.05	-0.0023	U	0.004	0.053	0.41	J	0.13	0.04
0.34	J	0.13	0.06	0.025	U	0.039	0.059	0.42	J	0.14	0.05
0.34	J	0.13	0.08	0.037	U	0.046	0.056	0.46	J	0.15	0.07
0.38	J	0.13	0.05	-0.0046	U	0.006	0.060	0.31	J	0.12	0.05
0.50	J	0.15	0.03	0.024	U	0.034	0.033	0.35	J	0.13	0.05
0.41	J	0.14	0.05	0.053	J	0.053	0.036	0.43	J	0.14	0.04
0.35	J	0.12	0.05	0.038	J	0.045	0.035	0.49	J	0.15	0.04
0.51	J	0.16	0.06	0.022	U	0.039	0.067	0.42	J	0.14	0.05
0.47	J	0.15	0.08	0.034	U	0.049	0.075	0.30	J	0.12	0.09
0.45	J	0.14	0.06	0.011	U	0.027	0.056	0.55	J	0.16	0.03
0.37	J	0.13	0.06	0.011	U	0.027	0.057	0.54	J	0.16	0.05
0.47	J	0.16	0.06	0.011	U	0.028	0.058	0.45	J	0.15	0.03
0.57	J	0.17	0.06	-0.0025	U	0.005	0.056	0.48	J	0.16	0.05
0.45	J	0.15	0.03	0.023	U	0.036	0.054	0.40	J	0.14	0.03
0.61	J	0.18	0.07	0.036	U	0.048	0.066	0.48	J	0.16	0.08
0.31	J	0.12	0.06	0.022	U	0.040	0.067	0.39	J	0.14	0.06
0.46	J	0.15	0.05	0.051	U	0.054	0.057	0.42	J	0.14	0.06
0.66	J	0.18	0.05	0.009	U	0.029	0.068	0.43	J	0.14	0.05
0.223	J	0.099	0.056	0.011	U	0.026	0.055	0.195	J	0.092	0.044
0.35	J	0.13	0.06	0.012	U	0.030	0.062	0.31	J	0.12	0.05
0.29	J	0.11	0.03	0.0	U	0.011	0.034	0.34	J	0.12	0.05
0.43	J	0.15	0.08	0.011	U	0.027	0.057	0.27	J	0.11	0.08
0.38	J	0.14	0.08	0.013	U	0.027	0.036	0.39	J	0.14	0.08
0.45	J	0.13	0.04	0.021	U	0.033	0.049	0.41	J	0.13	0.02
0.32	J	0.11	0.05	0.032	J	0.037	0.029	0.38	J	0.12	0.04
0.47	J	0.14	0.04	0.032	U	0.039	0.048	0.31	J	0.11	0.04
0.49	J	0.16	0.06	0.028	U	0.040	0.038	0.39	J	0.14	0.05
0.50	J	0.14	0.05	0.046	U	0.047	0.055	0.50	J	0.14	0.04
0.52	J	0.14	0.07	0.051	J	0.045	0.027	0.56	J	0.14	0.04
0.49	J	0.15	0.03	-0.0025	U	0.004	0.056	0.32	J	0.12	0.03
0.34	J	0.13	0.06	0.023	U	0.040	0.068	0.33	J	0.13	0.05
0.38	J	0.16	0.10	0.014	U	0.039	0.086	0.44	J	0.17	0.04
0.45	J	0.12	0.05	0.016	U	0.026	0.041	0.278	J	0.093	0.038

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.35	J	0.13	0.07	0.011	U	0.027	0.056	0.45	J	0.14	0.03
0.32	J	0.12	0.06	0.022	U	0.034	0.051	0.219	J	0.095	0.047
0.37	J	0.13	0.07	0.036	J	0.042	0.033	0.32	J	0.12	0.07
0.48	J	0.15	0.05	-0.0025	U	0.005	0.056	0.34	J	0.13	0.06
0.43	J	0.12	0.05	0.005	U	0.021	0.053	0.35	J	0.11	0.06
0.36	J	0.11	0.06	0.009	U	0.019	0.025	0.36	J	0.11	0.05
0.43	J	0.14	0.06	0.022	U	0.039	0.067	0.36	J	0.13	0.06
0.32	J	0.12	0.07	0.013	U	0.026	0.035	0.22	J	0.10	0.07
0.46	J	0.15	0.07	0.031	U	0.046	0.070	0.34	J	0.13	0.09
0.31	J	0.12	0.06	0.021	U	0.037	0.063	0.32	J	0.12	0.06
0.35	J	0.12	0.06	0.012	U	0.024	0.033	0.32	J	0.12	0.06
0.34	J	0.12	0.06	0.022	U	0.035	0.052	0.25	J	0.10	0.05
0.45	J	0.14	0.06	0.063	J	0.058	0.063	0.42	J	0.13	0.08
0.31	J	0.11	0.05	0.020	U	0.036	0.061	0.33	J	0.12	0.06
0.43	J	0.13	0.05	0.01	U	0.024	0.050	0.44	J	0.13	0.04
0.225	J	0.096	0.052	0.01	U	0.024	0.051	0.36	J	0.12	0.04
0.33	J	0.13	0.09	-0.0026	U	0.005	0.060	0.31	J	0.12	0.08
0.56	J	0.14	0.05	-0.0024	U	0.004	0.045	0.63	J	0.15	0.05
0.205	J	0.093	0.049	0.037	J	0.043	0.034	0.29	J	0.11	0.04
0.37	J	0.11	0.06	0.012	U	0.028	0.057	0.42	J	0.12	0.07
0.272	J	0.096	0.045	0.005	U	0.020	0.051	0.37	J	0.11	0.05
0.39	J	0.13	0.03	0.026	U	0.037	0.035	0.27	J	0.11	0.05
0.44	J	0.15	0.06	0.009	U	0.028	0.067	0.41	J	0.14	0.05
0.27	U	0.10	0.05	0.009	U	0.024	0.049	0.248	J	0.099	0.039
0.29	J	0.12	0.07	0.011	U	0.029	0.060	0.214	J	0.099	0.030
0.26	J	0.10	0.05	0.009	U	0.024	0.049	0.28	J	0.10	0.04
0.43	J	0.13	0.05	0.022	U	0.034	0.051	0.35	J	0.12	0.04
0.35	J	0.13	0.06	0.023	U	0.037	0.054	0.37	J	0.13	0.04
0.24	J	0.10	0.07	0.012	U	0.024	0.033	0.34	J	0.12	0.05
0.31	J	0.12	0.03	0.026	U	0.037	0.035	0.32	J	0.12	0.05
0.46	J	0.14	0.07	0.022	U	0.035	0.052	0.30	J	0.11	0.07
0.59	J	0.17	0.05	0.014	U	0.027	0.037	0.43	J	0.14	0.05
0.46	J	0.14	0.05	0.045	U	0.048	0.050	0.30	J	0.11	0.04
0.37	J	0.13	0.06	-0.0024	U	0.004	0.054	0.36	J	0.13	0.05
0.32	J	0.12	0.06	0.01	U	0.024	0.051	0.39	J	0.13	0.05
0.37	J	0.13	0.05	0.038	U	0.047	0.057	0.44	J	0.14	0.06
0.33	J	0.12	0.05	0.022	U	0.034	0.051	0.28	J	0.11	0.06
0.28	J	0.11	0.05	-0.0045	U	0.006	0.059	0.30	J	0.11	0.05
0.29	J	0.11	0.03	0.012	U	0.025	0.033	0.174	J	0.085	0.048
0.41	J	0.13	0.06	-0.0023	U	0.004	0.053	0.232	J	0.099	0.053
0.26	J	0.11	0.05	0.021	U	0.037	0.062	0.32	J	0.12	0.05
0.31	J	0.12	0.06	0.008	U	0.028	0.066	0.38	J	0.13	0.06
0.37	J	0.13	0.03	0.056	J	0.057	0.038	0.42	J	0.14	0.06
0.41	J	0.14	0.06	-0.0050	U	0.007	0.065	0.42	J	0.14	0.06
0.28	J	0.11	0.05	-0.0022	U	0.004	0.051	0.42	J	0.13	0.04

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.36	J	0.13	0.05	0.010	U	0.026	0.055	0.30	J	0.11	0.03
0.54	J	0.16	0.08	0.047	U	0.050	0.052	0.42	J	0.14	0.07
0.25	U	0.11	0.08	0.0	U	0.011	0.033	0.24	J	0.10	0.05
0.37	J	0.13	0.06	0.025	U	0.040	0.059	0.28	J	0.11	0.05
0.41	J	0.13	0.06	0.023	U	0.036	0.053	0.24	J	0.10	0.03
0.31	J	0.11	0.06	0.022	U	0.035	0.052	0.29	J	0.11	0.05
0.37	J	0.12	0.05	-0.0045	U	0.006	0.058	0.32	J	0.11	0.05
0.52	J	0.16	0.06	0.011	U	0.027	0.057	0.42	J	0.14	0.05
0.28	J	0.12	0.08	0.025	U	0.039	0.059	0.40	J	0.14	0.08
0.29	J	0.12	0.05	0.026	U	0.037	0.036	0.38	J	0.13	0.05
0.26	J	0.11	0.06	0.009	U	0.029	0.068	0.44	J	0.15	0.05
0.34	J	0.13	0.08	0.0	U	0.012	0.037	0.41	J	0.14	0.05
0.47	J	0.13	0.05	0.015	U	0.030	0.054	0.45	J	0.13	0.05
0.34	J	0.11	0.05	0.018	U	0.029	0.046	0.44	J	0.13	0.04
0.39	J	0.12	0.06	0.007	U	0.019	0.043	0.33	J	0.11	0.06
0.44	J	0.14	0.06	-0.0023	U	0.004	0.053	0.28	J	0.11	0.05
0.46	J	0.14	0.05	0.008	U	0.025	0.060	0.37	J	0.13	0.06
0.31	J	0.11	0.05	-0.0023	U	0.004	0.051	0.49	J	0.14	0.04
0.34	J	0.12	0.05	0.034	U	0.043	0.052	0.39	J	0.13	0.04
0.43	J	0.14	0.08	0.011	U	0.027	0.056	0.48	J	0.15	0.08
0.57	J	0.15	0.05	0.012	U	0.024	0.032	0.55	J	0.15	0.04
0.34	J	0.12	0.06	0.021	U	0.038	0.064	0.24	J	0.10	0.05
0.27	J	0.11	0.07	0.024	U	0.034	0.032	0.35	J	0.12	0.05
0.43	J	0.14	0.07	0.011	U	0.028	0.059	0.54	J	0.16	0.03
0.56	J	0.16	0.06	0.010	U	0.026	0.053	0.58	J	0.16	0.05
0.32	J	0.12	0.05	-0.0023	U	0.004	0.052	0.35	J	0.12	0.06
0.41	J	0.13	0.05	0.031	U	0.042	0.059	0.45	J	0.14	0.05
0.32	J	0.12	0.03	0.027	U	0.039	0.037	0.37	J	0.13	0.05
0.36	J	0.12	0.05	0.010	U	0.025	0.053	0.45	J	0.14	0.03
0.43	J	0.13	0.05	0.032	U	0.040	0.049	0.28	J	0.10	0.04
0.38	J	0.13	0.03	-0.0023	U	0.004	0.052	0.30	J	0.11	0.03
0.52	J	0.16	0.07	0.011	U	0.028	0.059	0.46	J	0.15	0.06
0.43	J	0.15	0.08	0.006	U	0.031	0.079	0.46	J	0.16	0.1
0.23	J	0.11	0.06	0.038	U	0.051	0.071	0.41	J	0.14	0.07
0.50	J	0.16	0.06	0.011	U	0.028	0.059	0.42	J	0.14	0.05
0.43	J	0.15	0.06	-0.0028	U	0.005	0.063	0.72	J	0.20	0.05
0.45	J	0.15	0.09	0.054	U	0.057	0.060	0.40	J	0.14	0.08
0.46	J	0.15	0.05	0.013	U	0.026	0.036	0.50	J	0.15	0.04
0.65	J	0.18	0.06	0.022	U	0.040	0.068	0.48	J	0.15	0.05
0.40	J	0.14	0.07	0.037	U	0.046	0.056	0.56	J	0.16	0.03
0.45	J	0.15	0.08	0.028	U	0.040	0.039	0.33	J	0.13	0.07
0.37	J	0.14	0.08	0.006	U	0.030	0.076	0.38	J	0.14	0.09
0.29	J	0.12	0.06	0.024	U	0.043	0.073	0.44	J	0.15	0.07
0.45	J	0.15	0.06	0.011	U	0.028	0.058	0.38	J	0.13	0.05
0.31	J	0.14	0.08	0.014	U	0.035	0.074	0.50	J	0.17	0.06

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.35	J	0.13	0.08	0.037	U	0.046	0.056	0.32	J	0.12	0.08
0.42	J	0.14	0.05	0.014	U	0.027	0.037	0.32	J	0.12	0.05
0.38	J	0.14	0.07	0.009	U	0.030	0.072	0.30	J	0.12	0.06
0.49	J	0.16	0.08	0.014	U	0.027	0.037	0.35	J	0.13	0.05
0.54	J	0.18	0.09	0.014	U	0.035	0.074	0.46	J	0.16	0.04
0.34	J	0.12	0.06	0.034	U	0.045	0.063	0.62	J	0.17	0.05
0.32	J	0.12	0.07	0.0	U	0.011	0.035	0.42	J	0.14	0.07
0.57	J	0.16	0.06	0.077	J	0.065	0.056	0.47	J	0.15	0.05
0.35	J	0.12	0.07	0.031	U	0.044	0.068	0.30	J	0.12	0.08
0.54	J	0.16	0.06	0.036	U	0.048	0.067	0.45	J	0.15	0.06
0.38	J	0.13	0.06	0.008	U	0.026	0.061	0.28	J	0.11	0.06
0.46	J	0.15	0.06	0.011	U	0.027	0.056	0.46	J	0.15	0.05
0.42	J	0.14	0.08	0.024	U	0.038	0.057	0.55	J	0.16	0.08
0.38	J	0.14	0.07	0.009	U	0.030	0.070	0.45	J	0.15	0.06
0.27	J	0.11	0.05	0.011	U	0.027	0.056	0.30	J	0.12	0.06
0.31	J	0.12	0.05	0.008	U	0.027	0.065	0.31	J	0.12	0.05
0.47	J	0.15	0.05	0.040	J	0.046	0.036	0.53	J	0.16	0.05
0.43	J	0.14	0.07	0.039	U	0.049	0.059	0.39	J	0.14	0.03
0.32	J	0.12	0.03	0.026	U	0.037	0.035	0.23	J	0.10	0.05
0.52	J	0.16	0.06	-0.0025	U	0.005	0.057	0.38	J	0.13	0.05
0.40	J	0.13	0.05	0.021	U	0.034	0.050	0.33	J	0.12	0.04
0.42	J	0.19	0.10	-0.0048	U	0.009	0.11	0.53	J	0.21	0.06
0.46	J	0.16	0.06	0.013	U	0.034	0.070	0.39	J	0.15	0.08
0.31	J	0.12	0.05	0.036	U	0.049	0.068	0.46	J	0.15	0.05
0.57	J	0.17	0.06	0.041	U	0.051	0.062	0.41	J	0.14	0.05
0.223	J	0.095	0.026	0.01	U	0.025	0.051	0.213	J	0.092	0.026
0.44	J	0.15	0.03	0.0	U	0.013	0.041	0.34	J	0.13	0.06
0.46	J	0.14	0.06	0.033	U	0.044	0.062	0.35	J	0.13	0.06
0.37	J	0.14	0.06	-0.0028	U	0.005	0.064	0.45	J	0.15	0.03
0.33	J	0.12	0.07	0.013	U	0.026	0.035	0.37	J	0.13	0.07
0.33	J	0.12	0.06	0.008	U	0.026	0.061	0.45	J	0.14	0.06
0.211	J	0.097	0.066	0.025	U	0.035	0.033	0.27	J	0.11	0.06
0.35	J	0.12	0.06	0.010	U	0.026	0.053	0.43	J	0.14	0.05
0.40	J	0.13	0.07	0.017	U	0.035	0.065	0.30	J	0.12	0.08
0.31	J	0.11	0.05	0.012	U	0.024	0.033	0.35	J	0.12	0.04
0.31	J	0.12	0.06	0.008	U	0.027	0.064	0.31	J	0.12	0.05
0.32	J	0.12	0.05	0.049	U	0.055	0.067	0.34	J	0.13	0.05
0.24	J	0.11	0.08	0.0	U	0.011	0.035	0.36	J	0.13	0.05
0.49	J	0.15	0.06	-0.0048	U	0.006	0.063	0.44	J	0.14	0.07
0.53	J	0.16	0.06	0.024	U	0.037	0.055	0.72	J	0.18	0.03
0.46	J	0.14	0.06	0.022	U	0.035	0.053	0.54	J	0.15	0.05
0.36	J	0.13	0.05	0.010	U	0.025	0.053	0.41	J	0.13	0.06
0.39	J	0.13	0.05	0.020	U	0.035	0.060	0.45	J	0.14	0.05
0.30	J	0.11	0.03	0.026	U	0.036	0.035	0.25	J	0.11	0.05
0.49	J	0.14	0.05	0.034	U	0.043	0.052	0.40	J	0.13	0.03

Table G-4
Post-Excavation IR Site 2 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.34	J	0.12	0.05	0.010	U	0.026	0.054	0.43	J	0.14	0.04
0.51	J	0.15	0.03	0.010	U	0.026	0.054	0.53	J	0.15	0.03
0.39	J	0.13	0.08	0.026	U	0.037	0.036	0.46	J	0.15	0.07
0.28	J	0.11	0.05	0.061	J	0.057	0.054	0.31	J	0.12	0.04
0.33	J	0.11	0.03	-0.0022	U	0.004	0.049	0.222	J	0.093	0.025
0.37	J	0.13	0.07	0.013	U	0.025	0.034	0.27	J	0.11	0.06
0.32	J	0.12	0.06	0.023	U	0.037	0.055	0.39	J	0.13	0.06
0.214	J	0.097	0.067	0.005	U	0.026	0.066	0.37	J	0.13	0.08
0.38	J	0.13	0.06	0.022	U	0.040	0.067	0.44	J	0.15	0.06
0.47	J	0.15	0.06	0.011	U	0.028	0.059	0.40	J	0.14	0.05
0.31	J	0.12	0.06	0.008	U	0.026	0.062	0.32	J	0.12	0.06
0.24	U	0.10	0.06	0.008	U	0.028	0.066	0.30	U	0.12	0.06
0.43	U	0.14	0.06	-0.0023	U	0.004	0.052	0.31	U	0.11	0.05
0.29	U	0.12	0.07	0.018	U	0.037	0.069	0.46	U	0.15	0.08
0.32	U	0.12	0.05	0.057	U	0.056	0.060	0.44	U	0.14	0.06
0.48	U	0.14	0.05	0.033	U	0.041	0.050	0.40	U	0.13	0.04
0.28	U	0.11	0.06	0.011	U	0.027	0.057	0.32	U	0.12	0.05
0.43	U	0.14	0.07	-0.0023	U	0.004	0.052	0.29	U	0.11	0.07
0.51	U	0.15	0.05	0.0	U	0.011	0.034	0.39	U	0.13	0.04
0.28	U	0.11	0.03	0.023	U	0.036	0.054	0.37	U	0.13	0.03
0.23	J	0.10	0.06	0.008	U	0.026	0.062	0.42	J	0.14	0.06
0.31	J	0.11	0.06	-0.0022	U	0.004	0.050	0.33	J	0.12	0.05
0.27	J	0.11	0.07	0.017	U	0.035	0.064	0.24	J	0.10	0.08
0.32	J	0.12	0.05	0.007	U	0.025	0.059	0.30	J	0.11	0.06
0.35	J	0.12	0.05	0.01	U	0.024	0.051	0.38	J	0.12	0.04
0.42	J	0.14	0.05	0.023	U	0.036	0.054	0.35	J	0.12	0.04
0.25	J	0.11	0.07	0.046	U	0.049	0.051	0.29	J	0.11	0.07

Table G-5
Post-Excavation IR Site 32 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
IR32-1	IR32-1	RANDOM	15-186	10/8/2007			pCi/g			
IR32-2	IR32-2	RANDOM	15-187	10/8/2007			pCi/g			
IR32-3	IR32-3	RANDOM	15-188	10/8/2007			pCi/g			
IR32-4A	IR32-4A	RANDOM	15-189	10/8/2007			pCi/g			
IR32-4B	IR32-4B	RANDOM	15-190	10/8/2007			pCi/g			
32IR-G-01a	IR32-G-01a	RANDOM	15-274	12/4/2007	0	0.5	pCi/g	0.32		0.21
32IR-G-01b	IR32-G-01b	RANDOM	15-275	12/4/2007	0.5	1	pCi/g	0.45		0.23
32IR-G-02a	IR32-G-02a	RANDOM	15-276	12/4/2007	0	0.5	pCi/g	0.54		0.15
32IR-G-02b	IR32-G-02b	RANDOM	15-277	12/4/2007	0.5	1	pCi/g	0.32		0.20
32IR-G-03a	IR32-G-03a	RANDOM	15-278	12/4/2007	0	0.5	pCi/g	1.13		0.20
32IR-G-03b	IR32-G-03b	RANDOM	15-279	12/4/2007	0.5	1	pCi/g	0.15	UJ	0.14
32IR-G-04a	IR32-G-04a	RANDOM	15-280	12/4/2007	0	0.5	pCi/g	0.74		0.22
32IR-G-04b	IR32-G-04b	RANDOM	15-281	12/4/2007	0.5	1	pCi/g	0.19	U	0.21
32IR-G-05a	IR32-G-05a	RANDOM	15-282	12/5/2007	0	0.5	pCi/g	0.42		0.19
32IR-G-05b	IR32-G-05b	RANDOM	15-283	12/5/2007	0.5	1	pCi/g	0.18	UJ	0.19
32IR-G-06a	IR32-G-06a	RANDOM	15-284	12/5/2007	0	0.5	pCi/g	-0.04	U	0.72
32IR-G-06b	IR32-G-06b	RANDOM	15-285	12/5/2007	0.5	1	pCi/g	0.22	U	0.20
32IR-G-07a	IR32-G-07a	RANDOM	15-286	12/5/2007	0	0.5	pCi/g	0.63		0.19
32IR-G-07b	IR32-G-07b	RANDOM	15-287	12/5/2007	0.5	1	pCi/g	0.18	U	0.18
32IR-G-08a	IR32-G-08a	RANDOM	15-288	12/5/2007	0	0.5	pCi/g	0.84		0.23
32IR-G-08b	IR32-G-08b	RANDOM	15-289	12/5/2007	0.5	1	pCi/g	0.33		0.20
32IR-G-09a	IR32-G-09a	RANDOM	15-290	12/5/2007	0	0.5	pCi/g	0.67	J	0.21
32IR-G-09b	IR32-G-09b	RANDOM	15-291	12/5/2007	0.5	1	pCi/g	0.30	J	0.16
32IR-G-10a	IR32-G-10a	RANDOM	15-292	12/5/2007	0	0.5	pCi/g	1.01		0.25
32IR-G-10b	IR32-G-10b	RANDOM	15-293	12/5/2007	0.5	1	pCi/g	0.28		0.19
B-32IR-113a	IR32-B-111a	BIASED	15-909	1/22/2008	2	2.5	pCi/g	0.41		0.22
B-32IR-113b	IR32-B-111b	BIASED	15-910	1/22/2008	2.5	3	pCi/g	0.36		0.20
B-32IR-114a	IR32-B-112a	BIASED	15-912	1/22/2008	2	2.5	pCi/g	0.26	U	0.22
B-32IR-114b	IR32-B-112b	BIASED	15-913	1/22/2008	2.5	3	pCi/g	0.31		0.16
B-32IR-108a	IR32-B-108a	BIASED	15-914	1/22/2008	2	2.5	pCi/g	0.23	U	0.24
B-32IR-108b	IR32-B-108b	BIASED	15-915	1/22/2008	2.5	3	pCi/g	0.36		0.19
B-32IR-109a	IR32-B-109a	BIASED	15-916	1/22/2008	2	2.5	pCi/g	0.25		0.14
B-32IR-109b	IR32-B-109b	BIASED	15-917	1/22/2008	2.5	3	pCi/g	0.40		0.14
B-32IR-1a	IR32-B-1a	BIASED	15-918	1/22/2008	2	2.5	pCi/g	0.46		0.15
B-32IR-1b	IR32-B-1b	BIASED	15-919	1/22/2008	2.5	3	pCi/g	0.37		0.19
B-32IR-2a	IR32-B-2a	BIASED	15-920	1/22/2008	2	2.5	pCi/g	0.48		0.31
B-32IR-2b	IR32-B-2b	BIASED	15-921	1/22/2008	2.5	3	pCi/g	0.49		0.20
32IR-121a	IR32-121a	RANDOM	15-922	1/22/2008	2	2.5	pCi/g	0.24	U	0.24
B-32IR-3a	IR32-B-3a	BIASED	15-954	3/27/2008	2	2.5	pCi/g	0.23		0.15
B-32IR-3b	IR32-B-3b	BIASED	15-955	3/27/2008	2.5	3	pCi/g	0.42		0.16
B-32IR-4Aa	IR32-B-4Aa	BIASED	15-957	3/27/2008	2	2.5	pCi/g	0.39		0.13
B-32IR-4Ab	IR32-B-4Ab	BIASED	15-958	3/27/2008	2.5	3	pCi/g	0.49		0.21
B-32IR-4Ba	IR32-B-4Ba	BIASED	15-959	3/27/2008	2	2.5	pCi/g	0.29	U	0.15
B-32IR-4Bb	IR32-B-4Bb	BIASED	15-960	3/27/2008	2.5	3	pCi/g	0.46		0.11
B-32IR-7a	IR32-B-7a	BIASED	15-961	3/27/2008	2	2.5	pCi/g	0.41		0.17

Table G-5
Post-Excavation IR Site 32 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-32IR-7b	IR32-B-7b	BIASED	15-962	3/27/2008	2.5	3	pCi/g	0.13	U	0.15
B-32IR-36a	IR32-B-36a	BIASED	15-963	3/27/2008	2	2.5	pCi/g	0.31		0.20
B-32IR-36b	IR32-B-36b	BIASED	15-964	3/27/2008	2.5	3	pCi/g	0.49		0.22
B-32IR-37a	IR32-B-37a	BIASED	15-965	3/27/2008	2	2.5	pCi/g	0.40		0.15
B-32IR-37b	IR32-B-37b	BIASED	15-966	3/27/2008	2.5	3	pCi/g	0.29		0.19
B-32IR-41a	IR32-B-41a	BIASED	15-967	3/27/2008	2	2.5	pCi/g	0.16	U	0.18
B-32IR-41b	IR32-B-41b	BIASED	15-968	3/27/2008	2.5	3	pCi/g	0.38		0.20
B-32IR-43a	IR32-B-43a	BIASED	15-969	3/27/2008	2	2.5	pCi/g	0.50		0.17
B-32IR-43b	IR32-B-43b	BIASED	15-970	3/27/2008	2.5	3	pCi/g	0.43		0.20
B-32IR-47a	IR32-B-47a	BIASED	15-971	3/27/2008	2	2.5	pCi/g	0.35		0.24
B-32IR-47b	IR32-B-47b	BIASED	15-972	3/27/2008	2.5	3	pCi/g	0.38		0.22
32IR-48	IR32-48	RANDOM	15-973	3/27/2008	2	2.5	pCi/g	0.29		0.11
32IR-50	IR32-50	RANDOM	15-974	3/27/2008	2	2.5	pCi/g	0.42		0.16
32IR-51	IR32-51	RANDOM	15-975	3/27/2008	2	2.5	pCi/g	0.41		0.17
B-32IR-54a	IR32-B-54a	BIASED	15-976	3/27/2008	2	2.5	pCi/g	0.35		0.14
B-32IR-54b	IR32-B-54b	BIASED	15-977	3/27/2008	2.5	3	pCi/g	0.34		0.20
B-32IR-56a	IR32-B-56a	BIASED	15-978	3/27/2008	2	2.5	pCi/g	0.25		0.18
B-32IR-56b	IR32-B-56b	BIASED	15-979	3/27/2008	2.5	3	pCi/g	0.33		0.12
B-32IR-60a	IR32-B-60a	BIASED	15-980	3/27/2008	2	2.5	pCi/g	0.34		0.14
B-32IR-60b	IR32-B-60b	BIASED	15-981	3/27/2008	2.5	3	pCi/g	0.31		0.19
B-32IR-61a	IR32-B-61a	BIASED	15-982	3/27/2008	2	2.5	pCi/g	0.22	U	0.23
B-32IR-61b	IR32-B-61b	BIASED	15-983	3/27/2008	2.5	3	pCi/g	0.24	U	0.14
B-32IR-62a	IR32-B-62a	BIASED	15-984	3/27/2008	2	2.5	pCi/g	0.45		0.25
B-32IR-62b	IR32-B-62b	BIASED	15-985	3/27/2008	2.5	3	pCi/g	0.05	U	0.20
B-32IR-63a	IR32-B-63a	BIASED	15-986	3/27/2008	2	2.5	pCi/g	0.54		0.13
B-32IR-63b	IR32-B-63b	BIASED	15-987	3/27/2008	2.5	3	pCi/g	0.33		0.14
B-32IR-65a	IR32-B-65a	BIASED	15-988	3/27/2008	2	2.5	pCi/g	0.31		0.20
B-32IR-65b	IR32-B-65b	BIASED	15-989	3/27/2008	2.5	3	pCi/g	0.25	U	0.17
32IR-66	IR32-66	RANDOM	15-990	3/27/2008	2	2.5	pCi/g	0.31		0.13
B-32IR-67a	IR32-B-67a	BIASED	15-991	3/27/2008	2	2.5	pCi/g	0.38		0.19
B-32IR-67b	IR32-B-67b	BIASED	15-992	3/27/2008	2.5	3	pCi/g	0.44		0.24
B-32IR-69a	IR32-B-69a	BIASED	15-993	3/31/2008	2	2.5	pCi/g	0.22		0.14
B-32IR-69b	IR32-B-69b	BIASED	15-994	3/31/2008	2.5	3	pCi/g	0.19	U	0.19
B-32IR-71a	IR32-B-71a	BIASED	15-996	3/31/2008	2	2.5	pCi/g	0.47		0.23
B-32IR-71b	IR32-B-71b	BIASED	15-997	3/31/2008	2.5	3	pCi/g	0.54		0.26
B-32IR-73a	IR32-B-73a	BIASED	15-998	3/31/2008	2	2.5	pCi/g	0.28	U	0.27
B-32IR-73b	IR32-B-73b	BIASED	15-999	3/31/2008	2.5	3	pCi/g	0.17	U	0.18
B-32IR-75a	IR32-B-75a	BIASED	15-1000	3/31/2008	2	2.5	pCi/g	0.40		0.14
B-32IR-75b	IR32-B-75b	BIASED	15-1001	3/31/2008	2.5	3	pCi/g	0.39		0.13
B-32IR-76a	IR32-B-76a	BIASED	15-1002	3/31/2008	2	2.5	pCi/g	0.51		0.32
B-32IR-76b	IR32-B-76b	BIASED	15-1003	3/31/2008	2.5	3	pCi/g	0.24		0.15
B-32IR-79a	IR32-B-79a	BIASED	15-1004	3/31/2008	2	2.5	pCi/g	0.27	U	0.20
B-32IR-79b	IR32-B-79b	BIASED	15-1005	3/31/2008	2.5	3	pCi/g	0.30		0.13
B-32IR-80a	IR32-B-80a	BIASED	15-1006	3/31/2008	2	2.5	pCi/g	0.30		0.19
B-32IR-80b	IR32-B-80b	BIASED	15-1007	3/31/2008	2.5	3	pCi/g	0.44		0.18

Table G-5
Post-Excavation IR Site 32 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-32IR-81a	IR32-B-81a	BIASED	15-1008	3/31/2008	2	2.5	pCi/g	0.62		0.14
B-32IR-81b	IR32-B-81b	BIASED	15-1009	3/31/2008	2.5	3	pCi/g	0.31		0.16
B-32IR-84a	IR32-B-84a	BIASED	15-1010	3/31/2008	2	2.5	pCi/g	0.30		0.18
B-32IR-84b	IR32-B-84b	BIASED	15-1011	3/31/2008	2.5	3	pCi/g	0.41		0.16
B-32IR-6a	IR32-B-6a	BIASED	15-1012	3/31/2008	2	2.5	pCi/g	0.48		0.18
B-32IR-6b	IR32-B-6a	BIASED	15-1013	3/31/2008	2.5	3	pCi/g	0.36		0.17
B-32IR-5a	IR32-B-5a	BIASED	15-1014	3/31/2008	2	2.5	pCi/g	0.28		0.11
B-32IR-5b	IR32-B-5b	BIASED	15-1015	3/31/2008	2.5	3	pCi/g	0.42		0.14
B-32IR-85a	IR32-B-85a	BIASED	15-1020	4/1/2008	2	2.5	pCi/g	0.30	U	0.13
B-32IR-85b	IR32-B-85b	BIASED	15-1021	4/1/2008	2.5	3	pCi/g	0.45		0.12
B-32IR-86a	IR32-B-86a	BIASED	15-1022	4/1/2008	2	2.5	pCi/g	0.40		0.15
B-32IR-86b	IR32-B-86b	BIASED	15-1023	4/1/2008	2.5	3	pCi/g	0.21	U	0.19
B-32IR-87a	IR32-B-87a	BIASED	15-1024	4/1/2008	2	2.5	pCi/g	0.37		0.15
B-32IR-87b	IR32-B-87b	BIASED	15-1025	4/1/2008	2.5	3	pCi/g	0.36		0.15
B-32IR-88a	IR32-B-88a	BIASED	15-1026	4/1/2008	2	2.5	pCi/g	0.40		0.14
B-32IR-88b	IR32-B-88b	BIASED	15-1027	4/1/2008	2.5	3	pCi/g	0.30		0.13
B-32IR-89a	IR32-B-89a	BIASED	15-1028	4/1/2008	2	2.5	pCi/g	0.29	U	0.23
B-32IR-89b	IR32-B-89b	BIASED	15-1029	4/1/2008	2.5	3	pCi/g	0.32		0.16
B-32IR-90a	IR32-B-90a	BIASED	15-1031	4/1/2008	2	2.5	pCi/g	0.34		0.23
B-32IR-90b	IR32-B-90b	BIASED	15-1032	4/1/2008	2.5	3	pCi/g	0.35		0.13
B-32IR-91a	IR32-B-91a	BIASED	15-1033	4/1/2008	2	2.5	pCi/g	0.29	U	0.21
B-32IR-91b	IR32-B-91b	BIASED	15-1034	4/1/2008	2.5	3	pCi/g	0.48		0.22
B-32IR-92a	IR32-B-92a	BIASED	15-1035	4/1/2008	2	2.5	pCi/g	0.56		0.16
B-32IR-92b	IR32-B-92b	BIASED	15-1036	4/1/2008	2.5	3	pCi/g	0.42		0.18
B-32IR-93a	IR32-B-93a	BIASED	15-1037	4/1/2008	2	2.5	pCi/g	0.35		0.20
B-32IR-93b	IR32-B-93b	BIASED	15-1038	4/1/2008	2.5	3	pCi/g	0.47		0.20
B-32IR-94a	IR32-B-94a	BIASED	15-1039	4/1/2008	2	2.5	pCi/g	0.32		0.20
B-32IR-94b	IR32-B-94b	BIASED	15-1040	4/1/2008	2.5	3	pCi/g	0.47		0.16
B-32IR-95a	IR32-B-95a	BIASED	15-1041	4/1/2008	2	2.5	pCi/g	0.14	U	0.27
B-32IR-95b	IR32-B-95b	BIASED	15-1042	4/1/2008	2.5	3	pCi/g	0.41		0.20
B-32IR-96a	IR32-B-96a	BIASED	15-1043	4/1/2008	2	2.5	pCi/g	0.28		0.13
B-32IR-96b	IR32-B-96b	BIASED	15-1044	4/1/2008	2.5	3	pCi/g	0.36		0.21
B-32IR-97a	IR32-B-97a	BIASED	15-1045	4/1/2008	2	2.5	pCi/g	0.35		0.21
B-32IR-97b	IR32-B-97b	BIASED	15-1046	4/1/2008	2.5	3	pCi/g	0.29		0.15
B-32IR-98a	IR32-B-98a	BIASED	15-1047	4/1/2008	2	2.5	pCi/g	0.26	U	0.21
B-32IR-98b	IR32-B-98b	BIASED	15-1048	4/1/2008	2.5	3	pCi/g	0.31		0.17
B-32IR-99a	IR32-B-99a	BIASED	15-1049	4/1/2008	2	2.5	pCi/g	0.46		0.20
B-32IR-99b	IR32-B-99b	BIASED	15-1050	4/1/2008	2.5	3	pCi/g	0.60		0.20
B-32IR-100a	IR32-B-100a	BIASED	15-1051	4/1/2008	2	2.5	pCi/g	0.48		0.17
B-32IR-100b	IR32-B-100b	BIASED	15-1052	4/1/2008	2.5	3	pCi/g	0.47		0.16
B-32IR-101a	IR32-B-101a	BIASED	15-1053	4/1/2008	2	2.5	pCi/g	0.67		0.14
B-32IR-101b	IR32-B-101b	BIASED	15-1054	4/1/2008	2.5	3	pCi/g	0.35		0.14
B-32IR-102a	IR32-B-102a	BIASED	15-1055	4/2/2008	2	2.5	pCi/g	0.39		0.13
B-32IR-102b	IR32-B-102b	BIASED	15-1056	4/2/2008	2.5	3	pCi/g	0.55		0.17
B-32IR-103a	IR32-B-103a	BIASED	15-1057	4/2/2008	2	2.5	pCi/g	0.43		0.14

Table G-5
Post-Excavation IR Site 32 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-32IR-103b	IR32-B-103b	BIASED	15-1058	4/2/2008	2.5	3	pCi/g	0.57		0.17
B-32IR-104a	IR32-B-104a	BIASED	15-1059	4/2/2008	2	2.5	pCi/g	0.50		0.16
B-32IR-104b	IR32-B-104b	BIASED	15-1060	4/2/2008	2.5	3	pCi/g	0.57		0.16
B-32IR-105a	IR32-B-105a	BIASED	15-1061	4/2/2008	2	2.5	pCi/g	0.38		0.23
B-32IR-105b	IR32-B-105b	BIASED	15-1062	4/2/2008	2.5	3	pCi/g	0.59		0.16
B-32IR-106a	IR32-B-106a	BIASED	15-1063	4/2/2008	2	2.5	pCi/g	0.41		0.13
B-32IR-106b	IR32-B-106b	BIASED	15-1064	4/2/2008	2.5	3	pCi/g	0.53		0.17
B-32IR-107a	IR32-B-107a	BIASED	15-1065	4/2/2008	2	2.5	pCi/g	0.36		0.15
B-32IR-107b	IR32-B-107b	BIASED	15-1066	4/2/2008	2.5	3	pCi/g	0.41		0.14
B-32IR-113a	IR32-B-113a	BIASED	15-1067	4/2/2008	2	2.5	pCi/g	0.44		0.18
B-32IR-113b	IR32-B-113b	BIASED	15-1068	4/2/2008	2.5	3	pCi/g	0.44		0.11
B-32IR-114a	IR32-B-114a	BIASED	15-1069	4/2/2008	2	2.5	pCi/g	0.38		0.14
B-32IR-114b	IR32-B-114b	BIASED	15-1070	4/2/2008	2.5	3	pCi/g	0.14	U	0.14
B-32IR-115a	IR32-B-115a	BIASED	15-1071	4/2/2008	2	2.5	pCi/g	0.63		0.20
B-32IR-115b	IR32-B-115b	BIASED	15-1072	4/2/2008	2.5	3	pCi/g	0.61		0.19
B-32IR-116a	IR32-B-116a	BIASED	15-1073	4/2/2008	2	2.5	pCi/g	0.51		0.16
B-32IR-116b	IR32-B-116b	BIASED	15-1074	4/2/2008	2.5	3	pCi/g	0.48		0.14
B-32IR-118a	IR32-B-118a	BIASED	15-1075	4/2/2008	2	2.5	pCi/g	0.39		0.15
B-32IR-118b	IR32-B-118b	BIASED	15-1076	4/2/2008	2.5	3	pCi/g	0.29	U	0.20
B-32IR-119a	IR32-B-119a	BIASED	15-1077	4/2/2008	2	2.5	pCi/g	0.46		0.20
B-32IR-119b	IR32-B-119b	BIASED	15-1078	4/2/2008	2.5	3	pCi/g	0.33		0.13
B-32IR-120a	IR32-B-120a	BIASED	15-1079	4/2/2008	2	2.5	pCi/g	0.47		0.16
B-32IR-120b	IR32-B-120b	BIASED	15-1080	4/2/2008	2.5	3	pCi/g	0.48		0.13
B-32IR-126a	IR32-B-126a	BIASED	15-1082	4/2/2008	2	2.5	pCi/g	0.24	U	0.17
B-32IR-126b	IR32-B-126b	BIASED	15-1083	4/2/2008	2.5	3	pCi/g	0.24		0.11
B-32IR-129a	IR32-B-129a	BIASED	15-1084	4/2/2008	2	2.5	pCi/g	0.157	U	0.079
B-32IR-129b	IR32-B-129b	BIASED	15-1085	4/2/2008	2.5	3	pCi/g	0.34		0.20
B-32IR-131a	IR32-B-131a	BIASED	15-1086	4/2/2008	2	2.5	pCi/g	0.21	U	0.19
B-32IR-131b	IR32-B-131b	BIASED	15-1087	4/2/2008	2.5	3	pCi/g	0.27		0.13
B-32IR-133a	IR32-B-133a	BIASED	15-1088	4/2/2008	2	2.5	pCi/g	0.0	U	0.35
B-32IR-133b	IR32-B-133b	BIASED	15-1089	4/2/2008	2.5	3	pCi/g	0.31	U	0.22
B-32IR-134a	IR32-B-134a	BIASED	15-1090	4/2/2008	2	2.5	pCi/g	0.18		0.12
B-32IR-134b	IR32-B-134b	BIASED	15-1091	4/2/2008	2.5	3	pCi/g	0.23	U	0.17
B-32IR-135a	IR32-B-135a	BIASED	15-1092	4/2/2008	2	2.5	pCi/g	0.27	U	0.15
B-32IR-135b	IR32-B-135b	BIASED	15-1093	4/2/2008	2.5	3	pCi/g	0.20	U	0.17
B-32IR-136a	IR32-B-136a	BIASED	15-1094	4/2/2008	2	2.5	pCi/g	0.0	U	0.24
B-32IR-136b	IR32-B-136b	BIASED	15-1095	4/2/2008	2.5	3	pCi/g	0.36		0.22
B-32IR-137a	IR32-B-137a	BIASED	15-1096	4/2/2008	2	2.5	pCi/g	0.21	U	0.24
B-32IR-137b	IR32-B-137b	BIASED	15-1097	4/2/2008	2.5	3	pCi/g	0.39	U	0.29
B-32IR-138a	IR32-B-138a	BIASED	15-1098	4/2/2008	2	2.5	pCi/g	0.121	U	0.072
B-32IR-138b	IR32-B-138b	BIASED	15-1099	4/2/2008	2.5	3	pCi/g	0.22		0.15
B-32IR-139a	IR32-B-139a	BIASED	15-1100	4/2/2008	2	2.5	pCi/g	0.24		0.16
B-32IR-139b	IR32-B-139b	BIASED	15-1101	4/2/2008	2.5	3	pCi/g	0.26	U	0.26
B-32IR-140a	IR32-B-140a	BIASED	15-1102	4/2/2008	2	2.5	pCi/g	0.32		0.21
B-32IR-140b	IR32-B-140b	BIASED	15-1103	4/2/2008	2.5	3	pCi/g	0.20	U	0.12

Table G-5
Post-Excavation IR Site 32 Soil

Location on COC	Revised Location	Comment	ClientSampleID	Collected	StartDepth	EndDepth	ResultUnits	ACTINIUM-228	Flag	Error
B-32IR-141a	IR32-B-141a	BIASED	15-1104	4/3/2008	2	2.5	pCi/g	0.12	U	0.19
B-32IR-141b	IR32-B-141b	BIASED	15-1105	4/3/2008	2.5	3	pCi/g	0.41		0.20
32IR-142	IR32-142	RANDOM	15-1107	4/3/2008	2	2.5	pCi/g	0.183		0.098
B-32IR-143a	IR32-B-143a	BIASED	15-1108	4/3/2008	2	2.5	pCi/g	0.41		0.17
B-32IR-143b	IR32-B-143b	BIASED	15-1109	4/3/2008	2.5	3	pCi/g	0.21		0.14
B-32IR-144a	IR32-B-144a	BIASED	15-1110	4/3/2008	2	2.5	pCi/g	0.32		0.16
B-32IR-144b	IR32-B-144b	BIASED	15-1111	4/3/2008	2.5	3	pCi/g	0.22		0.15
32IR-149	IR32-149	RANDOM	15-1112	4/3/2008	2	2.5	pCi/g	0.18	U	0.17
B-32IR-150Aa	IR32-B-150Aa	BIASED	15-1113	4/3/2008	2	2.5	pCi/g	0.41		0.14
B-32IR-150Ab	IR32-B-150Ab	BIASED	15-1114	4/3/2008	2.5	3	pCi/g	0.27		0.12
B-32IR-150-Ba	IR32-B-150Ba	BIASED	15-1115	4/3/2008	2	2.5	pCi/g	0.69		0.26
B-32IR-150-Bb	IR32-B-150Bb	BIASED	15-1116	4/3/2008	2.5	3	pCi/g	0.040	U	0.096
B-32IR-151a	IR32-B-151a	BIASED	15-1117	4/3/2008	2	2.5	pCi/g	0.28	U	0.20
B-32IR-151b	IR32-B-151b	BIASED	15-1118	4/3/2008	2.5	3	pCi/g	0.39		0.13
B-32IR-157a	IR32-B-157a	BIASED	15-1119	4/3/2008	3	3.5	pCi/g	0.38		0.21
B-32IR-157b	IR32-B-157b	BIASED	15-1120	4/3/2008	3.5	4	pCi/g	0.31		0.20
B-32IR-158a	IR32-B-158a	BIASED	15-1121	4/3/2008	2	2.5	pCi/g	0.41		0.16
B-32IR-158b	IR32-B-158b	BIASED	15-1122	4/3/2008	2.5	3	pCi/g	0.26	U	0.15
B-32IR-159a	IR32-B-159a	BIASED	15-1123	4/3/2008	2	2.5	pCi/g	0.43		0.22
B-32IR-159b	IR32-B-159b	BIASED	15-1124	4/3/2008	2.5	3	pCi/g	0.07	U	0.16
B-32IR-172a	IR32-B-172a	BIASED	15-1125	4/3/2008	2	2.5	pCi/g	0.37		0.15
B-32IR-172b	IR32-B-172b	BIASED	15-1126	4/3/2008	2.5	3	pCi/g	0.36		0.19
B-32IR-32Xa	IR32-B-32Xa	BIASED	15-1127	4/3/2008	2	2.5	pCi/g	0.22	U	0.15
B-32IR-32Xb	IR32-B-32Xb	BIASED	15-1128	4/3/2008	2.5	3	pCi/g	0.29		0.20
B-32IR-G5a	IR32-B-G5a	BIASED	15-1129	4/3/2008	2	2.5	pCi/g	0.35		0.23
B-32IR-G5b	IR32-B-G5b	BIASED	15-1130	4/3/2008	2.5	3	pCi/g	0.42		0.15
B-32IR-G6a	IR32-B-G6a	BIASED	15-1131	4/3/2008	2	2.5	pCi/g	0.33		0.21
B-32IR-G6b	IR32-B-G6b	BIASED	15-1132	4/3/2008	2.5	3	pCi/g	0.36		0.18
B-32IR-G7a	IR32-B-G7a	BIASED	15-1133	4/3/2008	2	2.5	pCi/g	0.32		0.17
B-32IR-G7b	IR32-B-G7b	BIASED	15-1134	4/3/2008	2.5	3	pCi/g	0.31		0.16
B-32IR-G8a	IR32-B-G8a	BIASED	15-1135	4/3/2008	2	2.5	pCi/g	0.39		0.12
B-32IR-G8b	IR32-B-G8b	BIASED	15-1136	4/3/2008	2.5	3	pCi/g	0.27		0.19
B-32IR-G9a	IR32-B-G9a	BIASED	15-1137	4/3/2008	2	2.5	pCi/g	0.27	U	0.20
B-32IR-G9b	IR32-B-G9b	BIASED	15-1138	4/3/2008	2.5	3	pCi/g	0.21	U	0.17
B-32IR-G10a	IR32-B-G10a	BIASED	15-1139	4/3/2008	2	2.5	pCi/g	0.17	U	0.17
B-32IR-G10b	IR32-B-G10b	BIASED	15-1140	4/3/2008	2.5	3	pCi/g	0.23	U	0.23
B-32IR-G11a	IR32-B-G11a	BIASED	15-1141	4/3/2008	2	2.5	pCi/g	0.44		0.17
B-32IR-G11b	IR32-B-G11b	BIASED	15-1142	4/3/2008	2.5	3	pCi/g	0.25	U	0.18

Table G-5
Post-Excavation IR Site 32 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
	0.004	U	0.083	0.15	0.013	U	0.035	0.063	0.014	U	0.036	0.068	-0.03	U
	0.02	U	0.11	0.19	-0.006	U	0.050	0.092	0.0	U	0.013	0.048	-0.03	U
	0.030	U	0.087	0.15	0.035	U	0.057	0.096	0.0	U	0.10	0.18	0.022	U
	0.0	U	0.085	0.15	0.037	U	0.035	0.054	-0.016	U	0.052	0.093	-0.003	U
	0.024	U	0.086	0.15	0.008	U	0.043	0.079	-0.015	U	0.052	0.095	-0.03	U
0.31	0.053	U	0.092	0.15	0.0	U	0.055	0.10	-0.004	U	0.071	0.13	0.012	U
0.30	0.013	U	0.082	0.15	-0.04	U	0.59	0.11	0.020	U	0.059	0.11	0.0	U
0.23	-0.002	U	0.088	0.15	-0.003	U	0.046	0.082	-0.014	U	0.057	0.10	-0.026	U
0.27	0.00007	U	0.070	0.12	0.0	U	0.027	0.055	0.007	U	0.043	0.083	-0.001	U
0.17	0.01	U	0.14	0.23	0.0	U	0.093	0.16	0.003	U	0.052	0.096	-0.02	U
0.22	0.037	UJ	0.087	0.15	0.011	UJ	0.033	0.059	-0.008	UJ	0.041	0.075	0.006	UJ
0.36	0.03	U	0.14	0.23	0.001	U	0.059	0.11	-0.023	U	0.076	0.14	0.0	U
0.34	0.023	U	0.083	0.15	-0.04	U	0.44	0.11	0.0	U	0.10	0.19	-0.03	U
0.28	0.04	U	0.10	0.17	0.012	U	0.036	0.064	-0.007	U	0.041	0.075	0.0002	U
0.30	-0.02	UJ	0.11	0.19	0.0	UJ	0.049	0.089	0.0	UJ	0.051	0.096	-0.03	UJ
0.34	-0.033	U	0.092	0.16	-0.005	U	0.053	0.099	0.0	U	0.014	0.053	0.04	U
0.31	-0.003	U	0.17	0.15	-0.02	U	0.17	0.11	0.0	U	0.013	0.048	0.0	U
0.28	0.05	U	0.10	0.17	-0.0003	U	0.034	0.062	-0.006	U	0.046	0.084	-0.007	U
0.30	0.005	U	0.087	0.15	0.0	U	0.047	0.089	0.0	U	0.13	0.23	-0.01	U
0.28	0.04	U	0.12	0.20	-0.03	U	0.48	0.11	0.013	U	0.072	0.13	0.06	U
0.26	0.029	U	0.082	0.14	0.0005	U	0.052	0.096	0.008	U	0.050	0.096	0.0001	U
0.25	0.07	UJ	0.11	0.18	-0.007	UJ	0.048	0.084	0.0	UJ	0.041	0.078	0.001	UJ
0.22	0.03	UJ	0.12	0.20	0.0	UJ	0.053	0.094	0.0	UJ	0.063	0.11	0.04	UJ
0.34	0.004	U	0.15	0.25	-0.0004	U	0.054	0.10	0.0	U	0.13	0.23	0.005	U
0.27	-0.01	U	0.87	0.14	-0.004	U	0.056	0.087	0.0	U	0.011	0.042	0.017	U
0.27	-0.05	U	0.11	0.18	-0.001	U	0.041	0.080	0.0003	U	0.041	0.086	0.020	U
0.29	0.039	U	0.094	0.16	0.0	U	0.025	0.049	0.0	U	0.072	0.13	-0.03	U
0.34	0.0	U	0.090	0.16	0.008	U	0.037	0.068	0.0	U	0.095	0.17	0.070	U
0.20	0.015	U	0.091	0.16	0.009	U	0.043	0.077	0.017	U	0.037	0.066	0.001	U
0.37	-0.013	U	0.089	0.16	0.016	U	0.061	0.11	0.008	U	0.063	0.12	0.06	U
0.23	-0.04	U	0.10	0.18	-0.011	U	0.091	0.094	0.022	U	0.054	0.098	-0.02	U
0.20	-0.08	U	0.29	0.51	0.0005	U	0.026	0.049	0.007	U	0.035	0.065	0.032	U
0.27	0.023	U	0.093	0.16	0.009	U	0.040	0.073	-0.001	U	0.038	0.076	-0.019	U
0.17	0.048	U	0.070	0.12	0.016	U	0.045	0.080	-0.006	U	0.048	0.092	-0.01	U
0.25	-0.04	U	0.11	0.19	0.008	U	0.038	0.070	0.0001	U	0.051	0.097	0.0	U
0.46	0.0107	U	0.099	0.17	-0.010	U	0.063	0.11	0.0	U	0.015	0.056	-0.01	U
0.36	-0.04	U	0.13	0.23	0.0007	U	0.059	0.11	0.0	U	0.011	0.039	-0.06	U
0.37	-0.02	U	0.10	0.18	-0.004	U	0.058	0.11	0.0	U	0.015	0.054	0.021	U
0.18	0.073	U	0.087	0.14	-0.007	U	0.076	0.10	0.0	U	0.070	0.13	0.0	U
0.25	-0.016	U	0.082	0.14	0.058	J	0.036	0.046	0.008	U	0.032	0.064	0.0	U
0.18	0.024	U	0.083	0.14	0.0007	U	0.030	0.057	0.0	U	0.007	0.029	-0.020	U
0.20	0.018	U	0.074	0.13	0.034	U	0.052	0.087	0.0	U	0.079	0.15	0.0003	U
0.29	-0.014	U	0.077	0.13	0.005	U	0.048	0.096	0.028	U	0.039	0.064	-0.002	U
0.17	-0.06	U	0.22	0.38	0.043	J	0.029	0.041	0.0	U	0.050	0.090	0.0	U
0.20	-0.009	U	0.097	0.17	0.005	U	0.035	0.064	-0.011	U	0.049	0.088	-0.036	U

Table G-5
Post-Excavation IR Site 32 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.25	0.002	U	0.095	0.16	0.0	U	0.068	0.12	0.001	U	0.039	0.074	-0.04	U
0.27	0.14	U	0.11	0.17	0.023	U	0.056	0.098	0.019	U	0.058	0.11	-0.07	U
0.24	0.039	U	0.094	0.16	-0.02	U	0.36	0.10	0.029	U	0.042	0.071	0.0	U
0.18	-0.01	U	0.36	0.62	-0.0009	U	0.033	0.061	-0.015	U	0.038	0.068	-0.020	U
0.28	0.0002	U	0.099	0.17	-0.001	U	0.049	0.090	0.0001	U	0.051	0.099	-0.03	U
0.30	0.035	U	0.094	0.16	0.014	U	0.044	0.080	0.0	U	0.095	0.17	0.032	U
0.27	-0.014	U	0.089	0.15	0.011	U	0.040	0.073	0.0	U	0.049	0.094	0.06	U
0.26	-0.006	U	0.088	0.15	0.035	U	0.050	0.084	0.016	U	0.040	0.075	0.0	U
0.25	-0.03	U	0.10	0.17	0.0	U	0.057	0.10	0.0	U	0.008	0.033	0.039	U
0.34	0.039	U	0.077	0.13	0.036	U	0.041	0.064	0.002	U	0.061	0.12	-0.006	U
0.30	0.001	U	0.083	0.15	-0.01	U	0.10	0.1	0.020	U	0.046	0.085	0.001	U
0.14	-0.04	U	0.30	0.52	0.026	U	0.031	0.049	0.003	U	0.029	0.056	-0.017	U
0.26	-0.015	U	0.080	0.14	-0.021	U	0.055	0.095	-0.005	U	0.047	0.090	0.0	U
0.31	-0.0008	U	0.092	0.16	0.005	U	0.049	0.090	-0.008	U	0.052	0.10	-0.04	U
0.23	0.020	U	0.094	0.16	-0.001	U	0.030	0.056	0.0	U	0.046	0.086	-0.03	U
0.24	0.0	U	0.088	0.16	0.0004	U	0.048	0.092	0.0	U	0.015	0.054	0.01	U
0.25	0.087	U	0.081	0.13	-0.01	U	0.12	0.10	0.008	U	0.038	0.076	-0.001	U
0.20	-0.13	U	0.30	0.50	0.007	U	0.019	0.035	-0.008	U	0.031	0.057	-0.019	U
0.27	0.001	U	0.090	0.16	0.037	U	0.047	0.078	-0.021	U	0.054	0.096	0.057	U
0.27	-0.0007	U	0.088	0.16	0.0	U	0.061	0.11	-0.012	U	0.048	0.089	0.0	U
0.36	-0.03	U	0.11	0.19	0.026	U	0.056	0.097	0.001	U	0.054	0.11	0.075	U
0.32	-0.05	U	0.13	0.21	-0.003	U	0.054	0.096	-0.0002	U	0.048	0.090	-0.005	U
0.32	-0.002	U	0.087	0.16	0.009	U	0.053	0.098	0.0	U	0.11	0.20	-0.04	U
0.36	0.039	U	0.090	0.15	-0.02	U	0.23	0.1	-0.002	U	0.048	0.094	-0.002	U
0.09	0.05	U	0.25	0.44	0.003	U	0.031	0.057	-0.007	U	0.040	0.073	-0.011	U
0.25	0.042	U	0.094	0.16	-0.0007	U	0.041	0.077	0.0	U	0.056	0.11	0.007	U
0.29	0.003	U	0.073	0.13	0.0	U	0.068	0.12	0.010	U	0.048	0.090	-0.025	U
0.25	0.025	U	0.080	0.14	0.0003	U	0.040	0.074	0.005	U	0.039	0.074	0.030	U
0.17	0.014	U	0.087	0.15	0.001	U	0.040	0.076	-0.011	U	0.052	0.098	0.056	U
0.26	-0.039	U	0.098	0.17	-0.009	U	0.046	0.082	0.004	U	0.049	0.090	0.016	U
0.32	0.06	U	0.12	0.20	-0.015	U	0.066	0.12	0.0	U	0.074	0.14	0.06	U
0.19	0.029	U	0.072	0.12	-0.010	U	0.038	0.069	0.0	U	0.070	0.13	0.009	U
0.30	0.0	U	0.14	0.24	0.0	U	0.075	0.13	-0.020	U	0.067	0.12	0.07	U
0.28	0.04	U	0.11	0.19	0.002	U	0.050	0.092	-0.004	U	0.052	0.10	-0.04	U
0.36	0.13	U	0.20	0.33	0.001	U	0.073	0.13	-0.003	U	0.074	0.13	-0.001	U
0.42	-0.09	U	0.17	0.28	0.011	U	0.073	0.13	0.0	U	0.014	0.051	-0.009	U
0.28	0.022	U	0.089	0.15	-0.02	U	0.13	0.1	0.004	U	0.054	0.11	0.01	U
0.17	0.06	U	0.34	0.58	0.00009	U	0.028	0.052	-0.002	U	0.031	0.058	0.021	U
0.18	-0.037	U	0.097	0.16	0.007	U	0.048	0.087	0.0	U	0.079	0.14	0.0515	U
0.49	0.11	U	0.23	0.38	-0.041	U	0.091	0.15	-0.002	U	0.078	0.14	-0.08	U
0.22	0.004	U	0.095	0.17	0.0003	U	0.042	0.077	0.0	U	0.045	0.085	-0.0003	U
0.30	0.019	U	0.083	0.14	-0.007	U	0.046	0.084	0.0	U	0.089	0.16	-0.014	U
0.24	-0.03	U	0.10	0.18	0.019	U	0.040	0.070	0.0	U	0.008	0.030	0.033	U
0.24	-0.04	U	0.11	0.18	0.015	U	0.048	0.088	-0.014	U	0.057	0.11	-0.05	U
0.33	0.068	U	0.092	0.15	0.029	U	0.045	0.088	0.002	U	0.045	0.093	0.04	U

Table G-5
Post-Excavation IR Site 32 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.11	-0.02	U	0.32	0.56	0.015	U	0.032	0.056	-0.002	U	0.033	0.063	-0.001	U
0.20	0.021	U	0.085	0.14	0.026	U	0.047	0.081	-0.013	U	0.048	0.088	-0.017	U
0.24	-0.021	U	0.086	0.15	0.012	U	0.042	0.076	-0.014	U	0.051	0.095	0.0008	U
0.19	0.053	U	0.073	0.12	0.002	U	0.038	0.071	0.014	U	0.035	0.063	0.003	U
0.27	-0.090	U	0.085	0.14	0.011	U	0.030	0.055	-0.004	U	0.051	0.099	0.040	U
0.21	-0.021	U	0.093	0.16	-0.007	U	0.043	0.078	0.0	U	0.043	0.082	0.008	U
0.12	0.17	U	0.25	0.41	-0.007	U	0.027	0.048	0.002	U	0.026	0.049	0.011	U
0.25	-0.027	U	0.082	0.14	-0.013	U	0.043	0.077	-0.0005	U	0.043	0.086	0.033	U
0.34	0.004	U	0.073	0.13	0.007	U	0.057	0.11	0.047	U	0.058	0.094	0.006	U
0.17	0.11	U	0.27	0.46	-0.0008	U	0.028	0.053	0.0004	U	0.031	0.060	0.015	U
0.26	0.088	U	0.084	0.13	0.028	U	0.048	0.081	-0.011	U	0.047	0.087	0.016	U
0.28	-0.005	U	0.093	0.16	-0.008	U	0.046	0.084	-0.002	U	0.046	0.091	-0.003	U
0.24	0.037	U	0.090	0.15	-0.004	U	0.032	0.060	0.0	U	0.008	0.032	-0.02	U
0.30	0.0	U	0.087	0.15	0.020	U	0.042	0.073	0.009	U	0.041	0.080	0.0	U
0.23	0.0	U	0.11	0.19	0.010	U	0.038	0.068	0.017	U	0.045	0.082	0.033	U
0.22	0.002	U	0.083	0.14	-0.015	U	0.042	0.074	0.011	U	0.031	0.057	-0.011	U
0.34	-0.02	U	0.10	0.18	0.004	U	0.033	0.065	0.0	U	0.10	0.19	-0.03	U
0.32	-0.01	U	0.10	0.18	0.0004	U	0.037	0.072	0.0	U	0.063	0.12	0.014	U
0.32	-0.004	U	0.090	0.16	-0.0007	U	0.034	0.067	0.0	U	0.068	0.13	0.0691	U
0.22	-0.027	U	0.093	0.16	0.0	U	0.021	0.043	0.010	U	0.043	0.079	-0.0264	U
0.29	0.048	U	0.091	0.15	0.011	U	0.061	0.11	-0.006	U	0.064	0.12	-0.02	U
0.25	0.041	U	0.094	0.16	-0.02	U	0.24	0.11	0.027	U	0.060	0.11	0.08	U
0.19	-0.12	U	0.33	0.56	0.020	U	0.030	0.051	-0.0001	U	0.027	0.053	0.014	U
0.20	0.010	U	0.087	0.15	0.053	U	0.044	0.067	0.011	U	0.042	0.078	-0.018	U
0.26	0.047	U	0.098	0.17	-0.017	U	0.054	0.096	0.0	U	0.012	0.043	-0.01	U
0.26	-0.03	U	0.11	0.18	-0.008	U	0.042	0.076	-0.011	U	0.046	0.084	-0.03	U
0.27	-0.01	U	0.088	0.15	0.017	U	0.036	0.063	-0.010	U	0.067	0.12	0.027	U
0.22	-0.024	U	0.086	0.15	0.007	U	0.045	0.081	-0.021	U	0.056	0.098	-0.03	U
0.45	-0.001	U	0.18	0.31	0.0001	U	0.072	0.13	0.00006	U	0.080	0.15	0.04	U
0.21	0.030	U	0.089	0.15	-0.04	U	0.34	0.12	-0.0004	U	0.062	0.12	-0.01	U
0.17	-0.006	U	0.31	0.54	0.009	U	0.023	0.041	-0.008	U	0.031	0.056	-0.031	U
0.30	-0.009	U	0.093	0.16	-0.005	U	0.047	0.084	0.0	U	0.055	0.10	0.0015	U
0.29	0.027	U	0.089	0.15	-0.006	U	0.039	0.073	0.003	U	0.049	0.095	0.024	U
0.19	0.003	U	0.079	0.14	0.0002	U	0.017	0.035	-0.007	U	0.038	0.069	-0.015	U
0.32	0.032	U	0.083	0.14	-0.020	U	0.052	0.091	-0.0005	U	0.061	0.12	0.01	U
0.23	0.068	U	0.074	0.12	0.01	U	0.038	0.068	0.0	U	0.081	0.14	-0.02	U
0.23	-0.024	U	0.095	0.16	0.016	U	0.044	0.078	-0.012	U	0.057	0.10	-0.022	U
0.23	-0.008	U	0.060	0.10	0.021	U	0.037	0.064	-0.007	U	0.050	0.090	-0.016	U
0.28	0.017	U	0.088	0.15	0.029	U	0.047	0.080	0.0	U	0.065	0.12	-0.001	U
0.27	-0.002	U	0.065	0.12	0.019	U	0.053	0.098	0.025	U	0.060	0.11	-0.003	U
0.05	-0.04	U	0.27	0.46	0.002	U	0.025	0.046	0.002	U	0.024	0.047	0.010	U
0.24	0.008	U	0.090	0.15	0.011	U	0.032	0.056	0.006	U	0.053	0.098	0.023	U
0.18	0.044	U	0.093	0.16	0.001	U	0.037	0.068	0.002	U	0.036	0.068	-0.020	U
0.17	0.053	U	0.076	0.13	0.007	U	0.033	0.059	0.001	U	0.047	0.087	-0.03	U
0.21	0.016	U	0.082	0.14	0.022	U	0.033	0.056	0.0	U	0.068	0.12	-0.027	U

Table G-5
Post-Excavation IR Site 32 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.20	-0.040	U	0.093	0.16	0.031	U	0.043	0.071	-0.004	U	0.053	0.099	0.033	U
0.23	0.004	U	0.092	0.16	0.022	U	0.040	0.067	0.00006	U	0.040	0.076	0.030	U
0.21	0.0	U	0.12	0.20	0.009	U	0.058	0.10	0.004	U	0.063	0.12	0.002	U
0.33	0.0009	U	0.087	0.15	0.002	U	0.052	0.10	0.0	U	0.012	0.044	-0.03	U
0.20	-0.17	U	0.30	0.50	0.034	U	0.039	0.063	-0.005	U	0.034	0.063	-0.003	U
0.20	-0.033	U	0.099	0.17	0.006	U	0.034	0.061	-0.005	U	0.037	0.071	-0.001	U
0.25	0.020	U	0.098	0.17	-0.0004	U	0.050	0.091	-0.008	U	0.049	0.093	-0.04	U
0.26	-0.003	U	0.088	0.15	0.021	U	0.044	0.077	-0.019	U	0.056	0.10	0.029	U
0.22	-0.002	U	0.086	0.15	0.0	U	0.041	0.075	0.0	U	0.036	0.070	-0.05	U
0.33	-0.005	U	0.064	0.12	0.056	U	0.065	0.10	-0.011	U	0.066	0.12	-0.01	U
0.16	0.16	U	0.25	0.42	0.073	J	0.036	0.049	0.0	U	0.035	0.065	-0.0003	U
0.22	0.017	U	0.074	0.13	0.032	U	0.040	0.066	-0.008	U	0.051	0.092	-0.03	U
0.23	-0.037	U	0.084	0.14	0.081	J	0.046	0.063	-0.009	U	0.044	0.081	-0.026	U
0.25	0.004	U	0.096	0.17	0.043	U	0.049	0.080	0.026	U	0.045	0.078	0.0	U
0.27	-0.036	U	0.092	0.16	0.055	U	0.046	0.070	-0.009	U	0.043	0.080	-0.02	U
0.24	0.042	U	0.084	0.14	0.038	U	0.041	0.066	0.012	U	0.037	0.070	0.023	U
0.17	-0.015	U	0.083	0.14	0.014	U	0.031	0.053	-0.011	U	0.037	0.067	-0.015	U
0.24	0.004	U	0.050	0.091	0.013	U	0.044	0.080	0.0	U	0.087	0.16	0.057	U
0.30	-0.007	U	0.089	0.15	-0.007	U	0.048	0.087	-0.006	U	0.055	0.10	0.001	U
0.23	-0.0007	U	0.090	0.16	-0.01	U	0.12	0.09	0.008	U	0.062	0.12	-0.012	U
0.22	0.044	U	0.094	0.16	0.014	U	0.035	0.062	0.013	U	0.028	0.051	-0.0004	U
0.28	-0.00005	U	0.092	0.16	0.005	U	0.046	0.085	0.0	U	0.060	0.11	-0.02	U
0.13	-0.03	U	0.30	0.52	-0.0002	U	0.031	0.057	-0.001	U	0.027	0.051	0.018	U
0.25	-0.017	U	0.075	0.13	0.017	U	0.040	0.070	0.0	U	0.010	0.037	-0.014	U
0.15	0.09	U	0.25	0.42	-0.006	U	0.023	0.042	0.0	U	0.028	0.054	0.042	U
0.43	0.024	U	0.082	0.14	0.003	U	0.030	0.057	-0.002	U	0.044	0.083	0.059	U
0.27	0.021	U	0.076	0.13	0.006	U	0.042	0.076	0.0	U	0.011	0.041	0.00005	U
0.29	-0.005	U	0.060	0.11	0.0	U	0.046	0.085	-0.007	U	0.042	0.081	-0.0003	U
0.22	0.045	U	0.087	0.15	0.012	U	0.037	0.066	0.0	U	0.045	0.086	-0.020	U
0.64	0.09	U	0.18	0.30	-0.012	U	0.087	0.15	0.0	U	0.13	0.24	-0.07	U
0.33	0.009	U	0.10	0.18	-0.019	U	0.060	0.11	0.0	U	0.084	0.15	-0.01	U
0.18	0.007	U	0.27	0.47	0.028	U	0.034	0.055	-0.012	U	0.035	0.062	-0.026	U
0.26	0.036	U	0.080	0.14	-0.0004	U	0.044	0.081	-0.008	U	0.048	0.091	0.0152	U
0.28	0.07	U	0.10	0.17	0.023	U	0.051	0.088	0.033	U	0.046	0.075	0.003	U
0.25	-0.041	U	0.096	0.16	0.049	J	0.036	0.049	-0.005	U	0.061	0.11	0.012	U
0.44	0.08	U	0.12	0.19	0.036	U	0.051	0.084	0.023	U	0.054	0.097	0.0	U
0.31	-0.03	U	0.12	0.20	0.035	U	0.050	0.083	-0.016	U	0.052	0.094	-0.0005	U
0.39	0.14	U	0.17	0.28	0.008	U	0.075	0.13	-0.0008	U	0.053	0.10	-0.0003	U
0.45	0.11	U	0.23	0.38	0.0002	U	0.069	0.12	0.0	U	0.087	0.15	-0.004	U
0.34	0.018	U	0.099	0.17	0.097	J	0.062	0.086	0.0	U	0.075	0.14	0.011	U
0.20	0.047	U	0.064	0.11	-0.02	U	0.47	0.09	0.0	U	0.092	0.17	-0.002	U
0.24	0.05	U	0.42	0.72	0.025	U	0.024	0.037	0.020	U	0.039	0.066	0.198	U
0.41	-0.09	U	0.21	0.34	-0.057	U	0.093	0.15	0.022	U	0.067	0.12	0.0	U
0.29	0.029	U	0.098	0.17	-0.006	U	0.051	0.095	-0.010	U	0.069	0.13	0.0	U
0.31	0.034	U	0.090	0.15	0.004	U	0.049	0.089	-0.003	U	0.064	0.12	-0.001	U

Table G-5
Post-Excavation IR Site 32 Soil

Det Limit	AMERICIUM-241	Flag	Error	Det Limit	CESIUM-137	Flag	Error	Det Limit	COBALT-60	Flag	Error	Det Limit	EUROPIUM-152	Flag
0.32	-0.003	U	0.11	0.19	0.008	U	0.058	0.11	0.032	U	0.064	0.11	0.007	U
0.27	0.001	U	0.11	0.19	0.024	U	0.045	0.077	0.0	U	0.009	0.037	-0.03	U
0.12	0.008	U	0.22	0.39	0.006	U	0.023	0.041	-0.011	U	0.031	0.055	-0.025	U
0.31	-0.038	U	0.098	0.17	0.037	U	0.043	0.069	-0.007	U	0.062	0.12	0.03	U
0.19	0.004	U	0.067	0.12	0.021	U	0.038	0.066	-0.012	U	0.051	0.094	0.003	U
0.30	0.018	U	0.092	0.16	0.026	U	0.050	0.086	0.0	U	0.014	0.050	-0.04	U
0.20	-0.0005	U	0.089	0.16	0.026	U	0.043	0.074	-0.007	U	0.052	0.098	-0.00008	U
0.27	0.021	U	0.082	0.14	0.01	U	0.043	0.078	0.0002	U	0.040	0.083	-0.03	U
0.16	-0.004	U	0.10	0.18	0.013	U	0.037	0.065	-0.012	U	0.047	0.085	0.028	U
0.20	0.032	U	0.065	0.11	0.036	U	0.037	0.058	0.005	U	0.031	0.059	0.0	U
0.28	-0.002	U	0.098	0.17	0.0	U	0.047	0.090	0.020	U	0.060	0.11	-0.03	U
0.18	0.054	U	0.083	0.14	0.001	U	0.047	0.090	0.0	U	0.015	0.056	-0.02	U
0.29	0.0003	U	0.072	0.13	-0.02	U	0.15	0.10	-0.011	U	0.067	0.13	-0.01	U
0.16	-0.06	U	0.31	0.53	0.0003	U	0.031	0.057	0.003	U	0.027	0.051	-0.018	U
0.29	-0.001	U	0.11	0.18	-0.002	U	0.044	0.080	0.0	U	0.079	0.14	0.055	U
0.28	0.01	U	0.10	0.18	0.0	U	0.068	0.12	-0.012	U	0.045	0.083	0.017	U
0.24	-0.003	U	0.12	0.20	-0.003	U	0.037	0.067	-0.020	U	0.057	0.10	0.008	U
0.31	0.0	U	0.098	0.17	-0.017	U	0.052	0.093	0.0	U	0.070	0.13	-0.03	U
0.31	0.06	U	0.13	0.22	0.018	U	0.053	0.092	-0.008	U	0.061	0.11	-0.04	U
0.27	0.26	U	0.54	0.91	-0.026	U	0.057	0.096	-0.014	U	0.050	0.088	0.59	
0.28	-0.016	U	0.097	0.17	0.020	U	0.038	0.065	0.0	U	0.043	0.082	-0.03	U
0.24	0.048	U	0.067	0.11	0.002	U	0.041	0.076	0.027	U	0.030	0.043	0.00006	U
0.22	-0.0008	U	0.082	0.14	-0.001	U	0.037	0.068	-0.008	U	0.045	0.082	-0.023	U
0.26	-0.02	U	0.11	0.19	-0.01	U	0.039	0.074	0.0	U	0.075	0.14	-0.004	U
0.33	0.062	U	0.086	0.14	-0.03	U	0.73	0.11	-0.0007	U	0.052	0.10	0.004	U
0.24	0.053	U	0.072	0.12	0.0007	U	0.042	0.077	0.016	U	0.043	0.078	0.021	U
0.29	-0.002	U	0.067	0.12	0.014	U	0.030	0.054	-0.008	U	0.040	0.078	-0.01	U
0.23	0.034	U	0.077	0.13	0.005	U	0.041	0.074	0.0	U	0.008	0.031	0.030	U
0.19	0.035	U	0.086	0.15	0.009	U	0.047	0.086	0.0	U	0.067	0.13	0.045	U
0.16	0.027	U	0.078	0.14	-0.01	U	0.11	0.11	0.0	U	0.071	0.14	-0.002	U
0.14	0.09	U	0.30	0.52	-0.005	U	0.030	0.055	0.0	U	0.006	0.024	0.005	U
0.27	0.040	U	0.097	0.17	0.006	U	0.039	0.073	0.0	U	0.011	0.042	-0.0003	U
0.31	0.05	U	0.11	0.19	-0.013	U	0.046	0.081	0.010	U	0.045	0.083	-0.006	U
0.26	-0.002	U	0.093	0.16	-0.014	U	0.053	0.093	-0.004	U	0.058	0.11	-0.0001	U
0.27	-0.04	U	0.10	0.18	-0.014	U	0.047	0.084	-0.014	U	0.060	0.11	0.01	U
0.37	-0.003	U	0.13	0.23	-0.014	U	0.059	0.10	-0.031	U	0.081	0.14	-0.06	U
0.18	-0.039	U	0.095	0.16	0.004	U	0.037	0.068	-0.011	U	0.044	0.079	-0.00006	U
0.25	-0.028	U	0.086	0.15	-0.013	U	0.050	0.090	0.0	U	0.097	0.18	-0.03	U

Table G-5
Post-Excavation IR Site 32 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.10	0.18	0.1	U	0.30	0.54	4.7		1.2	1.2	0.31	J	0.13	0.18	
0.11	0.2	-0.13	U	0.48	0.85	10.6		1.8	0.7	0.72	J	0.17	0.14	
0.087	0.16	-0.02	U	0.34	0.64	8.1		1.5	0.6	0.47	J	0.11	0.07	0.36
0.079	0.14	-0.02	U	0.30	0.56	8.9		1.4	0.4	0.35	J	0.12	0.16	
0.10	0.19	-0.08	U	0.34	0.62	9.3		1.5	0.6	0.34	J	0.11	0.15	
0.099	0.18	0.0	U	0.32	0.62	9.7		1.7	0.6	0.41	J	0.14	0.17	
0.11	0.21	0.11	U	0.29	0.53	7.6		1.6	0.9	0.51	J	0.14	0.12	
0.094	0.16	0.05	U	0.29	0.53	13.4		1.7	0.3	0.65	J	0.12	0.06	
0.098	0.18	-0.04	U	0.37	0.68	9.4		1.6	0.4	0.48	J	0.14	0.16	
0.12	0.21	0.06	U	0.37	0.67	20.4		2.2	0.7	0.72	J	0.16	0.18	-0.01
0.085	0.15	0.0	UJ	0.28	0.52	8.4	J	1.2	0.5	0.058	UJ	0.086	0.15	
0.13	0.24	-0.12	U	0.44	0.79	15.5		2.2	0.6	0.82	J	0.18	0.13	
0.12	0.21	-0.01	U	0.30	0.60	10.1		1.8	0.5	0.41	J	0.13	0.14	
0.099	0.18	-0.01	U	0.26	0.47	12.9		1.6	0.6	0.56	J	0.13	0.14	
0.11	0.19	0.0	UJ	0.34	0.62	6.7	J	1.3	1.3	0.24	J	0.11	0.16	
0.11	0.19	-0.02	U	0.32	0.63	7.7		1.6	0.7	0.43	J	0.14	0.13	
0.13	0.24	-0.10	U	0.35	0.63	7.3		1.5	1.0	0.34	J	0.17	0.19	
0.10	0.18	0.12	U	0.29	0.50	14.5		1.7	0.6	0.70	J	0.14	0.15	
0.11	0.19	-0.13	U	0.43	0.77	6.6		1.4	0.6	0.43	J	0.13	0.11	
0.13	0.22	-0.18	U	0.55	0.96	17.1		2.3	0.5	0.87	J	0.20	0.16	0.14
0.089	0.17	-0.05	U	0.32	0.61	9.4		1.6	0.5	0.28	J	0.12	0.16	
0.11	0.19	-0.05	UJ	0.34	0.61	17.8	J	1.9	0.4	0.56	J	0.14	0.18	
0.11	0.18	0.04	UJ	0.32	0.58	7.1	J	1.2	0.9	1.06	J	0.18	0.19	
0.12	0.21	0.04	U	0.44	0.81	15.9		2.2	0.6	0.85	J	0.20	0.15	
0.078	0.14	0.0	U	0.28	0.54	6.8		1.4	0.8	0.41	J	0.14	0.14	
0.089	0.16	0.0	U	0.078	0.29	7.9		1.5	0.5	0.43	J	0.14	0.13	
0.11	0.18	-0.06	U	0.32	0.58	9.7		1.4	0.3	0.31	J	0.12	0.16	
0.087	0.14	-0.1	U	0.37	0.67	8.9		1.5	0.4	0.58	J	0.13	0.05	
0.093	0.17	0.11	U	0.28	0.49	12.2		1.6	0.3	0.49	J	0.13	0.15	
0.11	0.19	-0.03	U	0.42	0.80	8.2		1.7	0.6	0.48	J	0.14	0.09	
0.11	0.20	0.04	U	0.28	0.54	9.3		1.7	1.1	0.43	J	0.14	0.16	
0.079	0.14	-0.04	U	0.22	0.40	12.9		1.5	0.5	0.51	J	0.10	0.08	
0.091	0.16	0.0	U	0.50	0.90	9.6		1.5	0.8	0.54	J	0.12	0.07	
0.10	0.18	-0.14	U	0.39	0.69	10		1.6	0.4	0.25	J	0.11	0.16	0.30
0.13	0.23	0.004	U	0.33	0.63	5.8		1.2	0.9	0.18	U	0.12	0.19	
0.11	0.21	-0.12	U	0.45	0.81	14.4		2.3	0.6	0.58	J	0.14	0.06	
0.14	0.25	-0.09	U	0.50	0.89	10.3		1.7	1.1	0.72	J	0.17	0.15	
0.086	0.16	0.0	U	0.65	1.2	9.5		1.8	0.5	0.36	J	0.14	0.16	
0.10	0.19	0.0	U	0.43	0.81	7.6		1.5	0.5	0.34	J	0.13	0.15	
0.13	0.23	0.0	U	0.16	0.35	6.9		1.3	0.6	0.28	J	0.11	0.12	
0.087	0.15	-0.007	U	0.28	0.52	8.3		1.2	0.3	0.36	J	0.11	0.12	
0.12	0.22	0.22	U	0.38	0.64	10.1		1.9	0.6	0.61	J	0.15	0.12	-0.14
0.068	0.13	0.005	U	0.34	0.65	8.6		1.6	1	0.63	J	0.16	0.11	
0.080	0.14	-0.08	U	0.21	0.36	10.1		1.2	0.2	0.435	J	0.093	0.084	
0.099	0.17	-0.05	U	0.29	0.52	9.4		1.3	0.3	0.67	J	0.13	0.10	

Table G-5
Post-Excavation IR Site 32 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.14	0.23	0.09	U	0.31	0.55	8.9		1.4	0.8	1.34		0.19	0.09	
0.16	0.27	0.13	U	0.37	0.66	8.4		1.6	0.5	2.71		0.35	0.18	
0.13	0.24	-0.007	U	0.34	0.67	8.3		1.6	0.5	0.74	J	0.17	0.09	
0.078	0.14	0.02	U	0.24	0.45	9.5		1.3	0.3	0.87	J	0.14	0.1	
0.13	0.22	0.05	U	0.32	0.59	8.7		1.5	0.7	0.53	J	0.14	0.1	
0.083	0.15	0.07	U	0.38	0.71	8.0		1.6	0.7	0.35	J	0.12	0.12	
0.10	0.17	-0.03	U	0.33	0.61	9.2		1.4	0.3	0.42	J	0.13	0.14	-0.007
0.13	0.24	0.0	U	0.58	1.1	10.2		1.7	0.7	0.56	J	0.13	0.07	
0.089	0.15	-0.02	U	0.25	0.48	8.9		1.4	0.3	0.73	J	0.13	0.04	
0.11	0.20	0.0	U	0.47	0.89	5.7		1.4	0.8	0.30	J	0.13	0.16	
0.11	0.20	-0.08	U	0.44	0.80	8.8		1.6	0.5	0.48	J	0.14	0.09	
0.083	0.15	0.04	U	0.23	0.43	8.8		1.2	0.2	0.48	J	0.11	0.10	
0.11	0.19	-0.09	U	0.40	0.72	7.3		1.4	1.1	0.36	J	0.12	0.13	
0.12	0.21	0.02	U	0.35	0.66	8.8		1.6	0.9	0.53	J	0.13	0.07	
0.11	0.19	-0.11	U	0.30	0.53	9.1		1.3	0.3	0.46	J	0.13	0.15	
0.11	0.21	0.05	U	0.32	0.62	7.1		1.6	1.3	0.44	J	0.14	0.13	
0.10	0.19	0.07	U	0.30	0.56	9.0		1.6	0.5	0.31	J	0.13	0.15	-1.57
0.081	0.14	-0.06	U	0.23	0.41	9.4		1.3	0.4	0.397	J	0.098	0.087	
0.086	0.14	-0.03	U	0.31	0.58	9.7		1.5	0.6	0.85	J	0.16	0.07	
0.12	0.22	0.0	U	0.47	0.86	8.8		1.5	0.4	0.47	J	0.13	0.11	
0.098	0.16	0.01	U	0.38	0.72	6.5		1.5	1.5	2.69		0.31	0.07	
0.14	0.25	-0.06	U	0.38	0.68	8.2		1.2	0.3	3.56		0.34	0.11	
0.12	0.22	-0.03	U	0.38	0.73	7.1		1.6	0.9	0.47	J	0.15	0.13	
0.11	0.20	0.13	U	0.39	0.70	8.1		1.5	0.4	1.35		0.22	0.11	
0.075	0.13	0.0	U	0.16	0.31	10.2		1.3	0.2	0.48	J	0.11	0.08	
0.069	0.13	-0.03	U	0.34	0.62	7.8		1.4	1.0	0.54	J	0.11	0.04	
0.089	0.16	0.0	U	0.27	0.54	9.2		1.5	0.4	0.61	J	0.16	0.16	-0.15
0.079	0.14	-0.009	U	0.29	0.55	8.9		1.3	0.3	0.41	J	0.12	0.13	
0.091	0.15	-0.04	U	0.35	0.66	6.1		1.4	1.1	0.73	J	0.17	0.10	
0.093	0.17	0.005	U	0.33	0.62	9.3		1.4	0.3	0.74	J	0.15	0.14	
0.13	0.23	-0.04	U	0.46	0.85	9.6		1.7	0.5	2.38		0.32	0.15	
0.073	0.13	0.01	U	0.27	0.51	6.0		1.2	0.8	0.60	J	0.13	0.13	
0.14	0.25	-0.05	U	0.45	0.83	9.5		1.7	0.8	2.41		0.31	0.13	
0.13	0.22	0.06	U	0.42	0.77	8.0		1.5	0.7	1.52		0.24	0.13	
0.23	0.40	-0.21	U	0.57	0.97	9.3		1.5	0.6	8.65		0.69	0.22	
0.17	0.30	0.0	U	0.51	0.95	10.3		1.8	0.5	5.34		0.54	0.20	-0.09
0.10	0.19	0.09	U	0.32	0.59	9.8		1.7	0.5	0.69	J	0.17	0.13	
0.089	0.16	0.003	U	0.21	0.39	8.3		1.1	0.2	1.25		0.16	0.06	
0.099	0.17	0.04	U	0.29	0.55	7.7		1.4	1.1	0.61	J	0.15	0.13	
0.28	0.48	0.22	U	0.65	1.1	8.9		1.7	1	11.1		0.87	0.22	
0.088	0.16	-0.06	U	0.30	0.54	6.8		1.2	0.6	0.35	J	0.11	0.14	
0.094	0.17	0.0	U	0.28	0.55	9.4		1.6	0.8	0.32	J	0.11	0.12	
0.074	0.13	0.05	U	0.33	0.59	8.5		1.4	0.9	0.52	J	0.14	0.15	
0.13	0.23	-0.08	U	0.48	0.88	7.8		1.6	0.6	0.34	J	0.14	0.19	
0.10	0.18	0.0	U	0.33	0.65	9.6		1.7	0.5	0.30	J	0.14	0.18	

Table G-5
Post-Excavation IR Site 32 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.076	0.14	0.04	U	0.22	0.41	9.5		1.3	0.3	0.67	J	0.13	0.11	0.17
0.087	0.16	-0.08	U	0.41	0.74	6.8		1.3	0.8	0.52	J	0.13	0.07	
0.099	0.18	-0.08	U	0.46	0.83	8.4		1.5	0.5	0.47	J	0.13	0.11	
0.080	0.15	-0.05	U	0.33	0.60	8.9		1.3	0.3	0.53	J	0.13	0.12	
0.070	0.12	-0.07	U	0.38	0.69	9.5		1.6	0.6	0.53	J	0.14	0.1	
0.082	0.15	0.02	U	0.20	0.38	9.1		1.3	0.3	0.39	J	0.11	0.12	
0.061	0.11	-0.07	U	0.24	0.43	8.1		1.1	0.2	0.315	J	0.093	0.098	
0.082	0.14	0.12	U	0.38	0.67	7.9		1.4	0.4	0.51	J	0.13	0.11	
0.11	0.19	0.0	U	0.076	0.28	10.5		1.8	0.5	0.59	J	0.15	0.08	
0.062	0.11	0.002	U	0.23	0.43	9.4		1.2	0.2	0.42	J	0.10	0.1	
0.089	0.16	0.0	U	0.38	0.71	7.4		1.4	1	0.30	J	0.11	0.13	
0.10	0.19	-0.08	U	0.41	0.75	9.3		1.6	0.5	0.33	J	0.13	0.17	
0.10	0.18	-0.06	U	0.33	0.59	10.2		1.5	0.3	0.36	J	0.12	0.15	
0.098	0.18	-0.03	U	0.40	0.74	8.0		1.6	1.0	0.41	J	0.12	0.08	
0.086	0.15	-0.05	U	0.32	0.59	10.1		1.6	0.6	0.45	J	0.13	0.13	
0.097	0.17	-0.12	U	0.35	0.61	7.8		1.3	0.9	0.48	J	0.12	0.12	
0.11	0.19	-0.07	U	0.39	0.72	9.8		1.8	0.5	0.58	J	0.14	0.11	-0.20
0.089	0.16	-0.15	U	0.42	0.75	7.9		1.5	0.5	0.21	J	0.12	0.18	
0.099	0.17	-0.05	U	0.34	0.64	10.1		1.7	0.7	0.45	J	0.12	0.07	
0.099	0.17	0.06	U	0.30	0.54	9.7		1.5	0.8	0.40	J	0.12	0.13	
0.12	0.22	0.0	U	0.66	1.2	9.2		1.8	1.0	0.62	J	0.15	0.11	
0.11	0.18	-0.10	U	0.43	0.79	10.5		1.8	0.5	0.44	J	0.15	0.18	
0.079	0.14	0.12	U	0.22	0.38	10.7		1.3	0.2	0.48	J	0.10	0.09	
0.093	0.16	0.003	U	0.29	0.55	10.5		1.5	0.6	0.47	J	0.12	0.12	
0.10	0.19	0.0	U	0.49	0.89	8.8		1.6	0.7	0.47	J	0.12	0.09	
0.10	0.18	0.12	U	0.33	0.57	11.1		1.5	0.3	0.43	J	0.13	0.16	-0.10
0.093	0.17	-0.003	U	0.33	0.64	10		1.7	0.7	0.52	J	0.12	0.05	
0.11	0.20	0.08	U	0.25	0.46	10.4		1.5	0.3	0.46	J	0.13	0.13	
0.17	0.30	0.23	U	0.57	1.0	6.9		1.6	1.1	4.85		0.51	0.21	
0.10	0.19	-0.14	U	0.47	0.84	9.2		1.7	0.5	0.38	J	0.13	0.15	
0.088	0.15	0.06	U	0.23	0.40	7.8		1.1	0.2	1.34		0.17	0.06	
0.099	0.18	-0.10	U	0.36	0.64	4.7		1.1	1	1.22		0.19	0.07	
0.094	0.17	0.0	U	0.38	0.72	7.1		1.4	0.7	0.46	J	0.14	0.13	
0.082	0.15	-0.07	U	0.28	0.50	7.4		1.2	0.7	0.59	J	0.13	0.12	
0.11	0.19	0.01	U	0.27	0.53	9.8		1.7	0.7	0.40	J	0.11	0.05	
0.12	0.21	0.06	U	0.29	0.54	8.7		1.4	0.7	0.35	J	0.12	0.15	0.08
0.081	0.14	0.11	U	0.28	0.50	12.2		1.8	0.6	0.73	J	0.14	0.04	
0.078	0.14	-0.01	U	0.27	0.50	12.5		1.5	0.3	0.41	J	0.11	0.11	
0.088	0.16	0.0	U	0.071	0.26	12.1		1.9	0.5	0.50	J	0.15	0.17	
0.097	0.18	0.0	U	0.46	0.85	10.8		1.7	0.4	0.48	J	0.14	0.12	
0.058	0.10	0.10	U	0.18	0.32	10.9		1.3	0.2	0.45	J	0.10	0.1	
0.091	0.16	0.11	U	0.29	0.52	10.5		1.5	0.6	0.41	J	0.12	0.13	
0.093	0.16	0.02	U	0.17	0.33	13.5		1.6	0.3	0.52	J	0.13	0.14	
0.10	0.18	0.07	U	0.29	0.53	11.4		1.5	0.3	0.45	J	0.12	0.12	
0.088	0.15	-0.04	U	0.31	0.56	11.7		1.6	0.5	0.59	J	0.12	0.07	

Table G-5
Post-Excavation IR Site 32 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.094	0.16	0.02	U	0.30	0.57	11.2		1.7	0.6	0.65	J	0.13	0.06	-0.1
0.098	0.17	0.0	U	0.30	0.55	11.6		1.5	0.3	0.58	J	0.12	0.11	
0.11	0.20	-0.08	U	0.35	0.64	14.7		2.1	0.5	0.62	J	0.16	0.14	
0.11	0.19	-0.10	U	0.39	0.70	12.6		1.9	0.4	0.70	J	0.18	0.12	
0.083	0.15	-0.02	U	0.24	0.45	13.6		1.5	0.2	0.51	J	0.11	0.11	
0.068	0.12	-0.03	U	0.30	0.54	9.4		1.4	0.8	0.54	J	0.12	0.08	
0.12	0.21	-0.16	U	0.40	0.71	11.9		1.7	0.4	0.55	J	0.14	0.11	
0.079	0.14	0.12	U	0.33	0.58	10.5		1.6	0.5	0.59	J	0.14	0.08	
0.12	0.20	-0.03	U	0.26	0.48	12.0		1.5	0.3	0.47	J	0.13	0.15	
0.11	0.19	0.12	U	0.39	0.70	8.2		1.5	0.5	0.57	J	0.15	0.12	
0.064	0.12	0.05	U	0.19	0.34	10.4		1.2	0.2	0.427	J	0.092	0.082	0.07
0.11	0.18	0.02	U	0.25	0.48	9.3		1.3	0.3	0.44	J	0.10	0.11	
0.096	0.17	0.03	U	0.32	0.59	9.9		1.5	0.6	0.36	J	0.11	0.11	
0.12	0.22	0.01	U	0.33	0.62	10.1		1.6	0.4	0.52	J	0.14	0.11	
0.11	0.19	-0.04	U	0.30	0.56	11.6		1.5	0.3	0.43	J	0.12	0.13	
0.081	0.14	-0.01	U	0.36	0.66	13.5		1.9	0.8	0.50	J	0.15	0.12	
0.083	0.15	0.0	U	0.35	0.63	9.6		1.2	0.2	0.42	J	0.10	0.11	
0.094	0.16	-0.02	U	0.35	0.67	10.5		1.8	0.7	0.32	J	0.12	0.15	
0.092	0.17	-0.14	U	0.41	0.73	8.6		1.5	0.6	0.62	J	0.15	0.10	
0.093	0.17	-0.008	U	0.32	0.60	12.1		1.8	0.4	0.42	J	0.13	0.13	
0.083	0.15	-0.06	U	0.30	0.54	9.8		1.4	0.8	0.42	J	0.11	0.13	-0.23
0.10	0.19	0.003	U	0.33	0.63	10.6		1.7	0.7	0.64	J	0.16	0.13	
0.070	0.12	0.0007	U	0.18	0.35	10.1		1.2	0.4	0.57	J	0.10	0.08	
0.091	0.16	0.04	U	0.34	0.63	7.9		1.5	1.1	0.29	J	0.11	0.14	
0.068	0.11	0.02	U	0.11	0.21	9.2		1.1	0.2	0.265	J	0.076	0.083	
0.084	0.14	-0.01	U	0.34	0.62	9.7		1.4	0.6	0.43	J	0.12	0.12	
0.082	0.15	-0.003	U	0.28	0.54	8.8		1.5	0.6	0.67	J	0.14	0.07	
0.089	0.16	0.0	U	0.060	0.22	10.5		1.6	0.6	0.46	J	0.13	0.09	
0.091	0.16	-0.10	U	0.32	0.56	8.1		1.3	0.8	0.42	J	0.12	0.13	
0.22	0.37	-0.10	U	0.60	1.1	9.5		1.8	0.6	4.81		0.52	0.19	0.02
0.12	0.22	0.002	U	0.47	0.87	9.0		1.5	0.4	2.54		0.31	0.13	
0.082	0.14	0.03	U	0.21	0.39	7.9		1.1	0.2	0.60	J	0.12	0.09	
0.099	0.18	0.0006	U	0.37	0.68	7.3		1.4	1.0	0.69	J	0.15	0.09	
0.11	0.20	0.03	U	0.33	0.61	9.0		1.5	0.8	1.14		0.19	0.15	
0.088	0.16	0.08	U	0.29	0.53	9.2		1.5	0.4	0.48	J	0.14	0.17	
0.17	0.30	0.15	U	0.39	0.69	8.4		1.6	0.5	1.35		0.24	0.16	
0.11	0.20	-0.002	U	0.27	0.52	8.9		1.4	0.5	0.92	J	0.17	0.12	
0.20	0.34	-0.26	U	0.65	1.1	6.8		1.6	1.4	7.06		0.63	0.18	
0.27	0.46	-0.10	U	0.54	0.95	9.8		1.6	0.9	12.9		0.94	0.24	
0.098	0.18	0.0	U	0.46	0.87	10.4		1.8	0.5	0.88	J	0.20	0.16	0.26
0.068	0.13	-0.09	U	0.43	0.77	3.9		1.1	0.9	0.41	J	0.13	0.14	
0.099	0.21	-0.002	U	0.29	0.53	11.6		1.3	0.2	4.05		0.36	0.12	
0.20	0.35	-0.08	U	0.51	0.89	9.3		1.5	0.6	8.52		0.67	0.21	
0.14	0.26	0.0	U	0.48	0.91	8.6		1.7	0.9	1.23		0.22	0.11	
0.10	0.19	0.002	U	0.32	0.62	9.0		1.6	1.1	1.30		0.21	0.10	

Table G-5
Post-Excavation IR Site 32 Soil

Error	Det Limit	EUROPIUM-154	Flag	Error	Det Limit	POTASSIUM-40	Flag	Error	Det Limit	RADIUM-226	Flag	Error	Det Limit	STRONTIUM-90
0.11	0.21	-0.07	U	0.40	0.74	10.3		1.7	0.5	2.02		0.29	0.12	
0.10	0.18	0.0	U	0.42	0.77	9.0		1.5	1.1	1.39		0.21	0.09	
0.069	0.12	-0.03	U	0.16	0.31	3.98		0.70	0.21	0.199	J	0.074	0.091	
0.10	0.18	-0.01	U	0.33	0.65	12.7		2.0	0.7	0.44	J	0.12	0.05	0.37
0.082	0.15	-0.02	U	0.33	0.61	6.6		1.3	1	0.33	J	0.11	0.11	
0.13	0.23	-0.05	U	0.39	0.73	12.3		2.0	0.5	0.42	J	0.17	0.17	
0.10	0.19	-0.19	U	0.40	0.70	11.1		1.7	0.6	0.38	J	0.12	0.14	
0.11	0.19	0.008	U	0.30	0.59	8.8		1.6	0.7	0.49	J	0.14	0.10	
0.085	0.15	-0.0004	U	0.26	0.50	8.5		1.3	0.3	0.40	J	0.11	0.12	
0.12	0.21	0.002	U	0.20	0.39	7.4		1.2	0.3	0.47	J	0.12	0.12	
0.14	0.24	0.0	U	0.46	0.86	7.9		1.6	0.6	0.61	J	0.16	0.13	
0.12	0.22	-0.10	U	0.40	0.73	8.4		1.7	0.6	0.30	J	0.12	0.16	
0.11	0.20	0.0	U	0.48	0.90	8.0		1.6	0.5	0.43	J	0.12	0.06	
0.070	0.12	0.001	U	0.20	0.39	10.5		1.3	0.4	0.40	J	0.10	0.1	0.17
0.093	0.16	0.14	U	0.29	0.51	9.9		1.6	0.6	0.74	J	0.16	0.14	
0.085	0.15	-0.09	U	0.38	0.69	7.8		1.4	0.6	0.92	J	0.19	0.14	
0.091	0.16	0.02	U	0.35	0.63	10.5		1.4	0.3	1.76		0.23	0.14	
0.11	0.19	-0.11	U	0.41	0.74	8.2		1.6	0.7	0.39	J	0.12	0.08	
0.18	0.30	-0.11	U	0.39	0.69	11.1		1.5	0.3	3.91		0.38	0.16	
0.18	0.29	-0.03	U	0.40	0.71	7.5		1.4	1.5	9.77		0.71	0.17	
0.12	0.20	-0.12	U	0.32	0.57	10.8		1.5	0.3	0.56	J	0.13	0.13	
0.078	0.14	-0.009	U	0.31	0.59	8.0		1.4	0.6	0.53	J	0.16	0.13	
0.097	0.17	0.0	U	0.20	0.39	9.1		1.4	0.5	0.95	J	0.16	0.12	
0.11	0.20	-0.06	U	0.38	0.71	10.1		1.8	0.6	0.91	J	0.21	0.16	0.19
0.11	0.21	0.05	U	0.39	0.73	8.5		1.6	0.5	0.55	J	0.18	0.14	
0.092	0.16	0.08	U	0.31	0.56	9.8		1.5	0.3	0.50	J	0.13	0.14	
0.10	0.18	0.06	U	0.35	0.65	7.5		1.4	0.6	0.54	J	0.13	0.07	
0.075	0.13	-0.10	U	0.35	0.61	7.4		1.2	0.6	0.30	J	0.10	0.12	
0.087	0.15	-0.04	U	0.28	0.53	8.6		1.6	0.8	0.58	J	0.14	0.1	
0.11	0.20	0.06	U	0.36	0.67	6.8		1.5	1	0.38	J	0.12	0.08	
0.075	0.13	0.07	U	0.23	0.41	9.2		1.2	0.2	0.52	J	0.11	0.1	
0.071	0.14	-0.07	U	0.39	0.71	10.7		1.7	0.4	0.54	J	0.14	0.11	
0.13	0.23	0.04	U	0.30	0.55	8.9		1.3	0.3	2.89		0.32	0.14	
0.11	0.19	-0.16	U	0.42	0.74	9.6		1.5	0.6	0.64	J	0.14	0.11	-0.16
0.098	0.18	-0.13	U	0.39	0.69	8.4		1.5	0.4	1.01		0.20	0.14	
0.16	0.27	-0.07	U	0.45	0.83	9.5		1.7	0.7	2.24		0.31	0.15	
0.078	0.14	0.10	U	0.26	0.45	8.7		1.3	0.5	0.46	J	0.12	0.12	
0.12	0.21	0.02	U	0.30	0.58	8.7		1.6	0.5	0.38	J	0.14	0.17	

Table G-5
Post-Excavation IR Site 32 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.40	J	0.13	0.07	0.45	U	0.14	0.05	0.14	U	0.15	0.24
			0.45	J	0.15	0.1	0.73	J	0.20	0.08	0.46		0.17	0.32
U	0.46	0.75	0.45	J	0.14	0.09	0.71	J	0.18	0.03	0.23	U	0.20	0.32
			0.41	J	0.14	0.08	0.62	U	0.17	0.04	0.4		0.14	0.23
			0.43	J	0.15	0.07	0.52	U	0.16	0.03	0.33		0.19	0.26
			0.43	J	0.15	0.09	0.95	J	0.22	0.06	0.32		0.21	0.31
			0.50	J	0.14	0.07	0.39	J	0.13	0.06	0.45		0.23	0.30
			0.58	J	0.16	0.05	0.74	J	0.18	0.03	0.54		0.15	0.23
			0.37	J	0.14	0.08	0.57	J	0.17	0.05	0.32		0.20	0.27
U	0.25	0.44	0.85	J	0.20	0.07	0.76	J	0.18	0.04	1.13		0.20	0.17
			0.29	J	0.12	0.08	0.53	J	0.16	0.05	0.15	UJ	0.14	0.22
			0.96	J	0.22	0.07	0.82	J	0.20	0.07	0.74		0.22	0.36
			0.99	J	0.20	0.07	0.55	J	0.14	0.04	0.19	U	0.21	0.34
			0.57	J	0.15	0.06	0.61	J	0.16	0.06	0.42		0.19	0.28
			0.241	J	0.099	0.067	0.30	J	0.11	0.05	0.18	UJ	0.19	0.30
			0.44	J	0.14	0.07	0.66	J	0.17	0.05	-0.04	U	0.72	0.34
			0.34	J	0.12	0.06	0.41	J	0.13	0.05	0.22	U	0.20	0.31
			0.76	J	0.19	0.09	1.04		0.23	0.07	0.63		0.19	0.28
			0.68	J	0.18	0.1	0.217	J	0.097	0.044	0.18	U	0.18	0.30
U	0.28	0.47	1.18		0.26	0.08	1.09		0.25	0.08	0.84		0.23	0.28
			0.65	J	0.18	0.09	0.53	J	0.15	0.06	0.33		0.20	0.26
			0.82	J	0.21	0.07	0.82	J	0.21	0.07	0.67	J	0.21	0.25
			0.46	J	0.14	0.07	0.47	J	0.14	0.05	0.30	J	0.16	0.22
			0.93	J	0.22	0.09	1.09		0.23	0.05	1.01		0.25	0.34
			0.29	J	0.11	0.05	0.42	J	0.13	0.04	0.28		0.19	0.27
			0.28	J	0.11	0.07	0.35	U	0.12	0.03	0.41		0.22	0.27
			0.31	J	0.12	0.10	0.59	J	0.17	0.07	0.36		0.20	0.29
			0.43	J	0.14	0.06	0.60	J	0.16	0.03	0.26	U	0.22	0.34
			0.40	J	0.14	0.09	0.53	J	0.16	0.06	0.31		0.16	0.20
			0.38	J	0.14	0.09	0.47	U	0.15	0.05	0.23	U	0.24	0.37
			0.44	J	0.14	0.08	0.42	U	0.14	0.06	0.36		0.19	0.23
			0.46	J	0.15	0.09	0.30	U	0.12	0.05	0.25		0.14	0.20
			0.44	J	0.15	0.09	0.54	J	0.16	0.05	0.40		0.14	0.27
U	0.26	0.42	0.37	J	0.14	0.09	0.52	J	0.16	0.03	0.46		0.15	0.17
			0.38	J	0.14	0.08	0.58	J	0.17	0.05	0.37		0.19	0.25
			0.56	J	0.16	0.08	0.71	J	0.18	0.03	0.48		0.31	0.46
			0.47	J	0.16	0.08	0.68	J	0.20	0.06	0.49		0.20	0.36
			0.37	J	0.13	0.07	0.37	U	0.13	0.07	0.24	U	0.24	0.37
			0.48	J	0.15	0.08	0.66	U	0.18	0.06	0.23		0.15	0.18
			0.31	J	0.12	0.07	0.56	J	0.16	0.03	0.42		0.16	0.25
			0.46	J	0.15	0.08	0.56	U	0.16	0.05	0.39		0.13	0.18
U	0.32	0.57	0.49	J	0.15	0.07	0.48	U	0.15	0.06	0.49		0.21	0.20
			0.67	J	0.19	0.09	0.74	U	0.20	0.06	0.29	U	0.15	0.29
			0.50	J	0.16	0.09	0.52	U	0.16	0.05	0.46		0.11	0.17
			0.33	J	0.13	0.08	0.57	U	0.16	0.03	0.41		0.17	0.20

Table G-5
Post-Excavation IR Site 32 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.39	J	0.13	0.07	0.43	U	0.14	0.03	0.13	U	0.15	0.25
			0.58	J	0.18	0.1	0.47	U	0.15	0.05	0.31		0.20	0.27
			0.37	J	0.13	0.04	0.43	U	0.14	0.06	0.49		0.22	0.24
			0.36	J	0.17	0.12	0.32	U	0.15	0.05	0.40		0.15	0.18
			0.63	J	0.23	0.13	0.20	U	0.13	0.09	0.29		0.19	0.28
			0.33	J	0.13	0.09	0.50	J	0.15	0.06	0.16	U	0.18	0.30
U	0.40	0.69	0.38	J	0.13	0.08	0.46	U	0.14	0.04	0.38		0.20	0.27
			0.43	J	0.14	0.09	0.44	UJ	0.14	0.04	0.50		0.17	0.26
			0.62	J	0.17	0.05	0.56	J	0.16	0.07	0.43		0.20	0.25
			0.45	J	0.15	0.07	0.74	U	0.19	0.06	0.35		0.24	0.34
			0.44	J	0.16	0.10	0.62	J	0.19	0.06	0.38		0.22	0.30
			0.31	J	0.12	0.07	0.68	U	0.19	0.03	0.29		0.11	0.14
			0.85	J	0.29	0.19	0.45	U	0.20	0.10	0.42		0.16	0.26
			0.58	J	0.20	0.13	0.43	U	0.17	0.09	0.41		0.17	0.31
			0.56	J	0.19	0.11	0.76	J	0.22	0.04	0.35		0.14	0.23
			0.71	J	0.20	0.09	0.65	J	0.19	0.03	0.34		0.20	0.24
U	0.39	0.77	0.37	J	0.14	0.05	0.57	U	0.18	0.08	0.25		0.18	0.25
			0.41	J	0.18	0.12	0.54	U	0.20	0.05	0.33		0.12	0.20
			0.49	J	0.17	0.11	0.57	U	0.17	0.05	0.34		0.14	0.27
			0.24	J	0.12	0.09	0.56	U	0.18	0.04	0.31		0.19	0.27
			0.41	J	0.20	0.1	0.28	U	0.17	0.14	0.22	U	0.23	0.36
			0.17	J	0.13	0.15	0.47	U	0.20	0.06	0.24	U	0.14	0.32
			0.26	J	0.14	0.12	0.45	U	0.17	0.09	0.45		0.25	0.32
			0.41	J	0.17	0.13	0.32	U	0.14	0.07	0.05	U	0.20	0.36
			0.51	J	0.16	0.08	0.60	J	0.17	0.05	0.54		0.13	0.09
			0.54	J	0.18	0.11	0.53	U	0.18	0.08	0.33		0.14	0.25
U	0.39	0.69	0.14	U	0.11	0.14	0.48	U	0.18	0.08	0.31		0.20	0.29
			0.37	J	0.18	0.15	0.47	U	0.19	0.05	0.25	U	0.17	0.25
			0.64	J	0.25	0.15	0.43	U	0.20	0.06	0.31		0.13	0.17
			0.54	J	0.18	0.10	0.45	U	0.16	0.05	0.38		0.19	0.26
			0.42	J	0.16	0.06	0.36	U	0.15	0.09	0.44		0.24	0.32
			0.48	J	0.14	0.07	0.52	J	0.15	0.06	0.22		0.14	0.19
			0.42	J	0.14	0.07	0.58	J	0.17	0.03	0.19	U	0.19	0.30
			0.41	J	0.14	0.08	0.46	J	0.14	0.04	0.47		0.23	0.28
			0.41	J	0.14	0.05	0.63	J	0.17	0.07	0.54		0.26	0.36
U	0.57	1.0	0.35	J	0.13	0.08	0.48	J	0.15	0.03	0.28	U	0.27	0.42
			0.29	J	0.12	0.07	0.38	U	0.13	0.03	0.17	U	0.18	0.28
			0.61	J	0.17	0.08	0.68	J	0.18	0.05	0.40		0.14	0.17
			0.46	J	0.15	0.07	0.70	J	0.19	0.06	0.39		0.13	0.18
			0.34	J	0.12	0.07	0.42	U	0.13	0.04	0.51		0.32	0.49
			0.49	J	0.16	0.1	0.38	U	0.13	0.05	0.24		0.15	0.22
			0.41	J	0.14	0.08	0.36	U	0.13	0.03	0.27	U	0.20	0.30
			0.60	J	0.17	0.09	0.40	U	0.13	0.04	0.30		0.13	0.24
			0.37	J	0.13	0.08	0.35	U	0.12	0.03	0.30		0.19	0.24
			0.62	J	0.18	0.08	0.54	J	0.16	0.03	0.44		0.18	0.33

Table G-5
Post-Excavation IR Site 32 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
U	0.40	0.67	0.45	J	0.15	0.05	0.55	J	0.17	0.07	0.62		0.14	0.11
			0.45	J	0.15	0.08	0.42	U	0.14	0.06	0.31		0.16	0.20
			0.96	J	0.22	0.08	0.64	J	0.18	0.06	0.30		0.18	0.24
			0.48	J	0.15	0.08	0.52	J	0.15	0.04	0.41		0.16	0.19
			0.40	J	0.15	0.09	0.71	J	0.20	0.07	0.48		0.18	0.27
			0.50	J	0.16	0.08	0.56	J	0.16	0.06	0.36		0.17	0.21
			0.50	J	0.15	0.07	0.43	J	0.14	0.03	0.28		0.11	0.12
			0.37	J	0.13	0.07	0.41	J	0.14	0.06	0.42		0.14	0.25
			0.36	J	0.13	0.08	0.44	J	0.14	0.03	0.30	U	0.13	0.34
			0.44	J	0.15	0.09	0.64	J	0.18	0.05	0.45		0.12	0.17
			0.29	J	0.12	0.07	0.46	J	0.15	0.03	0.40		0.15	0.26
			0.50	J	0.16	0.09	0.39	J	0.14	0.05	0.21	U	0.19	0.28
			0.39	J	0.14	0.07	0.34	J	0.13	0.06	0.37		0.15	0.24
			0.49	J	0.15	0.08	0.57	J	0.16	0.05	0.36		0.15	0.30
			0.58	J	0.17	0.1	0.54	J	0.16	0.05	0.40		0.14	0.23
			0.75	J	0.20	0.11	0.63	J	0.18	0.07	0.30		0.13	0.22
U	0.38	0.67	0.79	J	0.20	0.09	0.52	J	0.16	0.03	0.29	U	0.23	0.34
			0.68	J	0.18	0.07	0.51	J	0.15	0.03	0.32		0.16	0.32
			0.43	J	0.14	0.04	0.49	J	0.15	0.06	0.34		0.23	0.32
			0.46	J	0.15	0.08	0.46	J	0.14	0.03	0.35		0.13	0.22
			0.57	J	0.16	0.04	0.50	J	0.15	0.06	0.29	U	0.21	0.29
			0.46	J	0.15	0.08	0.45	J	0.14	0.03	0.48		0.22	0.25
			0.59	J	0.17	0.08	0.51	U	0.15	0.03	0.56		0.16	0.19
			0.35	J	0.13	0.08	0.140	U	0.076	0.027	0.42		0.18	0.20
			1.10		0.23	0.04	0.67	J	0.17	0.06	0.35		0.20	0.26
U	0.38	0.67	0.48	J	0.15	0.08	0.42	U	0.14	0.03	0.47		0.20	0.26
			0.40	J	0.28	0.32	0.56	J	0.30	0.16	0.32		0.20	0.27
			0.47	J	0.15	0.09	0.42	U	0.14	0.03	0.47		0.16	0.22
			0.40	J	0.14	0.09	0.59	J	0.17	0.06	0.14	U	0.27	0.45
			0.50	J	0.16	0.09	0.42	U	0.14	0.06	0.41		0.20	0.21
			0.30	J	0.12	0.09	0.38	U	0.13	0.06	0.28		0.13	0.17
			0.64	J	0.19	0.11	0.63	J	0.18	0.06	0.36		0.21	0.30
			0.44	J	0.15	0.08	0.52	U	0.16	0.03	0.35		0.21	0.29
			0.44	J	0.14	0.07	0.38	U	0.13	0.03	0.29		0.15	0.19
			0.38	J	0.13	0.09	0.35	U	0.12	0.03	0.26	U	0.21	0.32
U	0.40	0.68	0.39	J	0.13	0.05	0.33	U	0.12	0.07	0.31		0.17	0.23
			0.51	J	0.16	0.08	0.61	J	0.17	0.03	0.46		0.20	0.23
			0.70	J	0.19	0.09	0.72	J	0.19	0.05	0.60		0.20	0.23
			0.46	J	0.14	0.07	0.54	U	0.15	0.05	0.48		0.17	0.28
			0.61	J	0.17	0.08	0.65	J	0.17	0.06	0.47		0.16	0.27
			0.57	J	0.17	0.10	0.75	J	0.19	0.05	0.67		0.14	0.05
			0.71	J	0.18	0.08	0.65	J	0.17	0.03	0.35		0.14	0.24
			0.73	J	0.42	0.41	0.36	J	0.29	0.29	0.39		0.13	0.18
			0.69	J	0.23	0.13	0.60	J	0.21	0.05	0.55		0.17	0.17
			0.59	J	0.18	0.1	0.70	J	0.20	0.06	0.43		0.14	0.21

Table G-5
Post-Excavation IR Site 32 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
U	0.42	0.73	0.50	J	0.24	0.19	0.56	J	0.24	0.12	0.57		0.17	0.20
			0.54	J	0.20	0.07	0.62	J	0.22	0.11	0.50		0.16	0.23
			0.62	J	0.21	0.12	0.79	J	0.23	0.04	0.57		0.16	0.21
			0.55	J	0.26	0.23	0.48	J	0.22	0.07	0.38		0.23	0.33
			0.67	J	0.20	0.11	0.70	J	0.20	0.08	0.59		0.16	0.20
			0.71	J	0.21	0.12	0.59	J	0.19	0.07	0.41		0.13	0.20
			0.50	J	0.18	0.12	0.41	J	0.16	0.06	0.53		0.17	0.25
			0.39	J	0.25	0.26	0.39	J	0.23	0.09	0.36		0.15	0.26
			0.60	J	0.18	0.08	0.58	J	0.17	0.06	0.41		0.14	0.22
			0.34	J	0.15	0.10	0.49	J	0.17	0.08	0.44		0.18	0.33
U	0.40	0.68	0.33	J	0.14	0.10	0.46	J	0.16	0.05	0.44		0.11	0.16
			0.35	J	0.14	0.09	0.45	J	0.16	0.07	0.38		0.14	0.22
			0.26	J	0.12	0.09	0.63	J	0.19	0.04	0.14	U	0.14	0.23
			0.49	J	0.20	0.12	0.31	J	0.16	0.09	0.63		0.20	0.25
			0.42	J	0.14	0.08	0.57	J	0.16	0.05	0.61		0.19	0.27
			0.56	J	0.17	0.09	0.60	J	0.17	0.06	0.51		0.16	0.24
			0.52	J	0.16	0.09	0.70	J	0.19	0.03	0.48		0.14	0.17
			0.71	J	0.19	0.08	0.64	J	0.18	0.06	0.39		0.15	0.24
			0.43	U	0.14	0.08	0.57	J	0.16	0.05	0.29	U	0.20	0.30
			0.71	J	0.18	0.08	0.61	J	0.17	0.06	0.46		0.20	0.23
U	0.42	0.76	0.47	U	0.16	0.11	0.63	J	0.18	0.07	0.33		0.13	0.22
			0.44	U	0.14	0.06	0.47	J	0.14	0.05	0.47		0.16	0.28
			0.61	J	0.18	0.09	0.55	J	0.17	0.06	0.48		0.13	0.13
			0.46	U	0.14	0.08	0.45	J	0.14	0.06	0.24	U	0.17	0.25
			0.30	U	0.13	0.11	0.42	J	0.15	0.06	0.24		0.11	0.15
			0.55	J	0.17	0.09	0.48	J	0.15	0.06	0.157	U	0.079	0.43
			0.72	J	0.18	0.08	0.68	J	0.18	0.06	0.34		0.20	0.27
			0.47	U	0.15	0.1	0.49	J	0.15	0.05	0.21	U	0.19	0.29
			0.40	J	0.19	0.14	0.30	J	0.16	0.11	0.27		0.13	0.22
U	0.37	0.63	0.49	U	0.16	0.08	0.55	J	0.16	0.03	0.0	U	0.35	0.64
			0.57	J	0.17	0.09	0.61	J	0.17	0.05	0.31	U	0.22	0.33
			0.33	U	0.12	0.05	0.37	J	0.13	0.07	0.18		0.12	0.18
			0.43	U	0.15	0.08	0.61	J	0.17	0.03	0.23	U	0.17	0.26
			0.36	U	0.13	0.08	0.42	J	0.14	0.03	0.27	U	0.15	0.28
			0.45	U	0.14	0.07	0.30	J	0.11	0.03	0.20	U	0.17	0.25
			0.46	U	0.19	0.14	0.33	J	0.15	0.07	0.0	U	0.24	0.44
			0.32	J	0.13	0.09	0.33	U	0.12	0.05	0.36		0.22	0.31
			0.30	U	0.12	0.08	0.47	U	0.15	0.03	0.21	U	0.24	0.39
			0.31	J	0.12	0.09	0.38	U	0.13	0.03	0.39	U	0.29	0.45
U	0.45	0.75	0.41	J	0.14	0.08	0.43	U	0.14	0.06	0.121	U	0.072	0.34
			0.33	J	0.13	0.11	0.37	U	0.13	0.06	0.22		0.15	0.20
			0.38	J	0.13	0.08	0.25	U	0.10	0.03	0.24		0.16	0.24
			0.44	J	0.14	0.09	0.61	U	0.17	0.06	0.26	U	0.26	0.41
			0.46	J	0.15	0.1	0.49	U	0.15	0.05	0.32		0.21	0.29
			0.30	U	0.12	0.08	0.38	U	0.13	0.03	0.20	U	0.12	0.31

Table G-5
Post-Excavation IR Site 32 Soil

Flag	Error	Det Limit	THORIUM-228	Flag	Error	Det Limit	THORIUM-230	Flag	Error	Det Limit	THORIUM-232	Flag	Error	Det Limit
			0.170	J	0.087	0.072	0.49	J	0.14	0.03	0.12	U	0.19	0.32
			0.41	J	0.14	0.08	0.29	U	0.11	0.05	0.41		0.20	0.27
			0.165	J	0.089	0.078	0.098	U	0.065	0.050	0.183		0.098	0.12
U	0.32	0.50	0.38	J	0.14	0.1	0.49	J	0.15	0.05	0.41		0.17	0.31
			0.58	J	0.17	0.08	0.48	J	0.15	0.03	0.21		0.14	0.19
			0.35	J	0.13	0.08	0.32	J	0.12	0.03	0.32		0.16	0.30
			0.56	J	0.16	0.09	0.52	J	0.16	0.05	0.22		0.15	0.20
			0.28	J	0.11	0.05	0.33	J	0.12	0.07	0.18	U	0.17	0.27
			0.42	J	0.14	0.07	0.41	J	0.13	0.03	0.41		0.14	0.16
			0.29	J	0.12	0.08	0.27	U	0.11	0.05	0.27		0.12	0.20
			0.38	J	0.14	0.08	0.50	J	0.16	0.06	0.69		0.26	0.28
			0.45	J	0.14	0.07	0.50	J	0.15	0.03	0.040	U	0.096	0.18
			0.35	J	0.13	0.1	0.39	J	0.13	0.05	0.28	U	0.20	0.29
U	0.27	0.45	0.49	J	0.15	0.08	0.56	J	0.16	0.03	0.39		0.13	0.16
			0.27	J	0.11	0.08	0.37	J	0.13	0.03	0.38		0.21	0.29
			0.53	J	0.16	0.09	0.46	J	0.15	0.05	0.31		0.20	0.28
			0.27	J	0.11	0.05	0.63	J	0.17	0.07	0.41		0.16	0.24
			0.30	J	0.12	0.08	0.35	J	0.13	0.03	0.26	U	0.15	0.31
			0.45	J	0.15	0.08	0.37	J	0.13	0.06	0.43		0.22	0.31
			0.82	J	0.19	0.07	0.41	U	0.13	0.05	0.07	U	0.16	0.27
			0.44	J	0.15	0.09	0.61	J	0.17	0.05	0.37		0.15	0.28
			0.41	J	0.14	0.08	0.44	J	0.15	0.07	0.36		0.19	0.24
			0.39	J	0.14	0.09	0.44	J	0.14	0.03	0.22	U	0.15	0.22
U	0.32	0.54	0.36	J	0.14	0.10	0.57	J	0.18	0.05	0.29		0.20	0.26
			0.39	J	0.13	0.04	0.42	U	0.14	0.06	0.35		0.23	0.33
			0.36	J	0.14	0.08	0.56	J	0.17	0.03	0.42		0.15	0.24
			0.49	J	0.17	0.1	0.51	J	0.17	0.06	0.33		0.21	0.29
			0.36	J	0.14	0.08	0.52	J	0.16	0.06	0.36		0.18	0.23
			0.47	J	0.16	0.09	0.52	J	0.16	0.03	0.32		0.17	0.19
			0.31	J	0.12	0.08	0.36	U	0.13	0.03	0.31		0.16	0.16
			0.38	J	0.14	0.1	0.43	J	0.14	0.05	0.39		0.12	0.14
			0.53	J	0.17	0.08	0.52	J	0.16	0.03	0.27		0.19	0.27
			1.07		0.24	0.05	0.47	J	0.15	0.07	0.27	U	0.20	0.31
U	0.29	0.54	0.43	J	0.15	0.1	0.44	J	0.15	0.05	0.21	U	0.17	0.26
			0.35	J	0.12	0.07	0.258	U	0.099	0.044	0.17	U	0.17	0.27
			0.37	J	0.15	0.09	0.36	U	0.14	0.07	0.23	U	0.23	0.37
			0.38	J	0.14	0.1	0.33	J	0.13	0.03	0.44		0.17	0.18
			0.23	J	0.12	0.06	0.32	J	0.14	0.09	0.25	U	0.18	0.25

Table G-5
Post-Excavation IR Site 32 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.30	J	0.11	0.06	0.036	J	0.042	0.033	0.37	J	0.12	0.04
0.35	J	0.12	0.06	0.057	U	0.055	0.060	0.43	J	0.14	0.04
0.27	J	0.10	0.05	0.017	U	0.035	0.065	0.36	J	0.12	0.04
0.45	J	0.14	0.04	0.047	U	0.050	0.052	0.35	J	0.12	0.05
0.41	J	0.13	0.05	0.005	U	0.025	0.064	0.46	J	0.14	0.05
0.34	J	0.12	0.05	0.036	J	0.042	0.033	0.41	J	0.13	0.04
0.33	J	0.11	0.06	0.018	U	0.029	0.043	0.36	J	0.12	0.07
0.56	J	0.15	0.05	0.018	U	0.032	0.054	0.42	J	0.13	0.06
0.56	J	0.16	0.05	0.049	U	0.051	0.054	0.56	J	0.16	0.04
0.62	J	0.16	0.04	0.01	U	0.024	0.051	0.51	J	0.15	0.03
0.29	J	0.11	0.05	-0.0023	U	0.004	0.053	0.31	J	0.11	0.03
0.50	J	0.15	0.07	0.051	U	0.054	0.057	0.52	J	0.16	0.06
0.39	J	0.12	0.06	0.022	U	0.032	0.030	0.50	J	0.14	0.04
0.52	J	0.14	0.04	0.037	U	0.042	0.050	0.35	J	0.11	0.02
0.38	J	0.12	0.06	0.021	U	0.033	0.049	0.255	J	0.099	0.039
0.34	J	0.11	0.04	-0.0018	U	0.003	0.041	0.31	J	0.10	0.03
0.32	J	0.11	0.05	0.01	U	0.020	0.026	0.30	J	0.10	0.03
0.59	J	0.16	0.06	0.031	U	0.042	0.058	0.68	J	0.17	0.04
0.41	J	0.13	0.05	0.018	U	0.035	0.066	0.49	J	0.14	0.04
0.88	J	0.22	0.05	0.056	U	0.059	0.062	0.93	J	0.22	0.06
0.26	J	0.11	0.05	0.042	U	0.050	0.066	0.36	J	0.12	0.05
0.67	J	0.18	0.06	0.057	J	0.057	0.038	0.74	J	0.19	0.05
0.38	J	0.12	0.04	0.030	U	0.037	0.046	0.35	J	0.11	0.04
0.69	J	0.18	0.05	0.049	J	0.049	0.033	0.65	J	0.17	0.05
0.36	J	0.12	0.04	0.044	J	0.044	0.030	0.32	J	0.11	0.04
0.39	J	0.14	0.09	0.012	U	0.029	0.060	0.29	J	0.12	0.08
0.39	J	0.13	0.03	0.014	U	0.027	0.037	0.41	J	0.14	0.05
0.39	J	0.14	0.09	0.012	U	0.030	0.064	0.34	J	0.14	0.09
0.39	J	0.13	0.05	0.010	U	0.026	0.055	0.44	J	0.14	0.04
0.45	J	0.14	0.03	0.01	U	0.024	0.051	0.38	J	0.12	0.03
0.27	J	0.10	0.05	0.009	U	0.023	0.048	0.37	J	0.12	0.04
0.34	J	0.13	0.06	0.041	U	0.051	0.063	0.36	J	0.14	0.05
0.27	J	0.11	0.05	0.027	U	0.038	0.036	0.34	J	0.12	0.05
0.39	J	0.13	0.07	0.024	U	0.038	0.056	0.33	J	0.12	0.06
0.29	J	0.12	0.07	0.006	U	0.027	0.070	0.26	J	0.11	0.09
0.53	J	0.15	0.05	0.008	U	0.026	0.060	0.52	J	0.15	0.06
0.57	J	0.16	0.06	0.062	J	0.058	0.055	0.77	J	0.19	0.04
0.28	J	0.11	0.06	0.038	U	0.047	0.057	0.30	J	0.12	0.05
0.53	J	0.16	0.05	0.013	U	0.026	0.036	0.40	J	0.14	0.06
0.49	J	0.15	0.05	0.025	U	0.040	0.059	0.53	J	0.16	0.05
0.53	J	0.16	0.06	0.040	J	0.047	0.036	0.44	J	0.14	0.05
0.53	J	0.16	0.06	0.026	U	0.037	0.036	0.46	J	0.15	0.07
0.40	J	0.13	0.05	0.037	J	0.043	0.033	0.44	J	0.14	0.04
0.37	J	0.13	0.07	0.014	U	0.028	0.038	0.47	J	0.15	0.05
0.44	J	0.14	0.05	0.027	U	0.038	0.036	0.30	J	0.12	0.06

Table G-5
Post-Excavation IR Site 32 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.209	J	0.094	0.043	0.013	U	0.025	0.034	0.27	J	0.11	0.04
0.29	J	0.12	0.07	0.024	U	0.038	0.056	0.31	J	0.12	0.06
0.36	J	0.15	0.06	0.011	U	0.037	0.089	0.39	J	0.15	0.06
0.32	J	0.12	0.06	0.070	J	0.063	0.038	0.35	J	0.13	0.06
0.47	J	0.15	0.04	0.050	U	0.053	0.056	0.50	J	0.15	0.04
0.32	J	0.12	0.06	0.005	U	0.026	0.066	0.29	J	0.11	0.08
0.20	J	0.10	0.08	0.028	U	0.040	0.038	0.46	J	0.15	0.06
0.33	J	0.12	0.08	0.010	U	0.026	0.054	0.31	J	0.12	0.04
0.44	J	0.14	0.04	-0.0023	U	0.004	0.052	0.40	J	0.13	0.04
0.50	J	0.15	0.05	0.012	U	0.025	0.034	0.227	J	0.097	0.042
0.43	J	0.14	0.08	0.066	J	0.060	0.036	0.48	J	0.15	0.06
0.36	J	0.13	0.05	0.040	U	0.050	0.061	0.38	J	0.14	0.05
0.55	J	0.17	0.05	0.014	U	0.029	0.039	0.63	J	0.18	0.05
0.56	J	0.17	0.07	0.040	U	0.050	0.060	0.47	J	0.15	0.06
0.42	J	0.14	0.06	0.044	J	0.050	0.039	0.58	J	0.17	0.05
0.36	J	0.15	0.09	0.057	U	0.068	0.090	0.49	J	0.17	0.04
0.29	J	0.12	0.05	0.015	U	0.030	0.041	0.26	J	0.12	0.07
0.43	J	0.15	0.06	0.016	U	0.032	0.044	0.35	J	0.14	0.06
0.49	J	0.17	0.09	0.014	U	0.036	0.075	0.46	J	0.17	0.08
0.50	J	0.20	0.08	0.014	U	0.048	0.11	0.33	J	0.16	0.08
0.36	J	0.17	0.11	0.0	U	0.020	0.061	0.20	J	0.12	0.08
0.44	J	0.15	0.05	0.015	U	0.030	0.040	0.30	J	0.12	0.06
0.189	J	0.094	0.048	0.014	U	0.028	0.038	0.177	J	0.091	0.048
0.23	J	0.10	0.05	0.027	U	0.039	0.037	0.27	J	0.11	0.05
0.37	J	0.14	0.08	0.044	U	0.055	0.067	0.31	J	0.13	0.07
0.34	J	0.14	0.06	0.010	U	0.034	0.080	0.23	J	0.11	0.06
0.33	J	0.14	0.06	0.035	U	0.049	0.047	0.39	J	0.15	0.06
0.22	J	0.11	0.05	0.031	U	0.044	0.042	0.33	J	0.13	0.05
0.30	J	0.13	0.08	-0.0031	U	0.006	0.071	0.30	J	0.13	0.07
0.45	J	0.16	0.06	0.011	U	0.036	0.086	0.39	J	0.15	0.06
0.34	J	0.14	0.06	0.016	U	0.032	0.043	0.51	J	0.17	0.05
0.37	J	0.14	0.07	0.029	U	0.040	0.039	0.36	J	0.13	0.06
0.32	J	0.12	0.05	0.013	U	0.027	0.036	0.30	J	0.12	0.05
0.41	J	0.14	0.06	0.026	U	0.037	0.035	0.38	J	0.13	0.04
0.36	J	0.12	0.04	0.025	U	0.035	0.033	0.40	J	0.13	0.05
0.27	J	0.11	0.05	0.013	U	0.027	0.036	0.36	J	0.13	0.05
0.25	J	0.11	0.06	-0.0024	U	0.004	0.055	0.24	J	0.10	0.06
0.57	J	0.16	0.05	0.022	U	0.038	0.065	0.66	J	0.18	0.05
0.49	J	0.15	0.05	0.013	U	0.027	0.036	0.44	J	0.14	0.05
0.44	J	0.14	0.06	0.027	U	0.038	0.037	0.48	J	0.15	0.06
0.41	J	0.14	0.05	0.025	U	0.039	0.058	0.42	J	0.14	0.05
0.35	J	0.13	0.06	0.033	U	0.048	0.073	0.32	J	0.13	0.08
0.31	J	0.12	0.08	0.054	J	0.054	0.036	0.37	J	0.13	0.06
0.30	J	0.12	0.08	-0.0025	U	0.005	0.058	0.27	J	0.11	0.05
0.32	J	0.12	0.04	0.022	U	0.035	0.052	0.40	J	0.13	0.04

Table G-5
Post-Excavation IR Site 32 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.40	J	0.14	0.05	0.013	U	0.027	0.036	0.30	J	0.12	0.05
0.38	J	0.13	0.05	0.077	J	0.066	0.057	0.35	J	0.13	0.05
0.72	J	0.19	0.07	0.028	U	0.040	0.038	0.57	J	0.17	0.06
0.41	J	0.13	0.06	0.013	U	0.025	0.034	0.39	J	0.13	0.06
0.49	J	0.15	0.05	0.013	U	0.027	0.036	0.43	J	0.14	0.05
0.55	J	0.16	0.06	0.013	U	0.026	0.035	0.34	J	0.12	0.04
0.45	J	0.15	0.06	0.027	U	0.039	0.037	0.27	J	0.11	0.05
0.38	J	0.13	0.05	0.013	U	0.025	0.034	0.36	J	0.13	0.04
0.57	J	0.17	0.05	0.024	U	0.043	0.073	0.45	J	0.15	0.05
0.49	J	0.15	0.06	0.028	U	0.040	0.038	0.48	J	0.15	0.06
0.30	J	0.12	0.05	-0.0025	U	0.005	0.058	0.30	J	0.12	0.05
0.32	J	0.12	0.06	0.019	U	0.039	0.072	0.35	J	0.13	0.08
0.33	J	0.13	0.08	0.0	U	0.012	0.038	0.33	J	0.13	0.06
0.29	J	0.12	0.08	-0.0025	U	0.005	0.057	0.39	J	0.13	0.05
0.30	U	0.11	0.04	0.010	U	0.026	0.055	0.31	J	0.12	0.04
0.39	J	0.13	0.05	0.013	U	0.026	0.036	0.31	J	0.12	0.05
0.30	J	0.12	0.04	0.024	U	0.038	0.056	0.41	J	0.14	0.04
0.28	J	0.12	0.07	0.014	U	0.028	0.038	0.30	J	0.12	0.05
0.28	J	0.12	0.07	0.0	U	0.013	0.040	0.27	J	0.12	0.07
0.35	J	0.12	0.05	0.039	J	0.045	0.035	0.45	J	0.14	0.04
0.38	J	0.14	0.07	0.014	U	0.028	0.038	0.49	J	0.15	0.05
0.34	J	0.12	0.05	0.027	U	0.038	0.036	0.38	J	0.13	0.06
0.38	J	0.13	0.04	0.013	U	0.025	0.034	0.33	J	0.12	0.04
0.33	J	0.12	0.07	0.011	U	0.027	0.057	0.31	J	0.12	0.06
0.54	J	0.16	0.05	0.022	U	0.039	0.066	0.58	J	0.17	0.05
0.31	J	0.12	0.07	0.013	U	0.027	0.036	0.30	J	0.12	0.05
0.43	J	0.14	0.04	0.025	U	0.036	0.034	0.25	J	0.10	0.05
0.33	J	0.12	0.04	0.012	U	0.025	0.034	0.30	J	0.11	0.04
0.46	J	0.15	0.05	0.0	U	0.012	0.036	0.32	J	0.12	0.05
0.31	J	0.12	0.07	0.038	U	0.047	0.057	0.23	J	0.10	0.06
0.42	J	0.14	0.05	-0.0050	U	0.007	0.065	0.23	J	0.10	0.05
0.31	J	0.12	0.05	0.0	U	0.011	0.036	0.26	J	0.11	0.05
0.41	J	0.14	0.07	-0.0075	U	0.008	0.072	0.37	J	0.13	0.03
0.27	J	0.11	0.06	0.013	U	0.025	0.034	0.30	J	0.11	0.04
0.22	J	0.10	0.05	0.027	U	0.038	0.036	0.25	J	0.11	0.06
0.31	J	0.12	0.05	0.0	U	0.012	0.039	0.42	J	0.14	0.05
0.51	J	0.16	0.07	0.011	U	0.028	0.058	0.32	J	0.12	0.06
0.40	J	0.14	0.05	0.036	U	0.049	0.068	0.40	J	0.14	0.05
0.38	J	0.13	0.04	0.026	U	0.037	0.035	0.39	J	0.13	0.04
0.36	J	0.13	0.05	0.0	U	0.012	0.037	0.36	J	0.13	0.05
0.49	J	0.16	0.08	0.006	U	0.029	0.074	0.50	J	0.15	0.03
0.44	J	0.15	0.07	0.027	U	0.039	0.037	0.45	J	0.15	0.05
0.34	J	0.12	0.05	0.014	U	0.027	0.037	0.39	J	0.13	0.05
0.41	J	0.13	0.06	0.035	U	0.043	0.053	0.48	J	0.15	0.05
0.40	J	0.13	0.04	0.018	U	0.033	0.056	0.44	J	0.13	0.04

Table G-5
Post-Excavation IR Site 32 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.32	J	0.12	0.05	0.041	J	0.047	0.037	0.36	J	0.13	0.05
0.44	J	0.15	0.07	0.019	U	0.039	0.072	0.46	J	0.14	0.03
0.52	J	0.15	0.06	0.013	U	0.025	0.034	0.33	J	0.12	0.04
0.41	J	0.14	0.04	0.0	U	0.011	0.035	0.50	J	0.15	0.06
0.41	J	0.13	0.04	0.048	J	0.048	0.033	0.36	J	0.12	0.04
0.41	J	0.14	0.05	0.013	U	0.027	0.036	0.51	J	0.15	0.05
0.35	J	0.13	0.06	0.023	U	0.037	0.055	0.38	J	0.13	0.06
0.37	J	0.13	0.05	0.022	U	0.039	0.067	0.40	J	0.14	0.05
0.34	J	0.13	0.06	0.042	J	0.049	0.038	0.37	J	0.13	0.05
0.32	J	0.12	0.07	-0.0071	U	0.008	0.068	0.50	J	0.15	0.03
0.32	J	0.12	0.06	0.038	J	0.043	0.034	0.30	J	0.11	0.04
0.39	J	0.13	0.05	0.0	U	0.011	0.036	0.27	J	0.11	0.06
0.42	J	0.14	0.04	0.025	U	0.036	0.034	0.31	J	0.12	0.04
0.45	J	0.14	0.04	0.026	U	0.037	0.035	0.30	J	0.12	0.04
0.44	J	0.15	0.07	0.024	U	0.038	0.057	0.36	J	0.13	0.06
0.42	J	0.14	0.05	-0.0049	U	0.007	0.065	0.42	J	0.14	0.05
0.51	J	0.15	0.05	0.039	J	0.045	0.035	0.47	J	0.15	0.04
0.49	J	0.16	0.05	0.015	U	0.030	0.040	0.44	J	0.15	0.06
0.41	J	0.14	0.05	0.015	U	0.029	0.040	0.49	J	0.16	0.05
0.50	J	0.15	0.06	0.010	U	0.026	0.054	0.41	J	0.13	0.05
0.45	J	0.14	0.05	0.035	U	0.047	0.065	0.37	J	0.13	0.05
0.33	J	0.13	0.08	0.011	U	0.029	0.060	0.32	J	0.12	0.05
0.47	J	0.15	0.05	0.056	U	0.059	0.062	0.35	J	0.13	0.05
0.37	J	0.13	0.05	0.028	U	0.039	0.038	0.48	J	0.15	0.05
0.38	J	0.14	0.07	0.026	U	0.041	0.061	0.41	J	0.14	0.06
0.33	J	0.12	0.05	0.035	U	0.047	0.066	0.29	J	0.11	0.05
0.40	J	0.14	0.07	0.027	U	0.038	0.036	0.25	J	0.11	0.05
0.45	J	0.14	0.04	0.025	U	0.036	0.034	0.47	J	0.14	0.04
0.42	J	0.14	0.05	0.026	U	0.037	0.035	0.25	J	0.10	0.04
0.33	J	0.12	0.07	0.032	U	0.046	0.071	0.27	J	0.11	0.03
0.30	J	0.12	0.07	0.014	U	0.028	0.037	0.25	J	0.11	0.05
0.31	J	0.13	0.05	0.045	J	0.052	0.040	0.39	J	0.14	0.06
0.47	J	0.15	0.05	0.053	J	0.053	0.036	0.50	J	0.15	0.05
0.25	J	0.11	0.05	0.028	U	0.040	0.038	0.28	J	0.12	0.05
0.35	J	0.13	0.07	0.025	U	0.039	0.058	0.33	J	0.12	0.06
0.38	J	0.19	0.12	0.030	U	0.059	0.080	0.28	J	0.17	0.13
0.29	U	0.11	0.05	0.013	U	0.027	0.036	0.30	U	0.12	0.05
0.28	U	0.11	0.06	0.025	U	0.035	0.034	0.32	U	0.12	0.04
0.30	U	0.11	0.04	0.012	U	0.025	0.033	0.211	U	0.094	0.053
0.40	J	0.13	0.05	0.0	U	0.011	0.036	0.27	U	0.11	0.05
0.167	U	0.089	0.048	0.028	U	0.040	0.038	0.167	U	0.089	0.048
0.207	J	0.094	0.049	0.0	U	0.011	0.034	0.188	J	0.089	0.043
0.28	U	0.11	0.04	-0.0049	U	0.007	0.064	0.28	U	0.11	0.04
0.43	J	0.14	0.05	0.013	U	0.026	0.035	0.26	U	0.11	0.04
0.27	U	0.11	0.06	0.017	U	0.034	0.064	0.208	U	0.090	0.026

Table G-5
Post-Excavation IR Site 32 Soil

URANIUM-233/234	Flag	Error	Det Limit	URANIUM-235/236	Flag	Error	Det Limit	URANIUM-238	Flag	Error	Det Limit
0.25	J	0.11	0.05	-0.0025	U	0.005	0.056	0.35	J	0.13	0.05
0.32	J	0.13	0.06	0.030	U	0.043	0.041	0.40	J	0.14	0.07
0.104	J	0.076	0.082	0.0	U	0.012	0.038	0.150	J	0.085	0.060
0.35	J	0.13	0.06	0.030	U	0.043	0.041	0.29	J	0.12	0.05
0.53	J	0.16	0.05	0.039	U	0.048	0.058	0.37	J	0.13	0.05
0.45	J	0.15	0.07	0.030	U	0.042	0.040	0.47	J	0.16	0.06
0.40	J	0.14	0.07	0.042	J	0.048	0.038	0.52	J	0.16	0.07
0.29	J	0.12	0.06	0.061	J	0.061	0.041	0.23	J	0.11	0.05
0.44	J	0.14	0.05	0.040	J	0.046	0.036	0.39	J	0.13	0.06
0.201	J	0.097	0.048	0.023	U	0.040	0.069	0.25	J	0.11	0.05
0.35	J	0.13	0.05	0.011	U	0.028	0.059	0.33	J	0.12	0.05
0.28	J	0.12	0.08	0.0	U	0.012	0.036	0.45	J	0.14	0.06
0.30	J	0.11	0.04	0.036	U	0.045	0.055	0.175	J	0.087	0.044
0.35	J	0.13	0.06	0.029	U	0.041	0.039	0.196	J	0.098	0.050
0.30	J	0.12	0.07	-0.0052	U	0.007	0.068	0.198	J	0.096	0.047
0.49	J	0.16	0.05	0.123	J	0.090	0.067	0.57	J	0.18	0.05
0.35	J	0.13	0.05	0.009	U	0.029	0.068	0.33	J	0.12	0.05
0.41	J	0.14	0.07	0.029	U	0.041	0.039	0.30	J	0.12	0.07
0.43	J	0.14	0.04	0.026	U	0.037	0.036	0.34	J	0.12	0.06
0.56	J	0.17	0.07	0.012	U	0.029	0.061	0.46	J	0.15	0.06
0.32	J	0.12	0.06	0.027	U	0.038	0.036	0.33	J	0.12	0.06
0.35	J	0.12	0.04	0.010	U	0.026	0.055	0.39	J	0.13	0.04
0.29	J	0.12	0.07	-0.0078	U	0.009	0.075	0.28	J	0.12	0.09
0.22	J	0.10	0.06	0.028	U	0.040	0.038	0.190	U	0.095	0.064
0.41	J	0.13	0.04	0.022	U	0.035	0.053	0.29	J	0.11	0.04
0.188	J	0.094	0.063	0.033	U	0.048	0.073	0.27	J	0.12	0.08
0.35	J	0.14	0.09	0.015	U	0.031	0.041	0.58	J	0.18	0.07
0.35	J	0.13	0.05	0.051	U	0.054	0.057	0.27	J	0.11	0.05
0.51	J	0.17	0.06	0.0	U	0.013	0.042	0.33	J	0.13	0.05
0.32	J	0.12	0.07	0.035	U	0.046	0.065	0.31	J	0.12	0.05
0.43	J	0.14	0.05	0.037	U	0.046	0.056	0.37	J	0.13	0.05
0.55	J	0.17	0.06	0.029	U	0.041	0.039	0.48	J	0.16	0.05
0.46	J	0.15	0.07	0.015	U	0.029	0.039	0.43	J	0.15	0.07
0.31	J	0.12	0.05	0.041	J	0.047	0.037	0.24	J	0.10	0.05
0.32	J	0.13	0.08	0.028	U	0.044	0.065	0.32	J	0.13	0.07
0.44	J	0.14	0.05	0.009	U	0.029	0.068	0.54	J	0.16	0.05
0.33	J	0.12	0.06	0.032	U	0.046	0.070	0.49	J	0.15	0.08
0.46	J	0.15	0.08	0.028	U	0.040	0.038	0.37	J	0.13	0.06

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Import Material

	Sample Number:		15-073		15-074		15-075		15-076		15-083		15-084		15-085		15-086	
	Location Code:		SJB-S1		SJB-S2		SJB-S3		SJB-S4		SCQF-1		SCQF-2		SCQF-3		SCQF-4	
	Date:		7/11/2007		7/11/2007		7/11/2007		7/11/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Method	**Analyte**	**Units**																
EPA 901.1	Americium 241	pCi/g	0.02	U	0.08	U	0.02	U	0.02	U	0.049	U	0.041	U	0.021	U	0.033	U
EPA 901.1	Cesium 137	pCi/g	-0.005	U	0.007	U	0	U	-0.0004	U	0.009	U	-0.004	U	0.01	U	-0.001	U
EPA 901.1	Cobalt 60	pCi/g	0.005	U	0	U	-0.003	U	0.0	U	0.015	U	0.0002	U	-0.00008	U	0.0004	U
EPA 901.1	Europium 152	pCi/g	-0.02	U	0	U	-0.02	U	0.01	U	-0.0006	U	0.072	U	0.0	U	-0.004	U
EPA 901.1	Europium 154	pCi/g	-0.02	U	-0.09	U	0.02	U	0.005	U	-0.16	U	0.08	U	-0.08	U	0.02	U
EPA 901.1	Potassium 40	pCi/g	13.2		9.2		12.6		12.7		12.2		15.2		13.6		13.0	
EPA 901.1	Radium 226 (3 Day)	pCi/g	0.57		0.54		0.41		0.74		0.51		0.57		0.33		0.466	
EPA 901.1	Thorium 232	pCi/g	0.48		0.51		0.63		0.58		0.31	U	0.34		0.30		0.14	U
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	0.48	J	0.46	J	0.59	J	0.79	J	0.44	J	0.41	J	0.37	J	0.55	J
Bulk PLM	Asbestos	%	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DOE SR-03-RC MOD	Strontium 90	pCi/g	0.33	U	0.16	U	0.28	U	0.15	U	0.004	U	0.08	U	0.13	U	-0.03	U
DOE A-01-R U MOD	Uranium 238	pCi/g	N/A		N/A		N/A		N/A		0.57	J	0.53	J	0.4	J	0.44	J
EPA 6020	Silver	mg/kg	0.068	J	0.062	J	0.056	J	0.061	J	0.1	U	0.1	U	0.1	U	0.1	U
EPA 6020	Arsenic	mg/kg	2.6		3.0		2.5		2.4		0.82		0.26	J	1.1		0.72	
EPA 6020	Barium	mg/kg	75.9		66.3		64.9		72.1		31.1		21.9		25.5		28.2	
EPA 6020	Beryllium	mg/kg	0.18		0.17		0.16		0.17		0.2	U	0.2	U	0.2	U	0.2	U
EPA 6020	Cadmium	mg/kg	0.11		0.11		0.081		0.14		0.85		0.4	J	0.54		0.7	
EPA 6020	Cobalt	mg/kg	7.5		6.3		6.1		6.8		31.3		22.7		28.5		30.9	
EPA 6020	Chromium	mg/kg	31.6		28.8		29.6		27.8		183		120		160		188	
EPA 6020	Copper	mg/kg	8.4		6.7		6.6		7.6		96.4		69.7		83.4		98.2	
EPA 6020	Molybdenum	mg/kg	0.59		0.45	J	0.41	J	0.49	J	0.5	U	0.5	U	0.5	U	0.5	U
EPA 6020	Nickel	mg/kg	35.8		28.3		28.7		30.7		88.1		63.6		78.7		88.3	
EPA 6020	Lead	mg/kg	3.7		3.1		3.2		3.8		0.5	U	0.5	U	0.5	U	0.5	U
EPA 6020	Antimony	mg/kg	0.092	J	0.07	J	0.068	J	0.084	J	0.5	U	0.5	U	0.5	U	0.5	U
EPA 6020	Selenium	mg/kg	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EPA 6020	Thallium	mg/kg	0.094	J	0.11	J	0.080	J	0.074	J	2	U	2	U	2	U	2	U
EPA 6020	Vanadium	mg/kg	31.0		28.1		27.2		30.3		161		107		141		157	
EPA 6020	Zinc	mg/kg	25.5		21.3		21.6		22.6		73.6		56.7		68.9		70.3	
EPA 7471A	Mercury	mg/kg	0.025	J	0.023	J	0.026	J	0.018	J	0.019	J	0.1	U	0.1	U	0.1	U
EPA 8260B	Acetone	µg/kg	21	U	22	U	21	U	22	U	53	U	54	U	53	U	53	U
EPA 8260B	Benzene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Bromodichloromethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Bromoform	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Bromomethane	µg/kg	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U
EPA 8260B	2-Butanone	µg/kg	21	U	22	U	21	U	22	U	53	U	54	U	53	U	53	U
EPA 8260B	Carbon Tetrachloride	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Chlorobenzene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U

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Import Material

	Sample Number:		15-073		15-074		15-075		15-076		15-083		15-084		15-085		15-086	
	Location Code:		SJB-S1		SJB-S2		SJB-S3		SJB-S4		SCQF-1		SCQF-2		SCQF-3		SCQF-4	
	Date:		7/11/2007		7/11/2007		7/11/2007		7/11/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Method	**Analyte**	**Units**																
EPA 8260B	Dibromochloromethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Chloroethane	µg/kg	11	U	11	U	11	U	11	U	5	U	5	U	5	U	5	U
EPA 8260B	Chloroform	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Chloromethane	µg/kg	11	U	11	U	11	U	11	U	5	U	5	U	5	U	5	U
EPA 8260B	1,1-Dichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,2-Dichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,1-Dichloroethene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,2-Dichloropropane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	trans-1,3-dichloropropene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Ethylbenzene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	2-Hexanone	µg/kg	21	U	22	U	21	U	22	U	53	U	54	U	53	U	53	U
EPA 8260B	Methylene Chloride	µg/kg	7.7	J	7.4	J	5.7	J	5.6	J	53	U	54	U	53	U	53	U
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	21	U	5.4	U	21	U	5.4	U	53	U	54	U	53	U	53	U
EPA 8260B	Methyl tert-butyl ether	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Styrene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Tetrachloroethene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Toluene	µg/kg	0.30	J	0.33	J	5.30	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,1,1-Trichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	1,1,2-Trichloroethane	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Trichloroethene	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Vinyl Chloride	µg/kg	5.3	U	5.4	U	5.3	U	5.4	U	5	U	5	U	5	U	5	U
EPA 8260B	Xylenes (Total)	µg/kg	11	U	11	U	11	U	11	U	16	U	16	U	16	U	16	U
EPA 8270C	2-Chloronaphthalene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Pyridine	µg/kg	700	U	710	U	700	U	710	U	710	U	710	U	710	U	710	U
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2-Chlorophenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	1,3-Dichlorobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	1,4-Dichlorobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	1,2-Dichlorobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2-Methylphenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	3-&4-Methylphenol	µg/kg	700	U	710	U	700	U	710	U	350	U	350	U	350	U	350	U
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U

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Import Material

	Sample Number:		15-073		15-074		15-075		15-076		15-083		15-084		15-085		15-086	
	Location Code:		SJB-S1		SJB-S2		SJB-S3		SJB-S4		SCQF-1		SCQF-2		SCQF-3		SCQF-4	
	Date:		7/11/2007		7/11/2007		7/11/2007		7/11/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Method	**Analyte**	**Units**																
EPA 8270C	Hexachloroethane	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Nitrobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2-Nitrophenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2,4-Dimethylphenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2,4-Dichlorophenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Naphthalene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	4-Chloroaniline	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Hexachlorobutadiene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2-Nitroaniline	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	Dimethyl phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Acenaphthene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Acenaphthylene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2,6-Dinitrotoluene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	3-Nitroaniline	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	2,4-Dinitrophenol	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	4-Nitrophenol	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	Dibenzofuran	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	2,4-Dinitrotoluene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Diethyl phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Fluorene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	4-Nitroaniline	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Phenol	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Pyrene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	4-Bromophenyl phenylether	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Hexachlorobenzene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Pentachlorophenol	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	Phenanthrene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U

Table G-6
Import Material

	Sample Number:		15-073		15-074		15-075		15-076		15-083		15-084		15-085		15-086	
	Location Code:		SJB-S1		SJB-S2		SJB-S3		SJB-S4		SCQF-1		SCQF-2		SCQF-3		SCQF-4	
	Date:		7/11/2007		7/11/2007		7/11/2007		7/11/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Method	**Analyte**	**Units**																
EPA 8270C	Anthracene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Di-n-butyl phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Fluoranthene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Butyl benzyl phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Benzo (a) anthracene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U
EPA 8270C	Chrysene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Di-n-octyl phthalate	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Benzo (b) fluoranthene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Benzo (k) fluoranthene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Benzo (a) pyrene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C	Benzo (ghi) perylene	µg/kg	350	U	360	U	350	U	360	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Acenaphthene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Acenaphthylene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Anthracene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Chrysene	µg/kg	3.5	J	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Fluoranthene	µg/kg	9.3		7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Fluorene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Naphthalene	µg/kg	7.0	U	7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8270C SIM	Phenanthrene	µg/kg	5.7	J	3.8	J	5.4	J	5.5	J	350	U	350	U	350	U	350	U
EPA 8270C SIM	Pyrene	µg/kg	9.2		7.1	U	7.0	U	7.1	U	350	U	350	U	350	U	350	U
EPA 8015B	Gasoline	mg/kg	0.11	U	0.11	U	0.11	U	0.11	U	1.1	U	1.1	U	1.1	U	1.1	U
EPA 8015B	Diesel	mg/kg	27	U	27	U	27	U	27	U	11	U	11	U	11	U	11	U
EPA 8015B	Motor Oil	mg/kg	27	U	27	U	27	U	27	U	11	U	11	U	11	U	11	U
EPA 8081A	Aldrin	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	alpha-BHC	µg/kg	2.1	U	2.2	U	2.1	U	2.2	U	5	U	5	U	5	U	5	U
EPA 8081A	beta-BHC	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	delta-BHC	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U

Table G-6
Import Material

	Sample Number:		15-073		15-074		15-075		15-076		15-083		15-084		15-085		15-086	
	Location Code:		SJB-S1		SJB-S2		SJB-S3		SJB-S4		SCQF-1		SCQF-2		SCQF-3		SCQF-4	
	Date:		7/11/2007		7/11/2007		7/11/2007		7/11/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Method	**Analyte**	**Units**																
EPA 8081A	Lindane (gamma-BHC)	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Chlordane (technical)	µg/kg	18	U	18	U	18	U	18	U	5	U	5	U	5	U	5	U
EPA 8081A	4,4'-DDD	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	4,4'-DDE	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	4,4'-DDT	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Dieldrin	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endosulfan I	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endosulfan II	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endosulfan sulfate	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endrin	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endrin Aldehyde	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Endrin Ketone	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Heptachlor	µg/kg	2.1	U	2.2	U	2.1	U	2.2	U	5	U	5	U	5	U	5	U
EPA 8081A	Heptachlor Epoxide	µg/kg	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U	5	U	5	U
EPA 8081A	Methoxychlor	µg/kg	3.5	U	3.6	U	3.5	U	3.6	U	5	U	5	U	5	U	5	U
EPA 8081A	Toxaphene	µg/kg	71	U	72	U	71	U	72	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1016	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1221	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1232	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1242	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1248	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1254	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U
EPA 8082	Aroclor 1260	µg/kg	35	U	36	U	35	U	36	U	110	U	110	U	110	U	110	U

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-013	15-014	15-015	15-016	15-019	15-020	15-021	15-022	15-023	15-024	15-025	15-026
	Location:				FRB-F-SP2a	FRB-F-SP2b	FRB-F-SP3a	FRB-F-SP3b	FRB-F-SP6a	FRB-F-SP6b	FRB-F-SP5a	FRB-F-SP5b	FRB-F-SP7a	FRB-F-SP7b	FRB-F-SP8a	FRB-F-SP8b
	Sample Date:				6/11/2007	6/11/2007	6/11/2007	6/11/2007	6/12/2007	6/12/2007	6/12/2007	6/12/2007	6/14/2007	6/14/2007	6/14/2007	6/14/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 901.1	Americium 241	pCi/g	NE	NE	0.072 U	-0.04 U	0.017 U	0.03 U	0.033 U	0.056 U	-0.05 U	-0.028 U	0.03 U	0.001 U	0.023 U	0.0 U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.012 U	0.026 U	0.005 U	0.005 U	0.021 U	0.047 U	0.032 U	0.060 U	0.061 U	0.009 U	0.017 U	0.039 U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.028 U	0.0 U	0.016 U	0.01 U	0.0 U	0.002 U	0.001 U	0.0 U	0.004 U	-0.018 U	-0.00002 U	-0.015 U
EPA 901.1	Europium 152	pCi/g	NE	NE	0.0004 U	-0.03 U	0.0 U	0.0 U	-0.027 U	-0.005 U	0.002 U	-0.014 U	0.01 U	-0.03 U	0.043 U	-0.031 U
EPA 901.1	Europium 154	pCi/g	NE	NE	-0.16 U	-0.06 U	0.0 U	-0.08 U	-0.03 U	-0.11 U	-0.08 U	0.0007 U	-0.05 U	0.0 U	0.03 U	0.06 U
EPA 901.1	Potassium 40	pCi/g	NE	NE	8.1	8.4	10.5	11.1	9.1	9.0	8.9	8.8	10.2	9.5	10.9	11.0
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.50	0.55	0.35	0.63	0.38	0.71	0.53	0.53	0.32	0.30	0.54	0.44
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.32 U	0.31	0.43	0.23 U	0.38	0.42	0.31 U	0.31	0.43	-0.02 U	0.56	0.47
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.51 J	0.52 J	0.53 J	0.42 J	0.42 J	0.59 J	0.51 J	0.38 J	0.44 J	0.43 J	0.44 J	0.59 J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	0.43 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.22 U	N/A	N/A	N/A
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	0.30 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.46 J	N/A	N/A	N/A
EPA 6020	Silver	mg/kg	50	100	0.30	0.26	0.31	0.30	0.24	0.23	0.28	0.26	0.26	0.32	0.45	0.26
EPA 6020	Arsenic	mg/kg	50	100	3.8	3.0	3.5	3.8	3.5	3.1	3.4	3.3	3.3	3.4	3.8	3.3
EPA 6020	Barium	mg/kg	1000	2000	182	66.8	1180	139	61.4	97.1	69.3	59.1	60.5	67.0	2430	211
EPA 6020	Beryllium	mg/kg	7.5	NE	0.13	0.11	0.15	0.16	0.15	0.15	0.15	0.18	0.12	0.14	0.13	0.13
EPA 6020	Cadmium	mg/kg	10	20	2.4	1.8	2.0	2.0	1.9	1.7	2.0	2.8	1.9	1.8	2.3	1.6
EPA 6020	Cobalt	mg/kg	800	NE	5.7	4.9	5.6	5.7	4.9	5.1	5.6	4.8	4.9	5.5	5.0	4.8
EPA 6020	Chromium	mg/kg	50	100	35.8	33.2	32.3	38.4	32.3	31.1	31.8	30.8	26.5	31.9	34.0	29.5
EPA 6020	Copper	mg/kg	250	NE	35.9	32.8	44.5	41.0	32.4	29.9	33.2	31.6	33.3	33.1	40.0	34.6
EPA 6020	Molybdenum	mg/kg	3500	NE	0.51 J	0.52 J	0.55	0.63	0.63	0.44 J	0.55	0.53	6.1	0.48 J	0.49 J	0.49 J
EPA 6020	Nickel	mg/kg	200	NE	30.2	26.3	28.3	31.3	27.0	25.5	27.5	24.8	24.5	28.2	26.8	24.9
EPA 6020	Lead	mg/kg	50	100	218	245	219	202	222	195	280	199	170	219	181	184
EPA 6020	Antimony	mg/kg	150	NE	1.3	1.3	1.3	1.4	1.5	1.4	1.5	1.1	1.1	1.3	1.1	1.1
EPA 6020	Selenium	mg/kg	10	20	0.52 U	0.53 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	0.5 U	0.16 J	0.15 J	0.5 U	0.12 J
EPA 6020	Thallium	mg/kg	70	NE	0.11 J	0.11 J	0.082 J	0.085 J	0.076 J	0.076 J	0.074 J	0.3 U	0.15 J	0.15 J	0.13 J	0.10 J
EPA 6020	Vanadium	mg/kg	240	NE	23.2	22.2	23.2	22.0	20.9	20.5	22.0	22.2	20.1	21.6	21.7	20.5
EPA 6020	Zinc	mg/kg	2500	NE	84.8	57.9	67.7	80.7	60.6	66.1	61.4	59.8	63.2	65.9	336	70.5
EPA 7471A	Mercury	mg/kg	20	40	0.17	0.13	0.15	0.28	0.21	0.11	0.12	0.16	0.14	0.1	0.13	0.13
EPA 8260B	Acetone	µg/kg	NE	NE	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.7 J	N/A	N/A	N/A
EPA 8260B	Benzene	µg/kg	NE	10000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.75 J	N/A	N/A	N/A
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Bromoform	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Bromomethane	µg/kg	NE	NE	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 U	N/A	N/A	N/A
EPA 8260B	2-Butanone	µg/kg	NE	NE	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A	N/A
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Chloroethane	µg/kg	NE	NE	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 U	N/A	N/A	N/A
EPA 8260B	Chloroform	µg/kg	NE	120000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Chloromethane	µg/kg	NE	NE	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 U	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	2-Hexanone	µg/kg	NE	NE	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A	N/A
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	8.1 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 J	N/A	N/A	N/A
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-013	15-014	15-015	15-016	15-019	15-020	15-021	15-022	15-023	15-024	15-025	15-026
	Location:				FRB-F-SP2a	FRB-F-SP2b	FRB-F-SP3a	FRB-F-SP3b	FRB-F-SP6a	FRB-F-SP6b	FRB-F-SP5a	FRB-F-SP5b	FRB-F-SP7a	FRB-F-SP7b	FRB-F-SP8a	FRB-F-SP8b
	Sample Date:				6/11/2007	6/11/2007	6/11/2007	6/11/2007	6/12/2007	6/12/2007	6/12/2007	6/12/2007	6/14/2007	6/14/2007	6/14/2007	6/14/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0 J	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 U	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	170 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62 J	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	270 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	110 J	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	58 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-013	15-014	15-015	15-016	15-019	15-020	15-021	15-022	15-023	15-024	15-025	15-026
	Location:				FRB-F-SP2a	FRB-F-SP2b	FRB-F-SP3a	FRB-F-SP3b	FRB-F-SP6a	FRB-F-SP6b	FRB-F-SP5a	FRB-F-SP5b	FRB-F-SP7a	FRB-F-SP7b	FRB-F-SP8a	FRB-F-SP8b
	Sample Date:				6/11/2007	6/11/2007	6/11/2007	6/11/2007	6/12/2007	6/12/2007	6/12/2007	6/12/2007	6/14/2007	6/14/2007	6/14/2007	6/14/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	1500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	790	N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	830	N/A	N/A	N/A	N/A	N/A	N/A	N/A	320 J	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	170 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100 J	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	39 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	1800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	850	N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	39 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	1200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	610	N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	1400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	760	N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	79 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	49 J	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350 U	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	1400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	710	N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	1400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690	N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	1600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	790	N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	840	N/A	N/A	N/A	N/A	N/A	N/A	N/A	400	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	880	N/A	N/A	N/A	N/A	N/A	N/A	N/A	410	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19	N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	110	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	680	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	940	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	270	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	830	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	110	N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1200	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26	N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11	N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	330	N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	750	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	0.10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.11 U	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	520 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	530 U	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	220 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	330 J	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	180 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	180 U	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-013	15-014	15-015	15-016	15-019	15-020	15-021	15-022	15-023	15-024	15-025	15-026
	Location:				FRB-F-SP2a	FRB-F-SP2b	FRB-F-SP3a	FRB-F-SP3b	FRB-F-SP6a	FRB-F-SP6b	FRB-F-SP5a	FRB-F-SP5b	FRB-F-SP7a	FRB-F-SP7b	FRB-F-SP8a	FRB-F-SP8b
	Sample Date:				6/11/2007	6/11/2007	6/11/2007	6/11/2007	6/12/2007	6/12/2007	6/12/2007	6/12/2007	6/14/2007	6/14/2007	6/14/2007	6/14/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8081A	Endrin	µg/kg	200	400	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	700 U	N/A	N/A	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35 U	N/A	N/A	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	HMX	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	RDX	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	12200	41500	18000	42100	54000	69900	41300	13200	15000	54700	15300	12100
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A	N/A	3310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3780	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	561	960	845	456	2500	3530	4110	2590	23300	2550	738	80800
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	532	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)				Non- Hazardous				RCRA Haz (Lead)				RCRA Haz (Lead)				RCRA Haz (Lead)				RCRA Haz (Lead)			
	Sample Number:				15-027		15-028		15-029		15-030		15-035		15-036		15-039		15-040		15-041		15-042		15-043		15-044	
	Location:				FRB-F-SP9a		FRB-F-SP9b		FRB-C-SP4a		FRB-C-SP-4b		FRB-F-SP10a		FRB-F-SP10b		FRB-F-SP12a		FRB-F-SP12b		FRB-F-SP13a		FRB-F-SP13b		FRB-F-SP14a		FRB-F-SP14b	
	Sample Date:				6/14/2007		6/14/2007		6/14/2007		6/14/2007		6/25/2007		6/25/2007		6/25/2007		6/25/2007		6/25/2007		6/25/2007		6/25/2007		6/25/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																								
EPA 901.1	Americium 241	pCi/g	NE	NE	0.0018	U	0.035	U	-0.03	U	-0.0003	U	0.019	U	-0.06	U	0.039	U	-0.008	U	-0.051	U	0.036	U	0.0	U	0.0510	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.041	U	0.013	U	0.024	U	0.065	U	0.030	U	-0.001	U	0.027	U	0.026	U	0.060	U	0.021	U	0.029	U	0.049	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.002	U	-0.004	U	-0.005	U	0.018	U	-0.016	U	0.0	U	0.022	U	0.0	U	-0.011	U	-0.001	U	-0.006	U	0.002	U
EPA 901.1	Europium 152	pCi/g	NE	NE	0.004	U	0.0	U	0.03	U	-0.03	U	0.02	U	0.0	U	0.0	U	0.0001	U	-0.02	U	0.0	U	-0.001	U	-0.005	U
EPA 901.1	Europium 154	pCi/g	NE	NE	-0.10	U	0.0	U	0.13	U	0.16	U	0.003	U	0.0	U	0.06	U	0.0	U	-0.07	U	-0.06	U	0.04	U	0.13	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	10.8		10.7		6.7		7.6		9.0		9.3		9.1		9.1		10.8		9.8		9.0		8.4	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.33		0.59		0.28		0.19	U	0.31		0.48		0.37		0.65		0.48		0.60		0.38		0.65	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.27	U	0.40		0.26	U	0.38	U	0.24	U	0.54		0.41		0.20	U	0.29	U	0.26	U	0.39		0.50	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.42	J	0.47	J	0.22	J	0.45	J	0.66	J	0.43	J	0.46	J	0.34	J	0.57	J	0.60	J	0.32	J	0.52	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 6020	Silver	mg/kg	50	100	0.26		0.25		0.076	J	0.051	J	0.22		0.18	J	0.27		0.23		0.27		0.20	J	0.21		0.25	
EPA 6020	Arsenic	mg/kg	50	100	3.5		3.2		2.1		2.2		3.1		3.4		3.5		3.2		3.4		3.2		3.0		3.5	
EPA 6020	Barium	mg/kg	1000	2000	226		183		70.0		117		64.5		50.9		69.2		57.6		73.8		83.6		150		66.1	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.14		0.14		0.13		0.11		0.13		0.12		0.14		0.15		0.16		0.15		0.15		0.15	
EPA 6020	Cadmium	mg/kg	10	20	1.9		1.9		0.39		0.34		1.6		1.5		2.0		1.9		2.0		1.7		1.7		1.8	
EPA 6020	Cobalt	mg/kg	800	NE	5.3		4.9		4.5		4.4		4.5		4.2		5.0		4.4		5.0		4.9		5.0		4.7	
EPA 6020	Chromium	mg/kg	50	100	40.2		58.8		16.2		19.3		27.8		26.6		34.8		24.8		35.6		35.4		25.8		28.1	
EPA 6020	Copper	mg/kg	250	NE	37.6		33.8		13.0		14.1		36.1		37.3		32.6		34.8		38.8		36.2		40.9		32.4	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.59		0.66		0.21	J	0.19		0.31	J	0.42	J	0.49	J	0.53		0.46	J	0.34	J	0.36	J	0.42	J
EPA 6020	Nickel	mg/kg	200	NE	29.9		26.5		24.7		30.7		24.8		25.4		28.7		24.4		28.6		25.5		30.9		25.6	
EPA 6020	Lead	mg/kg	50	100	460		361		43.4		11.9		257		149		198		208		289		314		171		172	
EPA 6020	Antimony	mg/kg	150	NE	1.4		1.2		0.53		0.16		1.1		0.80		1.2		0.99		1.3		1.1		1.8		0.95	
EPA 6020	Selenium	mg/kg	10	20	0.5	U	0.5	U	0.5	U	0.5	U	0.51	U	0.51	U	0.53	U	0.51	U	0.51	U	0.51	U	0.51	U	0.52	U
EPA 6020	Thallium	mg/kg	70	NE	0.12	J	0.12	J	0.11	J	0.11	J	0.31	U	0.074	J	0.13	J	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
EPA 6020	Vanadium	mg/kg	240	NE	21.4		20.1		17.1		18.9		19.6		19.0		21.0		18.7		20.3		17.4		18.2		18.2	
EPA 6020	Zinc	mg/kg	2500	NE	64.4		76.8		27.5		34.2		68.1		62.5		48.5		60.9		52.9		50.8		73.3		46.2	
EPA 7471A	Mercury	mg/kg	20	40	0.099		0.098		0.11		0.049		0.13		0.14		0.13		0.11		0.16		0.12		0.15		0.15	
EPA 8260B	Acetone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Benzene	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non- Hazardous		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-027	15-028	15-029	15-030	15-035	15-036	15-039	15-040	15-041	15-042	15-043	15-044
	Location:				FRB-F-SP9a	FRB-F-SP9b	FRB-C-SP4a	FRB-C-SP-4b	FRB-F-SP10a	FRB-F-SP10b	FRB-F-SP12a	FRB-F-SP12b	FRB-F-SP13a	FRB-F-SP13b	FRB-F-SP14a	FRB-F-SP14b
	Sample Date:				6/14/2007	6/14/2007	6/14/2007	6/14/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non- Hazardous		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-027	15-028	15-029	15-030	15-035	15-036	15-039	15-040	15-041	15-042	15-043	15-044
	Location:				FRB-F-SP9a	FRB-F-SP9b	FRB-C-SP4a	FRB-C-SP-4b	FRB-F-SP10a	FRB-F-SP10b	FRB-F-SP12a	FRB-F-SP12b	FRB-F-SP13a	FRB-F-SP13b	FRB-F-SP14a	FRB-F-SP14b
	Sample Date:				6/14/2007	6/14/2007	6/14/2007	6/14/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non- Hazardous		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-027	15-028	15-029	15-030	15-035	15-036	15-039	15-040	15-041	15-042	15-043	15-044
	Location:				FRB-F-SP9a	FRB-F-SP9b	FRB-C-SP4a	FRB-C-SP-4b	FRB-F-SP10a	FRB-F-SP10b	FRB-F-SP12a	FRB-F-SP12b	FRB-F-SP13a	FRB-F-SP13b	FRB-F-SP14a	FRB-F-SP14b
	Sample Date:				6/14/2007	6/14/2007	6/14/2007	6/14/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8081A	Endrin	µg/kg	200	400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	HMX	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	RDX	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	12000	10800	N/A	N/A	19900	49000	135000	18100	17800	22500	14400	39100
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	747	5340	N/A	N/A	11800	1990	2570	6650	4170	7290	1620	549
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-045	15-046	15-047	15-048	15-049	15-050	15-051	15-052	15-053	15-054	15-055	15-056
	Location:				FRB-C-SP15a	FRB-C-SP15b	FRB-F-SP16a	FRB-F-SP16b	FRB-F-SP17a	FRB-F-SP17b	FRB-F-SP18a	FRB-F-SP18b	FRB-F-SP19a	FRB-F-SP19b	FRB-F-SP20a	FRB-F-SP20b
	Sample Date:				6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/26/2007	6/26/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 901.1	Americium 241	pCi/g	NE	NE	0.0645 U	-0.11 U	0.050 U	0.066 U	0.038 U	-0.018 U	0.022 U	-0.016 U	0.0 U	-0.01 U	0.005 U	0.04 U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.045 U	0.019 U	0.011 U	0.059 U	0.039 U	0.044 U	0.106 J	0.012 U	0.052 U	0.0 U	0.066 U	0.025 U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.0003 U	0.0006 U	0.008 U	0.0001 U	0.0 U	-0.022 U	-0.0003 U	0.0007 U	0.0 U	-0.006 U	0 U	0.0 U
EPA 901.1	Europium 152	pCi/g	NE	NE	0.0 U	-0.03 U	-0.007 U	0.008 U	0.063 U	0.009 U	-0.03 U	0.037 U	0.02 U	0.030 U	0 U	0.02 U
EPA 901.1	Europium 154	pCi/g	NE	NE	-0.05 U	-0.0002 U	0.12 U	0.11 U	-0.12 U	-0.05 U	-0.03 U	0.07 U	0.11 U	0.07 U	-0.08 U	0.0 U
EPA 901.1	Potassium 40	pCi/g	NE	NE	8.0	8.6	9.5	9.3	7.7	8.4	10.3	8.7	9.7	9.1	9.1	8.4
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.35	0.288	0.43	0.34	0.33	0.58	0.31	0.43	0.36	0.45	0.38	0.18 U
EPA 901.1	Thorium 232	pCi/g	NE	NE	-0.05 U	0.25 U	0.44	0.27 U	0.46	0.43	0.33	0.37	0.42	0.42	0.3 U	0.37
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.31 J	0.53 J	0.43 J	0.40 J	0.42 J	0.50 J	0.46 J	0.63 J	0.43 J	0.56 J	0.32 J	0.27 J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A	N/A	N/A	0.27 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A	N/A	N/A	0.41 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	Silver	mg/kg	50	100	0.49	0.25	0.21	0.23	0.20 J	0.25	0.25	0.24	0.23	1.2	0.25	0.26
EPA 6020	Arsenic	mg/kg	50	100	4.4	3.1	2.9	3.4	2.9	3.1	3.4	3.2	2.9	2.9	3.5	3.0
EPA 6020	Barium	mg/kg	1000	2000	64.6	57.5	89.6	59.7	164	73.3	62.2	55.9	49.7	105	59.1	97.6
EPA 6020	Beryllium	mg/kg	7.5	NE	0.35	0.13	0.12	0.13	0.10 J	0.12	0.13	0.14	0.12	0.13	0.12	0.12
EPA 6020	Cadmium	mg/kg	10	20	1.6	1.6	1.9	2.1	1.6	2.5	1.7	1.7	1.5	1.5	1.9	2.1
EPA 6020	Cobalt	mg/kg	800	NE	4.6	4.6	4.2	4.5	4.2	4.5	4.4	4.8	4.1	4.2	4.7	4.9
EPA 6020	Chromium	mg/kg	50	100	17.0	27.6	24.1	28.6	25.0	30.2	29.1	29.5	25.3	24.9	28.4	28.7
EPA 6020	Copper	mg/kg	250	NE	37.6	39.4	25.3	33.5	28.7	33.5	44.9	34.4	63.2	33.8	35.8	31.9
EPA 6020	Molybdenum	mg/kg	3500	NE	0.37	1.6	0.37 J	0.38 J	0.36 J	0.45 J	0.39 J	0.42	0.31 J	0.34	0.40 J	0.52
EPA 6020	Nickel	mg/kg	200	NE	18.5	26.9	26.0	27.1	23.0	25.9	25.7	25.3	24.7	23.7	24.5	23.3
EPA 6020	Lead	mg/kg	50	100	78.3	337	192	187	175	275	216	205	194	183	230	256
EPA 6020	Antimony	mg/kg	150	NE	0.78	1.1	1.5	0.77	0.92	2.3	0.97	1.0	0.94	1.2	1.1	1.2
EPA 6020	Selenium	mg/kg	10	20	0.51 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U
EPA 6020	Thallium	mg/kg	70	NE	0.3 U	0.073 J	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.12 J	0.095 J
EPA 6020	Vanadium	mg/kg	240	NE	11.8	18.3	18.0	19.9	22.1	19.4	18.8	20.0	17.5	18.9	20.3	19.5
EPA 6020	Zinc	mg/kg	2500	NE	93.1	56.0	59.0	60.7	55.1	64.4	62.5	49.9	66.4	50.4	49.8	48.0
EPA 7471A	Mercury	mg/kg	20	40	0.23	0.17	0.19	0.14	0.15	0.14	0.13	0.13	0.14	0.17	0.14	0.15
EPA 8260B	Acetone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Benzene	µg/kg	NE	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A	N/A	N/A	4.7 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-045	15-046	15-047	15-048	15-049	15-050	15-051	15-052	15-053	15-054	15-055	15-056
	Location:				FRB-C-SP15a	FRB-C-SP15b	FRB-F-SP16a	FRB-F-SP16b	FRB-F-SP17a	FRB-F-SP17b	FRB-F-SP18a	FRB-F-SP18b	FRB-F-SP19a	FRB-F-SP19b	FRB-F-SP20a	FRB-F-SP20b
	Sample Date:				6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/26/2007	6/26/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	1.0 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	68 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	210 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-045	15-046	15-047	15-048	15-049	15-050	15-051	15-052	15-053	15-054	15-055	15-056
	Location:				FRB-C-SP15a	FRB-C-SP15b	FRB-F-SP16a	FRB-F-SP16b	FRB-F-SP17a	FRB-F-SP17b	FRB-F-SP18a	FRB-F-SP18b	FRB-F-SP19a	FRB-F-SP19b	FRB-F-SP20a	FRB-F-SP20b
	Sample Date:				6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/26/2007	6/26/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	740	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	270 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	110 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	790	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	610	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	90 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	710	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	780	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	930	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	580	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	630	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	640 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	1000 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	1000 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	1100 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	740 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	1100 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	9.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	840 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	0.10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	260 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	180 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-045	15-046	15-047	15-048	15-049	15-050	15-051	15-052	15-053	15-054	15-055	15-056
	Location:				FRB-C-SP15a	FRB-C-SP15b	FRB-F-SP16a	FRB-F-SP16b	FRB-F-SP17a	FRB-F-SP17b	FRB-F-SP18a	FRB-F-SP18b	FRB-F-SP19a	FRB-F-SP19b	FRB-F-SP20a	FRB-F-SP20b
	Sample Date:				6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	6/26/2007	6/26/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8081A	Endrin	µg/kg	200	400	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A	N/A	N/A	18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A	N/A	N/A	700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A	N/A	N/A	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	HMX	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	RDX	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	5920	3420	497000	10200	19000	19400	34000	44700	23800	15800	15800	35600
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	N/A	371	2860	226	6380	1930	1180	871	3020	9400	2710	3870
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-059	15-060	15-061	15-062	15-063	15-064	15-065	15-066	15-067	15-068	15-077	15-078
	Location:				FRB-F-SP22a	FRB-F-SP22b	FRB-F-SP23a	FRB-F-SP23b	FRB-C-SP24a	FRB-C-SP24b	FRB-F-SP25a	FRB-F-SP25b	FRB-F-SP26a	FRB-F-SP26b	FRB-F-27a	FRB-F-27b
	Sample Date:				6/26/2007	6/26/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	7/11/2007	7/11/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 901.1	Americium 241	pCi/g	NE	NE	-0.04 U	0.024 U	0.026 U	0.01 U	0.021 U	0.014 U	0.020 U	0.0026 U	0.029 U	-0.030 U	0.02 U	0.047 U
EPA 901.1	Cesium 137	pCi/g	NE	NE	-0.021 U	0.024 U	0.040 U	0.053 U	-0.0005 U	0.032 U	0.042 U	0.014 U	0.032 U	0.021 U	0.003 U	-0.018 U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.0 U	0.0006 U	0.003 U	-0.001 U	-0.004 U	0.014 U	0.0 U	0.0 U	0.0 U	0.0 U	-0.013 U	-0.002 U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.04 U	0.02 U	-0.02 U	-0.02 U	0.021 U	-0.06 U	0.0473 U	0.054 U	-0.002 U	-0.03 U	0.0 U	-0.027 U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.08 U	-0.04 U	0.0 U	-0.03 U	0.08 U	-0.13 U	-0.09 U	-0.12 U	-0.09 U	0.0 U	-0.01 U	-0.1 U
EPA 901.1	Potassium 40	pCi/g	NE	NE	7.1	10.6	9.3	9.6	10.3	7.6	10.1	9.3	8.3	7.6	10.5	10.3
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.47	0.30	0.37	0.30	0.31	0.82	0.35	0.50	0.71	0.49	0.62	0.53
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.28	0.34	0.28 U	0.37	0.38	0.29	0.32	0.35	0.30 U	0.31 U	0.49	0.49
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.69 J	0.46 J	0.34 J	0.38 J	0.33 J	1.02	0.39 J	0.55 J	0.31 J	0.58 J	0.44 J	0.48 J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.29 J	N/A	N/A
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.16 J	N/A	N/A
EPA 6020	Silver	mg/kg	50	100	1.3	0.34	0.72	0.21 J	0.21	0.35	0.34	0.20 J	0.15 J	0.18 J	0.26	0.36
EPA 6020	Arsenic	mg/kg	50	100	3.8	3.6	3.5	3.6	4.1	4.8	3.6	2.9	3.8	3.5	3.8	4.1
EPA 6020	Barium	mg/kg	1000	2000	106	84.8	122	57.7	146	120	60.8	55.9	52.3	56.4	86.9	267
EPA 6020	Beryllium	mg/kg	7.5	NE	0.16	0.13	0.20 J	0.16	0.16 J	0.16 J	0.11 J	0.16	0.13	0.13	0.13	0.14
EPA 6020	Cadmium	mg/kg	10	20	7.0	2.0	2.6	2.2	1.6	2.0	2.0	1.5	1.5	1.8	2.4	2.3
EPA 6020	Cobalt	mg/kg	800	NE	5.2	4.6	4.5	4.4	6.4	5.4	4.5	5.5	4.0	4.1	4.7	4.5
EPA 6020	Chromium	mg/kg	50	100	36.2	28.2	36.7	29.3	32.9	47.4	32.7	34.2	28.1	29.0	32.0	28.5
EPA 6020	Copper	mg/kg	250	NE	264	80.5	30.2	37.0	70.6	158	34.8	25.9	28.8	27.7	34.4	36.9
EPA 6020	Molybdenum	mg/kg	3500	NE	0.81	0.50	0.55	0.45 J	0.85	1.2	0.37 J	0.41 J	0.36 J	0.38 J	0.52	0.44 J
EPA 6020	Nickel	mg/kg	200	NE	34.5	27.1	25.3	24.2	29.8	38.4	25.3	26.2	22.9	23.2	26.6	25.4
EPA 6020	Lead	mg/kg	50	100	410	240	183	176	104	682	182	132	123	147	208	194
EPA 6020	Antimony	mg/kg	150	NE	3.2	1.5	0.97	0.91	0.78	3.1	0.82	0.64	0.67	0.72	0.90	0.78
EPA 6020	Selenium	mg/kg	10	20	0.52 U	0.52 U	0.51 U	0.53 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.5 U	0.5 U
EPA 6020	Thallium	mg/kg	70	NE	0.074 J	0.074 J	0.31 U	0.32 U	0.3 U	0.3 U	0.31 U	0.31 U	0.31 U	0.31 U	0.3 U	0.3 U
EPA 6020	Vanadium	mg/kg	240	NE	24.9	19.6	24.5	22.9	35.5	30.6	25.6	26.3	23.5	24.4	22.2	21.3
EPA 6020	Zinc	mg/kg	2500	NE	205	62.5	51.0	60.5	50.9	56.2	56.2	41.6	50.1	53.3	61.4	86.3
EPA 7471A	Mercury	mg/kg	20	40	0.19	0.12	0.12	0.14	0.23	0.27	0.20	0.13	0.14	0.16	0.13	0.16
EPA 8260B	Acetone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A
EPA 8260B	Benzene	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.21 J	N/A	N/A
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-059	15-060	15-061	15-062	15-063	15-064	15-065	15-066	15-067	15-068	15-077	15-078
	Location:				FRB-F-SP22a	FRB-F-SP22b	FRB-F-SP23a	FRB-F-SP23b	FRB-C-SP24a	FRB-C-SP24b	FRB-F-SP25a	FRB-F-SP25b	FRB-F-SP26a	FRB-F-SP26b	FRB-F-27a	FRB-F-27b
	Sample Date:				6/26/2007	6/26/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	7/11/2007	7/11/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690 U	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690 U	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	91 J	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	130 J	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42 J	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-059	15-060	15-061	15-062	15-063	15-064	15-065	15-066	15-067	15-068	15-077	15-078
	Location:				FRB-F-SP22a	FRB-F-SP22b	FRB-F-SP23a	FRB-F-SP23b	FRB-C-SP24a	FRB-C-SP24b	FRB-F-SP25a	FRB-F-SP25b	FRB-F-SP26a	FRB-F-SP26b	FRB-F-27a	FRB-F-27b
	Sample Date:				6/26/2007	6/26/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	7/11/2007	7/11/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	890	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	420	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	130 J	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	860	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	770	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700 U	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	940	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87 J	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340 U	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	950	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1100	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	600	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	540	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	81	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	130	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	730	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	340	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1300	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	130	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1100	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	41	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	520	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	370	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	750	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.10 U	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	260 U	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	230 J	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	180 U	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)	
	Sample Number:				15-059	15-060	15-061	15-062	15-063	15-064	15-065	15-066	15-067	15-068	15-077	15-078
	Location:				FRB-F-SP22a	FRB-F-SP22b	FRB-F-SP23a	FRB-F-SP23b	FRB-C-SP24a	FRB-C-SP24b	FRB-F-SP25a	FRB-F-SP25b	FRB-F-SP26a	FRB-F-SP26b	FRB-F-27a	FRB-F-27b
	Sample Date:				6/26/2007	6/26/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	6/27/2007	7/11/2007	7/11/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8081A	Endrin	µg/kg	200	400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21 U	N/A	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18 U	N/A	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	700 U	N/A	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34 U	N/A	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	HMX	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	RDX	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.26 U	N/A	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	17200	11500	78300	10900	1370	1110	35000	19600	47900	9690	14200	13400
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	7980	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	2370	8040	1370	438	59.6 J	79100	516	559	2120	2150	4390	19900
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-079	15-080	15-081	15-082	15-087	15-088	15-091	15-092	15-093	15-094	15-095	15-096
	Location:				FRB-F-28a	FRB-F-28b	FRB-F-29a	FRB-F-29b	FRB-C-SP30a	FRB-C-SP30b	FRB-F-SP32a	FRB-F-SP32b	FRB-F-SP33a	FRB-F-SP33b	FRB-F-SP34a	FRB-F-SP34b
	Sample Date:				7/11/2007	7/11/2007	7/11/2007	7/11/2007	7/16/2007	7/16/2007	7/16/2007	7/16/2007	7/17/2007	7/17/2007	7/17/2007	7/17/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 901.1	Americium 241	pCi/g	NE	NE	0.0312 U	-0.08 U	0.0008 U	0.019 U	-0.01 U	0.007 U	0.001 U	-0.041 U	0.04 U	0.023 U	0.0008 U	0.0 U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.0 U	0.042 U	-0.011 U	0.013 U	0.016 U	0.046 U	0.028 U	0 U	0.004 U	0.018 U	0.043 U	0.043 U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.0 U	0.0 U	0.0 U	-0.009 U	-0.009 U	0.0 U	0.017 U	0.01 U	-0.009 U	0.0006 U	0.039 U	-0.006 U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.03 U	0.0 U	0.0 U	-0.03 U	0.028 U	-0.02 U	0.0 U	-0.004 U	0.014 U	-0.04 U	0.001 U	0.090 U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.09 U	0.00003 U	0.01 U	0.0 U	0.02 U	-0.1 U	0.10 U	-0.08 U	0.02 U	-0.03 U	0.00007 U	-0.19 U
EPA 901.1	Potassium 40	pCi/g	NE	NE	11.4	11.8	9.5	10.1	8.1	7.9	9.2	7.3	9.9	9.8	10.6	9.2
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.47	0.54	0.44	0.38	0.29	0.334	0.51	0.28	0.41	0.27	0.49	0.42
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.53	0.70	0.53	0.60	0.23 U	0.30 U	0.30	0.38	0.38	0.47	0.27 U	0.45
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.5 J	0.46 J	0.53 J	0.73 J	0.35 J	0.49 J	0.55 J	0.59 J	0.41 J	0.33 J	0.35 J	0.51 J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A	N/A	N/A	0.33 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A	N/A	N/A	0.38 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	Silver	mg/kg	50	100	0.25	0.80	0.65	0.24	0.29	0.24	0.97	0.56	0.29	0.24	0.28	0.24
EPA 6020	Arsenic	mg/kg	50	100	3.6	4.7	3.4	4.2	4.4	3.9	3.2	3.3	3.9	3.2	3.3	3.3
EPA 6020	Barium	mg/kg	1000	2000	340	83.0	228	191	102	86.2	448	89.5	142	80.7	68.5	270
EPA 6020	Beryllium	mg/kg	7.5	NE	0.14	0.15	0.14	0.14	0.19	0.17	0.14	0.16	0.16	0.15	0.14	0.16
EPA 6020	Cadmium	mg/kg	10	20	2.0	2.2	1.9	2.5	1.7	1.6	2.5	3.7	1.9	1.6	2.4	1.6
EPA 6020	Cobalt	mg/kg	800	NE	5.1	5.1	4.5	4.9	5.6	5.3	5.1	5.4	4.8	5.6	4.3	4.6
EPA 6020	Chromium	mg/kg	50	100	29.2	32.2	31.3	32.9	32.9	31.6	36.1	34.2	35.8	31.4	25.7	40.8
EPA 6020	Copper	mg/kg	250	NE	29.3	32.1	30.9	30.7	37.8	37.5	59.0	62.1	40.8	36.2	33.2	28.3
EPA 6020	Molybdenum	mg/kg	3500	NE	0.45 J	0.48 J	0.37 J	0.55	0.81	0.55	0.57	0.53	0.51	0.85	0.76	0.73
EPA 6020	Nickel	mg/kg	200	NE	28.4	26.9	23.9	27.4	32.5	29.4	29.6	29.7	30.7	28.2	24.8	28.2
EPA 6020	Lead	mg/kg	50	100	167	204	159	185	697	264	192	211	152	146	118	126
EPA 6020	Antimony	mg/kg	150	NE	0.72	0.80	2.0	0.68	3.8	1.1	2.0	0.92	0.72	0.62	0.68	0.61
EPA 6020	Selenium	mg/kg	10	20	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EPA 6020	Thallium	mg/kg	70	NE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.072 J	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPA 6020	Vanadium	mg/kg	240	NE	23.1	24.0	21.8	22.4	29.1	26.6	27.2	28.4	24.7	25.0	20.5	23.1
EPA 6020	Zinc	mg/kg	2500	NE	89.6	60.3	69.6	66.6	64.7	56.1	117	97.3	72.7	62.2	65.4	81.0
EPA 7471A	Mercury	mg/kg	20	40	0.14	0.17	0.14	0.15	0.15	0.16	0.11	0.13	0.12	0.032 J	0.10	0.12
EPA 8260B	Acetone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Benzene	µg/kg	NE	10000	N/A	N/A	N/A	0.87 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A	N/A	N/A	9.7 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A	N/A	N/A	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-079	15-080	15-081	15-082	15-087	15-088	15-091	15-092	15-093	15-094	15-095	15-096
	Location:				FRB-F-28a	FRB-F-28b	FRB-F-29a	FRB-F-29b	FRB-C-SP30a	FRB-C-SP30b	FRB-F-SP32a	FRB-F-SP32b	FRB-F-SP33a	FRB-F-SP33b	FRB-F-SP34a	FRB-F-SP34b
	Sample Date:				7/11/2007	7/11/2007	7/11/2007	7/11/2007	7/16/2007	7/16/2007	7/16/2007	7/16/2007	7/17/2007	7/17/2007	7/17/2007	7/17/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	0.56 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	5.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	690 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	170 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	45 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	93 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-079	15-080	15-081	15-082	15-087	15-088	15-091	15-092	15-093	15-094	15-095	15-096
	Location:				FRB-F-28a	FRB-F-28b	FRB-F-29a	FRB-F-29b	FRB-C-SP30a	FRB-C-SP30b	FRB-F-SP32a	FRB-F-SP32b	FRB-F-SP33a	FRB-F-SP33b	FRB-F-SP34a	FRB-F-SP34b
	Sample Date:				7/11/2007	7/11/2007	7/11/2007	7/11/2007	7/16/2007	7/16/2007	7/16/2007	7/16/2007	7/17/2007	7/17/2007	7/17/2007	7/17/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	1900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	810	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	220 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	2100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	1500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	1700 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	1800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	92 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	1700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	1800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	2000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	1200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	1100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	6.9 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	1400 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	1900 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	1800 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	630 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	2200 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	1500 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	2500 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	960 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	6.9 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	720 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	1600 E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	0.10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	520 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	450 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	42 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	350 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-079	15-080	15-081	15-082	15-087	15-088	15-091	15-092	15-093	15-094	15-095	15-096
	Location:				FRB-F-28a	FRB-F-28b	FRB-F-29a	FRB-F-29b	FRB-C-SP30a	FRB-C-SP30b	FRB-F-SP32a	FRB-F-SP32b	FRB-F-SP33a	FRB-F-SP33b	FRB-F-SP34a	FRB-F-SP34b
	Sample Date:				7/11/2007	7/11/2007	7/11/2007	7/11/2007	7/16/2007	7/16/2007	7/16/2007	7/16/2007	7/17/2007	7/17/2007	7/17/2007	7/17/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8081A	Endrin	µg/kg	200	400	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A	N/A	N/A	42 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A	N/A	N/A	35 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A	N/A	N/A	69 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A	N/A	N/A	1400 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A	N/A	N/A	34 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A	N/A	N/A	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	HMX	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	RDX	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A	N/A	N/A	0.26 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	11900	125000	12600	196000	25900	10400	44200	13400	32800	51300	35900	33900
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	577	3080	3960	1230	624	437	887	670	349	409	2820	469
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-097		15-098		15-099		15-100		15-101		15-102		15-103		15-104		15-105		15-106		15-107		15
	Location:				FRB-F-SP35a		FRB-F-SP35b		FRB-F-SP36a		FRB-F-SP36b		FRB-F-SP37a		FRB-F-SP37b		FRB-F-SP38a		FRB-F-SP38b		FRB-F-SP39a		FRB-F-SP39b		FRB-F-SP40a		FRB-F-S
	Sample Date:				7/19/2007		7/19/2007		7/19/2007		7/19/2007		7/23/2007		7/23/2007		7/25/2007		7/25/2007		7/25/2007		7/25/2007		7/30/2007		7/30/
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																							
EPA 901.1	Americium 241	pCi/g	NE	NE	0.011	U	0.005	U	0.003	U	-0.005	U	0.007	U	0.055	U	-0.01	U	0.056	U	-0.02	U	0.03	U	0.09	U	-0.002
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.029	U	0.030	U	0.029	U	0.019	U	0.043	U	0.0	U	0.018	U	0.018	U	0.0	U	0.073	J	0.04	U	0.1
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.01	U	0.006	U	0.007	U	0.0	U	0.0	U	0.0	U	0.021	U	-0.0003	U	0.004	U	0.0	U	-0.008	U	0.001
EPA 901.1	Europium 152	pCi/g	NE	NE	0.013	U	-0.014	U	0.007	U	-0.03	U	-0.015	U	-0.017	U	0.0	U	0.027	U	-0.03	U	-0.019	U	0.01	U	-0.0002
EPA 901.1	Europium 154	pCi/g	NE	NE	-0.05	U	0.06	U	0.0	U	0.09	U	-0.08	U	0.04	U	-0.05	U	0.0	U	0.002	U	-0.02	U	0.006	U	0.03
EPA 901.1	Potassium 40	pCi/g	NE	NE	9.6		11.0		9.3		10.5		9.4		10.3		9.6		9.4		8.8		9.5		9.7		6.8
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.32		0.30		0.53		0.35		0.40		0.37		0.49		0.41		0.35		0.48		0.4		0.47
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.32		0.34		0.32		0.42		0.44		0.37		0.28		0.27	U	0.29		0.25		0.38		0.39
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.31	J	0.35	J	0.45	J	0.43	J	0.39	J	0.38	J	0.51	J	0.48	J	0.37	J	0.33	J	0.36	J	0.45
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A		-0.14	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		0.08
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A		0.41	J	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		0.206
EPA 6020	Silver	mg/kg	50	100	0.35		0.25		0.24		0.23		0.24		0.24		1.9		1.3		0.50		0.45		0.46		0.46
EPA 6020	Arsenic	mg/kg	50	100	3.3		6.4		3.7		3.6		3.8		4.6	J	4.4		4.0		3.3		3.0		3.4		4.4
EPA 6020	Barium	mg/kg	1000	2000	87.4		722		567		1190		259		914		111		75.9		200		59.8		488		74.8
EPA 6020	Beryllium	mg/kg	7.5	NE	0.15		0.17		0.15		0.16		0.16		0.14		0.15		0.16		0.14		0.13		0.14		0.13
EPA 6020	Cadmium	mg/kg	10	20	1.6		1.3		1.3		1.3		1.5		1.3		8.0		5.3		2.4		2.5		4.5		3
EPA 6020	Cobalt	mg/kg	800	NE	4.7		4.9		4.6		4.5		4.4		5.1		5.5		4.8		4.4		4.7		4.3		4.6
EPA 6020	Chromium	mg/kg	50	100	32.2		31.8		24.6		40.0		32.4		32.2		57.0		46.1		29.3		36.4		31.7		27.6
EPA 6020	Copper	mg/kg	250	NE	31.0		35.2		28.6		26.8		34.1		28.3		424		265		81.4		85.9		68.2		98.9
EPA 6020	Molybdenum	mg/kg	3500	NE	0.45	J	0.42	J	0.49	J	0.48	J	0.47	J	0.52		1.4		1.4		0.87		0.49	J	0.87		0.7
EPA 6020	Nickel	mg/kg	200	NE	31.9		27.7		24.9		27.5		28.6		26.0		56.0		35.1		38.9		38.2		24.1		26.8
EPA 6020	Lead	mg/kg	50	100	111		107		595		150		168		130		460		616		361		250		284		410
EPA 6020	Antimony	mg/kg	150	NE	0.54		0.53		0.56		0.46	J	0.61		0.56		13.3		3.5		1.6		1.1		1.6		2.2
EPA 6020	Selenium	mg/kg	10	20	0.5	U	0.5	U	0.5	U	0.87		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5
EPA 6020	Thallium	mg/kg	70	NE	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.092	J	0.10	J	0.072	J	0.3	U	0.073	J	0.071
EPA 6020	Vanadium	mg/kg	240	NE	27.5		24.3		23.2		24.9		23.4		23.9		30.4		27.6		24.0		25.0		20.8		22.1
EPA 6020	Zinc	mg/kg	2500	NE	70.3		99.7		63.8		64.6		59.6		98.5		331		195		98.2		87.1		152		103
EPA 7471A	Mercury	mg/kg	20	40	0.16		0.12		0.15		0.14		0.11		0.14		0.26		0.20		0.18		0.16		0.15		0.18
EPA 8260B	Acetone	µg/kg	NE	NE	N/A		21	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		21
EPA 8260B	Benzene	µg/kg	NE	10000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A		11	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		11
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A		21	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		21
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A		11	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		10
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A		11	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		11
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A		5.3	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.3
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A		21	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		21
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A		11	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		11
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A		21	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		21

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)				Non-RCRA Haz (Lead)	
	Sample Number:				15-097		15-098		15-099	15-100	15-101	15-102	15-103		15-104		15-105	15-106	15-107	15
	Location:				FRB-F-SP35a		FRB-F-SP35b		FRB-F-SP36a	FRB-F-SP36b	FRB-F-SP37a	FRB-F-SP37b	FRB-F-SP38a		FRB-F-SP38b		FRB-F-SP39a	FRB-F-SP39b	FRB-F-SP40a	FRB-F-S
	Sample Date:				7/19/2007		7/19/2007		7/19/2007	7/19/2007	7/23/2007	7/23/2007	7/25/2007		7/25/2007		7/25/2007	7/25/2007	7/30/2007	7/30/
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Styrene	µg/kg	NE	NE	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Toluene	µg/kg	NE	NE	N/A		0.29	J	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A		5.3	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	5.3
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A		11	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	11
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A		700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	700
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A		700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	700
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A		75	J	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A		190	J	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	210
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	350
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	1700
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	39

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead)	
	Sample Number:				15-097		15-098		15-099	15-100	15-101	15-102	15-103	15-104	15-105	15-106	15-107	15
	Location:				FRB-F-SP35a		FRB-F-SP35b		FRB-F-SP36a	FRB-F-SP36b	FRB-F-SP37a	FRB-F-SP37b	FRB-F-SP38a	FRB-F-SP38b	FRB-F-SP39a	FRB-F-SP39b	FRB-F-SP40a	FRB-F-S
	Sample Date:				7/19/2007		7/19/2007		7/19/2007	7/19/2007	7/23/2007	7/23/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/30/2007	7/30/
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**														
EPA 8270C	Phenol	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A		960		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A		1700	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A		430		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	290
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A		110	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	270
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	120
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A		1100		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1500
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A		750		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1300
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A		1700	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A		940		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2100
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A		490		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	75
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A		350	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A		820		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A		950		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A		1000		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A		510		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	740
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A		560		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	690
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A		65		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A		26		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	52
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A		110		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	310
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A		690	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1200
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A		900	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2000
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A		860	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A		330		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	290
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A		1100	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A		830	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A		130		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	110
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A		1200	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1700
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A		25		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A		410	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	410
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A		9.2		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A		380	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	280
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A		840	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1100
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A		0.11	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.11
EPA 8015B	Diesel	mg/kg	NE	NE	N/A		270	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	530
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A		260	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	290
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A		21	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A		180	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A		6.7	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA Haz (Lead	
	Sample Number:				15-097		15-098		15-099	15-100	15-101	15-102	15-103	15-104	15-105	15-106	15-107	15
	Location:				FRB-F-SP35a		FRB-F-SP35b		FRB-F-SP36a	FRB-F-SP36b	FRB-F-SP37a	FRB-F-SP37b	FRB-F-SP38a	FRB-F-SP38b	FRB-F-SP39a	FRB-F-SP39b	FRB-F-SP40a	FRB-F-S
	Sample Date:				7/19/2007		7/19/2007		7/19/2007	7/19/2007	7/23/2007	7/23/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/30/2007	7/30/
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**														
EPA 8081A	Endrin	µg/kg	200	400	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A		21	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A		18	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A		710	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1400
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A		35	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A		57		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	HMX	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	RDX	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	Tetryl	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A		0.27	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27
EPA 6020	STLC Lead	µg/L	5000	N/A	8040		4830		8980	8050	10100	11600	29600	26900	31300	49400	19100	187000
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A		N/A		N/A	3990	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	492		132	J	557	304	661	3690	6410	3830	6590	3630	1300	1720
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)					RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA	
	Sample Number:				-108	15-109		15-110		15-111		15-112		15-113		15-114		15-115		15-116		15-117		15-118		15-119	
	Location:				P40b	FRB-F-SP41a		FRB-F-SP41b		FRB-F-42a		FRB-F-42b		FRB-F-43a		FRB-F-43b		FRB-F-44a		FRB-F-44b		FRB-F-45a		FRB-F-45b		FRB-F-46a	
	Sample Date:				2007	7/30/2007		7/30/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																							
EPA 901.1	Americium 241	pCi/g	NE	NE	U	-0.03	U	0.113	U	0.37	U	0.006	U	-0.018	U	0.002	U	-0.047	U	-0.02	U	0.017	U	0.011	U	0.008	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	J	0.014	U	0.058	U	0.037	U	0.03	U	0.016	U	0.04	U	0.029	U	-0.02	U	0.026	U	0.025	U	0.001	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	U	0	U	0	U	-0.022	U	-0.01	U	0	U	0	U	-0.009	U	-0.019	U	0	U	0	U	0.0002	U
EPA 901.1	Europium 152	pCi/g	NE	NE	U	-0.021	U	0.007	U	0.01	U	-0.02	U	0	U	0.07	U	0.038	U	-0.008	U	0	U	0.012	U	0.026	U
EPA 901.1	Europium 154	pCi/g	NE	NE	U	0.06	U	0.01	U	0.01	U	-0.08	U	0.03	U	0	U	-0.05	U	-0.07	U	-0.04	U	-0.09	U	0	U
EPA 901.1	Potassium 40	pCi/g	NE	NE		12.2		8.6		10.2		8.9		7.6		9.6		8.3		8.3		9.2		9.7		7.8	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE		0.4		0.61		0.32		0.38		0.36		0.34		0.34		0.49		0.51		0.253		0.31	
EPA 901.1	Thorium 232	pCi/g	NE	NE		0.49		0.38		0.44		0.2	U	0.32		0.37		0.33		0.49		0.42		0.36		0.4	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	J	0.28	J	0.57	J	0.4	J	0.37	J	0.47	J	0.35	J	0.45	J	0.41	J	0.278	J	0.33	J	0.53	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		0.03	U	N/A		N/A		N/A	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	J	N/A		N/A		N/A		N/A		N/A		N/A		N/A		0.41	J	N/A		N/A		N/A	
EPA 6020	Silver	mg/kg	50	100		0.77		0.23		0.22		0.2		0.23		0.23		0.23		0.2		0.33		0.22		0.41	
EPA 6020	Arsenic	mg/kg	50	100		4.3		3.3		3.2		3.1		4.8		3.2		3.4		3.7		3.2		3.4		4.1	
EPA 6020	Barium	mg/kg	1000	2000		110		75.8		1080	N	530	N	132	N	540	N	72.9	N	81.4	N	248	N	91	N	123	N
EPA 6020	Beryllium	mg/kg	7.5	NE		0.14		0.12		0.11	N	0.13	N	0.14	N	0.13	N	0.14	N	0.13	N	0.13	N	0.13	N	0.14	N
EPA 6020	Cadmium	mg/kg	10	20		2.3		1.9		2.2	N	1.9	N	2.5	N	1.8	N	1.8	N	1.7	N	1.7	N	1.9	N	1.9	N
EPA 6020	Cobalt	mg/kg	800	NE		4.8		4.4		4.2	E	4.2	E	4.6	E	4.4	E	4.3	E	4.9	E	4.5	E	5.4	E	5.5	E
EPA 6020	Chromium	mg/kg	50	100		32.5		25.6		26.9	NE	32.1	NE	33.5	NE	28.1	NE	25.7	NE	30.2	NE	25	NE	30.4	NE	34.7	NE
EPA 6020	Copper	mg/kg	250	NE		32.9		28.8		30.8	NE	29.7	NE	33.7	NE	34	NE	33.8	NE	32.4	NE	32.1	NE	32.4	NE	33.5	NE
EPA 6020	Molybdenum	mg/kg	3500	NE		0.63		0.41	J	0.38	J	0.51		0.66		0.39	J	0.41	J	0.45	J	0.41	J	0.47	J	0.63	
EPA 6020	Nickel	mg/kg	200	NE		25.3		24.5		21.6	E	22.3	E	23.6	E	23.8	E	23.3	E	27.1	E	22.1	E	25.2	E	29	E
EPA 6020	Lead	mg/kg	50	100		208		307		207	N	215	N	199	N	203	N	204	N	213	N	226	N	229	N	175	N
EPA 6020	Antimony	mg/kg	150	NE		1.0		0.88		0.95	N	0.9	N	0.95	N	0.8	N	1	N	0.89	N	0.93	N	0.98	N	0.88	N
EPA 6020	Selenium	mg/kg	10	20	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EPA 6020	Thallium	mg/kg	70	NE	J	0.080	J	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
EPA 6020	Vanadium	mg/kg	240	NE		23.0		21.0		20.3	E	20.8	E	20	E	20.3	E	21	E	21.9	E	21.1	E	21.9	E	24.4	E
EPA 6020	Zinc	mg/kg	2500	NE		64.0		55.1		172	NE	112	NE	82.3	NE	124	NE	55.6	NE	64.9	NE	64.9	NE	55.8	NE	56	NE
EPA 7471A	Mercury	mg/kg	20	40		0.13		0.24		0.12		0.11		0.11		0.15		0.13		0.14		0.13		0.12		0.15	
EPA 8260B	Acetone	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		22	U	N/A		N/A		N/A	
EPA 8260B	Benzene	µg/kg	NE	10000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Bromoform	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Bromomethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		11	U	N/A		N/A		N/A	
EPA 8260B	2-Butanone	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		22	U	N/A		N/A		N/A	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Chloroethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		11	U	N/A		N/A		N/A	
EPA 8260B	Chloroform	µg/kg	NE	120000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Chloromethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		11	U	N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		5.5	U	N/A		N/A		N/A	
EPA 8260B	2-Hexanone	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		22	U	N/A		N/A		N/A	
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		13	B	N/A		N/A		N/A	
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		22	U	N/A		N/A		N/A	

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)			RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA
	Sample Number:				-108	15-109	15-110	15-111	15-112	15-113	15-114	15-115	15-116	15-117	15-118	15-119
	Location:				P40b	FRB-F-SP41a	FRB-F-SP41b	FRB-F-42a	FRB-F-42b	FRB-F-43a	FRB-F-43b	FRB-F-44a	FRB-F-44b	FRB-F-45a	FRB-F-45b	FRB-F-46a
	Sample Date:				2007	7/30/2007	7/30/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.5 U	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 U	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	720 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	720 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43 J	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94 J	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800 U	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 U	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)			RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA Haz (Lead)		Non-RCRA
	Sample Number:				-108	15-109	15-110	15-111	15-112	15-113	15-114	15-115	15-116	15-117	15-118	15-119
	Location:				P40b	FRB-F-SP41a	FRB-F-SP41b	FRB-F-42a	FRB-F-42b	FRB-F-43a	FRB-F-43b	FRB-F-44a	FRB-F-44b	FRB-F-45a	FRB-F-45b	FRB-F-46a
	Sample Date:				2007	7/30/2007	7/30/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007	7/31/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**												
EPA 8270C	Phenol	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	450		N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800	U	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	170	J	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	47	J	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	470		N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	390		N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1800	U	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	510		N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	J	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	U	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	430		N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	560		N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	540		N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	280	J	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	270	J	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	42		N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	13		N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	55		N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360	B	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	520	BE	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	530	E	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	160		N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	640	E	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	450	BE	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	55		N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	550	E	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	12		N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	230		N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.2		N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	160		N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	420	E	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.11	U	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	550	U	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	410	JD	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	44	U	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	370	U	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	U	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Non-RCRA Haz (Lead)				RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA
	Sample Number:				-108	15-109		15-110		15-111		15-112		15-113		15-114		15-115		15-116		15-117		15-118		15-119
	Location:				P40b	FRB-F-SP41a		FRB-F-SP41b		FRB-F-42a		FRB-F-42b		FRB-F-43a		FRB-F-43b		FRB-F-44a		FRB-F-44b		FRB-F-45a		FRB-F-45b		FRB-F-46a
	Sample Date:				2007	7/30/2007		7/30/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007		7/31/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																						
EPA 8081A	Endrin	µg/kg	200	400	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		37	U	N/A		N/A		N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		37	U	N/A		N/A		N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		37	U	N/A		N/A		N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		44	U	N/A		N/A		N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		37	U	N/A		N/A		N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		72	U	N/A		N/A		N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		1500	U	N/A		N/A		N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000		N/A		N/A		N/A		N/A		N/A		N/A		N/A		36	U	N/A		N/A		N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000		N/A		N/A		N/A		N/A		N/A		N/A		N/A		48		N/A		N/A		N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	HMX	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		1100		N/A		N/A		N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	RDX	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	Tetryl	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		270	U	N/A		N/A		N/A
EPA 6020	STLC Lead	µg/L	5000	N/A		12300		42900		14700		12600		13800		61800		14800		14400		14600		20300		15900
EPA 6020	STLC Barium	µg/L	100000	N/A		N/A		N/A		3520		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A
EPA 6020	STLC Copper	µg/L	25000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000		3710		1250		1050		5800		1050		891		1160		1480		3680		3510		1780
EPA 6020	TCLP Barium	µg/L	N/A	100000		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A
EPA 6020	TCLP Chromium	ug/L	N/A	5000		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA (Lead)			
	Sample Number:				15-120		15-121		15-122		15-123		15-124		15-125		15-126		15-150		15-151	
	Location:				FRB-F-46b		FRB-C-SP-47a		FRB-C-SP-47b		FRB-F-SP48A		FRB-F-SP48B		FRB-F-SP49A		FRB-F-SP49B		FRB-F-SP61A		FRB-F-SP61B	
	Sample Date:				7/31/2007		7/31/2007		7/31/2007		8/6/2007		8/6/2007		8/6/2007		8/6/2007		9/6/2007		9/6/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																		
EPA 901.1	Americium 241	pCi/g	NE	NE	0.016	U	0	U	0.044	U	-0.002	U	0.026	U	-0.03	U	-0.03	U	0.019	U	0.036	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.022	U	0.017	U	-0.013	U	0.034	U	0.032	U	0.003	U	0.016	U	0.051	U	0.058	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.003	U	0.00004	U	0	U	0.0	U	0.0	U	0.010	U	0.013	U	0.019	U	-0.0008	U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.02	U	-0.037	U	0.003	U	-0.006	U	-0.04	U	-0.02	U	-0.007	U	-0.006	U	0.001	U
EPA 901.1	Europium 154	pCi/g	NE	NE	-0.004	U	0	U	0	U	0.05	U	0.05	U	0.03	U	0.07	U	0.07	U	0.06	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	9.6		9		6.8		8.5		9.3		8.8		9.0		9.6		8.5	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.34		0.31		0.22		0.43		0.35		0.56		0.30		0.42		0.37	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.48		0.36		0.32		0.34		0.38		0.15	U	0.44		0.33		0.36	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.3	J	0.54	J	0.43	J	0.37	J	0.55	J	0.55	J	0.54	J	0.48	J	0.48	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 6020	Silver	mg/kg	50	100	0.23		0.24		0.55		0.24		0.42		0.52		0.27		0.32		0.36	J
EPA 6020	Arsenic	mg/kg	50	100	3.3		4.2		1.3		3.5		3.4		3.6		3.5		3.7		10.4	
EPA 6020	Barium	mg/kg	1000	2000	124	N	94.7	N	43900	N	70.2	N	65.4	N	71.9	N	71.4	N	81.7		63.5	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.18	N	0.19	N	0.12	N	0.13		0.13		0.14		0.14		0.15		0.16	J
EPA 6020	Cadmium	mg/kg	10	20	1.9	N	1.7	N	2.4	N	2.2	N	2	N	1.9	N	2.6	N	2.1		2.1	
EPA 6020	Cobalt	mg/kg	800	NE	4.8	E	5.2	E	4.1	E	4.9	E	5.6	E	4.4	E	4.8	E	4.5		6.8	
EPA 6020	Chromium	mg/kg	50	100	30.2	NE	27.8	NE	2370	NE	27.6	E	27	E	28.4	E	33.2	E	32		48.8	
EPA 6020	Copper	mg/kg	250	NE	32.1	NE	35.8	NE	39.5	NE	31.6	NE	53.5	NE	32.6	NE	38.1	NE	39.2		58.7	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.46	J	5.1		0.35	J	0.45	J	0.59		0.52	J	0.53		0.64		3.6	
EPA 6020	Nickel	mg/kg	200	NE	29.8	E	25	E	21.1	E	26.9	NE	25.4	NE	25.2	NE	25.8	NE	25		36.6	
EPA 6020	Lead	mg/kg	50	100	189	N	163	N	13600	N	333	N*	332	N*	227	N*	229	N*	223		183	
EPA 6020	Antimony	mg/kg	150	NE	0.85	N	1	N	0.51	N	1.2	N	1.2	N	0.91	N	0.93	N	2.2		1.8	
EPA 6020	Selenium	mg/kg	10	20	0.5	U	0.5	U	0.5	U	0.52	U	0.52	U	0.52	U	0.52	U	0.5	U	1	U
EPA 6020	Thallium	mg/kg	70	NE	0.3	U	0.3	U	0.11	J	0.099	J	0.11	J	0.096	J	0.31	U	0.3	U	0.6	U
EPA 6020	Vanadium	mg/kg	240	NE	23.4	E	25.1	E	31	E	22.7		22.9		20.4		22.4		23.8		20.2	
EPA 6020	Zinc	mg/kg	2500	NE	66.6	NE	57	NE	12300	NE	57.5	NE	60.4	NE	59.4	NE	60.6	NE	80.5		96.2	
EPA 7471A	Mercury	mg/kg	20	40	0.2		0.16		0.16		0.14		0.27		0.15		0.15		0.12		0.12	
EPA 8260B	Acetone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Benzene	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Table G-7
Firing Range Berm Stockpile

	Characterization:				Haz (Lead)	RCRA Haz (Lead)	RCRA Haz (Lead)	RCRA Haz (Lead)				Non-RCRA (Lead)	
	Sample Number:				15-120	15-121	15-122	15-123	15-124	15-125	15-126	15-150	15-151
	Location:				FRB-F-46b	FRB-C-SP-47a	FRB-C-SP-47b	FRB-F-SP48A	FRB-F-SP48B	FRB-F-SP49A	FRB-F-SP49B	FRB-F-SP61A	FRB-F-SP61B
	Sample Date:				7/31/2007	7/31/2007	7/31/2007	8/6/2007	8/6/2007	8/6/2007	8/6/2007	9/6/2007	9/6/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**									
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Haz (Lead)	RCRA Haz (Lead)		RCRA Haz (Lead)		RCRA Haz (Lead)		Non-RCRA (Lead)	
	Sample Number:				15-120	15-121	15-122	15-123	15-124	15-125	15-126	15-150	15-151
	Location:				FRB-F-46b	FRB-C-SP-47a	FRB-C-SP-47b	FRB-F-SP48A	FRB-F-SP48B	FRB-F-SP49A	FRB-F-SP49B	FRB-F-SP61A	FRB-F-SP61B
	Sample Date:				7/31/2007	7/31/2007	7/31/2007	8/6/2007	8/6/2007	8/6/2007	8/6/2007	9/6/2007	9/6/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**									
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table G-7
Firing Range Berm Stockpile

	Characterization:				Haz (Lead)		RCRA Haz (Lead)			RCRA Haz (Lead)			RCRA Haz (Lead)		Non-RCRA (Lead)					
	Sample Number:				15-120		15-121	15-122		15-123	15-124		15-125	15-126	15-150	15-151				
	Location:				FRB-F-46b		FRB-C-SP-47a	FRB-C-SP-47b		FRB-F-SP48A	FRB-F-SP48B		FRB-F-SP49A	FRB-F-SP49B	FRB-F-SP61A	FRB-F-SP61B				
	Sample Date:				7/31/2007		7/31/2007	7/31/2007		8/6/2007	8/6/2007		8/6/2007	8/6/2007	9/6/2007	9/6/2007				
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																
EPA 8081A	Endrin	µg/kg	200	400	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	HMX	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	RDX	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	Tetryl	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 6020	STLC Lead	µg/L	5000	N/A	65800		4990	N/A		15900	23000		148000	18800	11700	16600				
EPA 6020	STLC Barium	µg/L	100000	N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 6020	STLC Chromium	µg/L	5000	N/A	N/A		N/A	137		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 6020	TCLP Lead	µg/L	N/A	5000	1260		227000	321		1360	5490		10500	2100	547	1510				
EPA 6020	TCLP Barium	µg/L	N/A	100000	N/A		N/A	577		N/A	N/A		N/A	N/A	N/A	N/A				
EPA 6020	TCLP Chromium	ug/L	N/A	5000	N/A		N/A	62.5	U	N/A	N/A		N/A	N/A	N/A	N/A				

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 901.1	Americium 241	pCi/g	NE	NE
EPA 901.1	Cesium 137	pCi/g	NE	NE
EPA 901.1	Cobalt 60	pCi/g	NE	NE
EPA 901.1	Europium 152	pCi/g	NE	NE
EPA 901.1	Europium 154	pCi/g	NE	NE
EPA 901.1	Potassium 40	pCi/g	NE	NE
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE
EPA 901.1	Thorium 232	pCi/g	NE	NE
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE
EPA 6020	Silver	mg/kg	50	100
EPA 6020	Arsenic	mg/kg	50	100
EPA 6020	Barium	mg/kg	1000	2000
EPA 6020	Beryllium	mg/kg	7.5	NE
EPA 6020	Cadmium	mg/kg	10	20
EPA 6020	Cobalt	mg/kg	800	NE
EPA 6020	Chromium	mg/kg	50	100
EPA 6020	Copper	mg/kg	250	NE
EPA 6020	Molybdenum	mg/kg	3500	NE
EPA 6020	Nickel	mg/kg	200	NE
EPA 6020	Lead	mg/kg	50	100
EPA 6020	Antimony	mg/kg	150	NE
EPA 6020	Selenium	mg/kg	10	20
EPA 6020	Thallium	mg/kg	70	NE
EPA 6020	Vanadium	mg/kg	240	NE
EPA 6020	Zinc	mg/kg	2500	NE
EPA 7471A	Mercury	mg/kg	20	40
EPA 8260B	Acetone	µg/kg	NE	NE
EPA 8260B	Benzene	µg/kg	NE	10000
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE
EPA 8260B	Bromoform	µg/kg	NE	NE
EPA 8260B	Bromomethane	µg/kg	NE	NE
EPA 8260B	2-Butanone	µg/kg	NE	NE
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE
EPA 8260B	Chloroethane	µg/kg	NE	NE
EPA 8260B	Chloroform	µg/kg	NE	120000
EPA 8260B	Chloromethane	µg/kg	NE	NE
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE
EPA 8260B	Ethylbenzene	µg/kg	NE	NE
EPA 8260B	2-Hexanone	µg/kg	NE	NE
EPA 8260B	Methylene Chloride	µg/kg	NE	NE
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE
EPA 8260B	Styrene	µg/kg	NE	NE
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000
EPA 8260B	Toluene	µg/kg	NE	NE
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE
EPA 8260B	Trichloroethene	µg/kg	2040000	10000
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE
EPA 8270C	Pyridine	µg/kg	NE	100000
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE
EPA 8270C	Hexachloroethane	µg/kg	NE	60000
EPA 8270C	Nitrobenzene	µg/kg	NE	40000
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE
EPA 8270C	Naphthalene	µg/kg	NE	NE
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE
EPA 8270C	Acenaphthene	µg/kg	NE	NE
EPA 8270C	Acenaphthylene	µg/kg	NE	NE
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE
EPA 8270C	Dibenzofuran	µg/kg	NE	NE
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE
EPA 8270C	Fluorene	µg/kg	NE	NE
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8270C	Phenol	µg/kg	NE	NE
EPA 8270C	Pyrene	µg/kg	NE	NE
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000
EPA 8270C	Phenanthrene	µg/kg	NE	NE
EPA 8270C	Anthracene	µg/kg	NE	NE
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE
EPA 8270C	Fluoranthene	µg/kg	NE	NE
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE
EPA 8270C	Chrysene	µg/kg	NE	NE
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE
EPA 8270C SIM	Anthracene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE
EPA 8270C SIM	Chrysene	µg/kg	NE	NE
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Fluorene	µg/kg	NE	NE
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE
EPA 8270C SIM	Pyrene	µg/kg	NE	NE
EPA 8015B	Gasoline	mg/kg	NE	NE
EPA 8015B	Diesel	mg/kg	NE	NE
EPA 8015B	Motor Oil	mg/kg	NE	NE
EPA 8081A	Aldrin	µg/kg	1400	NE
EPA 8081A	alpha-BHC	µg/kg	NE	NE
EPA 8081A	beta-BHC	µg/kg	NE	NE
EPA 8081A	delta-BHC	µg/kg	NE	NE
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE
EPA 8081A	4,4'-DDD	µg/kg	1000	NE
EPA 8081A	4,4'-DDE	µg/kg	1000	NE
EPA 8081A	4,4'-DDT	µg/kg	1000	NE
EPA 8081A	Dieldrin	µg/kg	8000	NE
EPA 8081A	Endosulfan I	µg/kg	NE	NE
EPA 8081A	Endosulfan II	µg/kg	NE	NE
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8081A	Endrin	µg/kg	200	400
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE
EPA 8081A	Endrin Ketone	µg/kg	NE	NE
EPA 8081A	Heptachlor	µg/kg	47000	160
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE
EPA 8081A	Methoxychlor	µg/kg	100000	20000
EPA 8081A	Toxaphene	µg/kg	5000	10000
EPA 8082	Aroclor 1016	µg/kg	NE	50000
EPA 8082	Aroclor 1221	µg/kg	NE	50000
EPA 8082	Aroclor 1232	µg/kg	NE	50000
EPA 8082	Aroclor 1242	µg/kg	NE	50000
EPA 8082	Aroclor 1248	µg/kg	NE	50000
EPA 8082	Aroclor 1254	µg/kg	NE	50000
EPA 8082	Aroclor 1260	µg/kg	NE	50000
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE
EPA 8330	HMX	mg/kg	NE	NE
EPA 8330	Nitrobenzene	mg/kg	NE	NE
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE
EPA 8330	RDX	mg/kg	NE	NE
EPA 8330	Tetryl	mg/kg	NE	NE
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE
EPA 6020	STLC Lead	µg/L	5000	N/A
EPA 6020	STLC Barium	µg/L	100000	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000
EPA 6020	TCLP Barium	µg/L	N/A	100000
EPA 6020	TCLP Chromium	ug/L	N/A	5000

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 901.1	Americium 241	pCi/g	NE	NE
EPA 901.1	Cesium 137	pCi/g	NE	NE
EPA 901.1	Cobalt 60	pCi/g	NE	NE
EPA 901.1	Europium 152	pCi/g	NE	NE
EPA 901.1	Europium 154	pCi/g	NE	NE
EPA 901.1	Potassium 40	pCi/g	NE	NE
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE
EPA 901.1	Thorium 232	pCi/g	NE	NE
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE
EPA 6020	Silver	mg/kg	50	100
EPA 6020	Arsenic	mg/kg	50	100
EPA 6020	Barium	mg/kg	1000	2000
EPA 6020	Beryllium	mg/kg	7.5	NE
EPA 6020	Cadmium	mg/kg	10	20
EPA 6020	Cobalt	mg/kg	800	NE
EPA 6020	Chromium	mg/kg	50	100
EPA 6020	Copper	mg/kg	250	NE
EPA 6020	Molybdenum	mg/kg	3500	NE
EPA 6020	Nickel	mg/kg	200	NE
EPA 6020	Lead	mg/kg	50	100
EPA 6020	Antimony	mg/kg	150	NE
EPA 6020	Selenium	mg/kg	10	20
EPA 6020	Thallium	mg/kg	70	NE
EPA 6020	Vanadium	mg/kg	240	NE
EPA 6020	Zinc	mg/kg	2500	NE
EPA 7471A	Mercury	mg/kg	20	40
EPA 8260B	Acetone	µg/kg	NE	NE
EPA 8260B	Benzene	µg/kg	NE	10000
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE
EPA 8260B	Bromoform	µg/kg	NE	NE
EPA 8260B	Bromomethane	µg/kg	NE	NE
EPA 8260B	2-Butanone	µg/kg	NE	NE
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE
EPA 8260B	Chloroethane	µg/kg	NE	NE
EPA 8260B	Chloroform	µg/kg	NE	120000
EPA 8260B	Chloromethane	µg/kg	NE	NE
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE
EPA 8260B	Ethylbenzene	µg/kg	NE	NE
EPA 8260B	2-Hexanone	µg/kg	NE	NE
EPA 8260B	Methylene Chloride	µg/kg	NE	NE
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE
EPA 8260B	Styrene	µg/kg	NE	NE
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000
EPA 8260B	Toluene	µg/kg	NE	NE
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE
EPA 8260B	Trichloroethene	µg/kg	2040000	10000
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE
EPA 8270C	Pyridine	µg/kg	NE	100000
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE
EPA 8270C	Hexachloroethane	µg/kg	NE	60000
EPA 8270C	Nitrobenzene	µg/kg	NE	40000
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE
EPA 8270C	Naphthalene	µg/kg	NE	NE
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE
EPA 8270C	Acenaphthene	µg/kg	NE	NE
EPA 8270C	Acenaphthylene	µg/kg	NE	NE
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE
EPA 8270C	Dibenzofuran	µg/kg	NE	NE
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE
EPA 8270C	Fluorene	µg/kg	NE	NE
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8270C	Phenol	µg/kg	NE	NE
EPA 8270C	Pyrene	µg/kg	NE	NE
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000
EPA 8270C	Phenanthrene	µg/kg	NE	NE
EPA 8270C	Anthracene	µg/kg	NE	NE
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE
EPA 8270C	Fluoranthene	µg/kg	NE	NE
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE
EPA 8270C	Chrysene	µg/kg	NE	NE
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE
EPA 8270C SIM	Anthracene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE
EPA 8270C SIM	Chrysene	µg/kg	NE	NE
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE
EPA 8270C SIM	Fluorene	µg/kg	NE	NE
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE
EPA 8270C SIM	Pyrene	µg/kg	NE	NE
EPA 8015B	Gasoline	mg/kg	NE	NE
EPA 8015B	Diesel	mg/kg	NE	NE
EPA 8015B	Motor Oil	mg/kg	NE	NE
EPA 8081A	Aldrin	µg/kg	1400	NE
EPA 8081A	alpha-BHC	µg/kg	NE	NE
EPA 8081A	beta-BHC	µg/kg	NE	NE
EPA 8081A	delta-BHC	µg/kg	NE	NE
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE
EPA 8081A	4,4'-DDD	µg/kg	1000	NE
EPA 8081A	4,4'-DDE	µg/kg	1000	NE
EPA 8081A	4,4'-DDT	µg/kg	1000	NE
EPA 8081A	Dieldrin	µg/kg	8000	NE
EPA 8081A	Endosulfan I	µg/kg	NE	NE
EPA 8081A	Endosulfan II	µg/kg	NE	NE
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE

Table G-7
Firing Range Berm Stockpile

	Characterization:			
	Sample Number:			
	Location:			
	Sample Date:			
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**
EPA 8081A	Endrin	µg/kg	200	400
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE
EPA 8081A	Endrin Ketone	µg/kg	NE	NE
EPA 8081A	Heptachlor	µg/kg	47000	160
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE
EPA 8081A	Methoxychlor	µg/kg	100000	20000
EPA 8081A	Toxaphene	µg/kg	5000	10000
EPA 8082	Aroclor 1016	µg/kg	NE	50000
EPA 8082	Aroclor 1221	µg/kg	NE	50000
EPA 8082	Aroclor 1232	µg/kg	NE	50000
EPA 8082	Aroclor 1242	µg/kg	NE	50000
EPA 8082	Aroclor 1248	µg/kg	NE	50000
EPA 8082	Aroclor 1254	µg/kg	NE	50000
EPA 8082	Aroclor 1260	µg/kg	NE	50000
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE
EPA 8330	HMX	mg/kg	NE	NE
EPA 8330	Nitrobenzene	mg/kg	NE	NE
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE
EPA 8330	RDX	mg/kg	NE	NE
EPA 8330	Tetryl	mg/kg	NE	NE
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE
EPA 6020	STLC Lead	µg/L	5000	N/A
EPA 6020	STLC Barium	µg/L	100000	N/A
EPA 6020	STLC Copper	µg/L	25000	N/A
EPA 6020	STLC Chromium	µg/L	5000	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000
EPA 6020	TCLP Barium	µg/L	N/A	100000
EPA 6020	TCLP Chromium	ug/L	N/A	5000

Table G-7
Firing Range Berm Stockpile

	Characterization:																					
	Sample Number:																					
	Location:																					
	Sample Date:																					
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																		
EPA 901.1	Americium 241	pCi/g	NE	NE																		
EPA 901.1	Cesium 137	pCi/g	NE	NE																		
EPA 901.1	Cobalt 60	pCi/g	NE	NE																		
EPA 901.1	Europium 152	pCi/g	NE	NE																		
EPA 901.1	Europium 154	pCi/g	NE	NE																		
EPA 901.1	Potassium 40	pCi/g	NE	NE																		
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE																		
EPA 901.1	Thorium 232	pCi/g	NE	NE																		
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE																		
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE																		
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE																		
EPA 6020	Silver	mg/kg	50	100																		
EPA 6020	Arsenic	mg/kg	50	100																		
EPA 6020	Barium	mg/kg	1000	2000																		
EPA 6020	Beryllium	mg/kg	7.5	NE																		
EPA 6020	Cadmium	mg/kg	10	20																		
EPA 6020	Cobalt	mg/kg	800	NE																		
EPA 6020	Chromium	mg/kg	50	100																		
EPA 6020	Copper	mg/kg	250	NE																		
EPA 6020	Molybdenum	mg/kg	3500	NE																		
EPA 6020	Nickel	mg/kg	200	NE																		
EPA 6020	Lead	mg/kg	50	100																		
EPA 6020	Antimony	mg/kg	150	NE																		
EPA 6020	Selenium	mg/kg	10	20																		
EPA 6020	Thallium	mg/kg	70	NE																		
EPA 6020	Vanadium	mg/kg	240	NE																		
EPA 6020	Zinc	mg/kg	2500	NE																		
EPA 7471A	Mercury	mg/kg	20	40																		
EPA 8260B	Acetone	µg/kg	NE	NE																		
EPA 8260B	Benzene	µg/kg	NE	10000																		
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE																		
EPA 8260B	Bromoform	µg/kg	NE	NE																		
EPA 8260B	Bromomethane	µg/kg	NE	NE																		
EPA 8260B	2-Butanone	µg/kg	NE	NE																		
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000																		
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000																		
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE																		
EPA 8260B	Chloroethane	µg/kg	NE	NE																		
EPA 8260B	Chloroform	µg/kg	NE	120000																		
EPA 8260B	Chloromethane	µg/kg	NE	NE																		
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE																		
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000																		
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE																		
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE																		
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000																		
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE																		
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE																		
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE																		
EPA 8260B	Ethylbenzene	µg/kg	NE	NE																		
EPA 8260B	2-Hexanone	µg/kg	NE	NE																		
EPA 8260B	Methylene Chloride	µg/kg	NE	NE																		
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE																		

Table G-7
Firing Range Berm Stockpile

	Characterization:																							
	Sample Number:																							
	Location:																							
	Sample Date:																							
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																				
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE																				
EPA 8260B	Styrene	µg/kg	NE	NE																				
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE																				
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000																				
EPA 8260B	Toluene	µg/kg	NE	NE																				
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE																				
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE																				
EPA 8260B	Trichloroethene	µg/kg	2040000	10000																				
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000																				
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE																				
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE																				
EPA 8270C	Pyridine	µg/kg	NE	100000																				
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE																				
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE																				
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE																				
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000																				
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE																				
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000																				
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000																				
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE																				
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE																				
EPA 8270C	Hexachloroethane	µg/kg	NE	60000																				
EPA 8270C	Nitrobenzene	µg/kg	NE	40000																				
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE																				
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE																				
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE																				
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE																				
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE																				
EPA 8270C	Naphthalene	µg/kg	NE	NE																				
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE																				
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000																				
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE																				
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE																				
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000																				
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000																				
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE																				
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE																				
EPA 8270C	Acenaphthene	µg/kg	NE	NE																				
EPA 8270C	Acenaphthylene	µg/kg	NE	NE																				
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE																				
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE																				
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE																				
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE																				
EPA 8270C	Dibenzofuran	µg/kg	NE	NE																				
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE																				
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600																				
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE																				
EPA 8270C	Fluorene	µg/kg	NE	NE																				
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE																				
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE																				
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE																				
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE																				

Table G-7
Firing Range Berm Stockpile

	Characterization:																					
	Sample Number:																					
	Location:																					
	Sample Date:																					
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																		
EPA 8270C	Phenol	µg/kg	NE	NE																		
EPA 8270C	Pyrene	µg/kg	NE	NE																		
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE																		
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600																		
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000																		
EPA 8270C	Phenanthrene	µg/kg	NE	NE																		
EPA 8270C	Anthracene	µg/kg	NE	NE																		
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE																		
EPA 8270C	Fluoranthene	µg/kg	NE	NE																		
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE																		
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE																		
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE																		
EPA 8270C	Chrysene	µg/kg	NE	NE																		
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE																		
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE																		
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE																		
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE																		
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE																		
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE																		
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE																		
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE																		
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE																		
EPA 8270C SIM	Anthracene	µg/kg	NE	NE																		
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE																		
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE																		
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE																		
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE																		
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE																		
EPA 8270C SIM	Chrysene	µg/kg	NE	NE																		
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE																		
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE																		
EPA 8270C SIM	Fluorene	µg/kg	NE	NE																		
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE																		
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE																		
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE																		
EPA 8270C SIM	Pyrene	µg/kg	NE	NE																		
EPA 8015B	Gasoline	mg/kg	NE	NE																		
EPA 8015B	Diesel	mg/kg	NE	NE																		
EPA 8015B	Motor Oil	mg/kg	NE	NE																		
EPA 8081A	Aldrin	µg/kg	1400	NE																		
EPA 8081A	alpha-BHC	µg/kg	NE	NE																		
EPA 8081A	beta-BHC	µg/kg	NE	NE																		
EPA 8081A	delta-BHC	µg/kg	NE	NE																		
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000																		
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE																		
EPA 8081A	4,4'-DDD	µg/kg	1000	NE																		
EPA 8081A	4,4'-DDE	µg/kg	1000	NE																		
EPA 8081A	4,4'-DDT	µg/kg	1000	NE																		
EPA 8081A	Dieldrin	µg/kg	8000	NE																		
EPA 8081A	Endosulfan I	µg/kg	NE	NE																		
EPA 8081A	Endosulfan II	µg/kg	NE	NE																		
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE																		

Table G-7
Firing Range Berm Stockpile

	Characterization:																					
	Sample Number:																					
	Location:																					
	Sample Date:																					
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**																		
EPA 8081A	Endrin	µg/kg	200	400																		
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE																		
EPA 8081A	Endrin Ketone	µg/kg	NE	NE																		
EPA 8081A	Heptachlor	µg/kg	47000	160																		
EPA 8081A	Heptachlor Epoxide	µg/kg	NE	NE																		
EPA 8081A	Methoxychlor	µg/kg	100000	20000																		
EPA 8081A	Toxaphene	µg/kg	5000	10000																		
EPA 8082	Aroclor 1016	µg/kg	NE	50000																		
EPA 8082	Aroclor 1221	µg/kg	NE	50000																		
EPA 8082	Aroclor 1232	µg/kg	NE	50000																		
EPA 8082	Aroclor 1242	µg/kg	NE	50000																		
EPA 8082	Aroclor 1248	µg/kg	NE	50000																		
EPA 8082	Aroclor 1254	µg/kg	NE	50000																		
EPA 8082	Aroclor 1260	µg/kg	NE	50000																		
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE																		
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE																		
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE																		
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE																		
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE																		
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE																		
EPA 8330	HMX	mg/kg	NE	NE																		
EPA 8330	Nitrobenzene	mg/kg	NE	NE																		
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE																		
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE																		
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE																		
EPA 8330	RDX	mg/kg	NE	NE																		
EPA 8330	Tetryl	mg/kg	NE	NE																		
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE																		
EPA 6020	STLC Lead	µg/L	5000	N/A																		
EPA 6020	STLC Barium	µg/L	100000	N/A																		
EPA 6020	STLC Copper	µg/L	25000	N/A																		
EPA 6020	STLC Chromium	µg/L	5000	N/A																		
EPA 6020	TCLP Lead	µg/L	N/A	5000																		
EPA 6020	TCLP Barium	µg/L	N/A	100000																		
EPA 6020	TCLP Chromium	ug/L	N/A	5000																		

Table G-8
Debris Pit Stockpile

	Characterization:				RCRA Haz (Lead)				RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA	
	Sample Number:				15-017		15-018		15-037		15-038		15-057		15-058		15-089	
	Location:				DP-C-Spla		DP-C-SPlb		DP-F-SP11a		DP-F-SP11b		DP-F-SP21a		DP-F-SP21b		DP-F-SP31a	
	Sample Date:				6/12/2007		6/12/2007		6/25/2007		6/25/2007		6/26/2007		6/26/2007		7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**														
EPA 901.1	Americium 241	pCi/g	NE	NE	0.003	U	-0.07	U	0.023	U	-0.0008	U	0.049	U	0.009	U	0.021	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.008	U	0.018	U	0.020	U	-0.006	U	0.019	U	0.011	U	0.015	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.0	U	0.0	U	-0.010	U	0.018	U	-0.002	U	-0.013	U	0.0007	U
EPA 901.1	Europium 152	pCi/g	NE	NE	0.0	U	0.010	U	-0.025	U	0.009	U	0.03	U	0.008	U	0.0	U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.15	U	0.0	U	0.08	U	0.0	U	0.0	U	-0.009	U	0.05	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	8.1		5.01		8.0		8.2		8.2		7.5		9.2	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.44		0.221		0.54		0.39		0.49		0.59		0.27	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.34		0.11	U	0.35		0.26		0.24	U	0.22	U	0.31	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.281	J	0.37	J	0.51	J	0.42	J	0.71	J	0.68	J	0.58	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A		N/A		N/A		0.21	U	N/A		0.08	U	-0.12	U
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A		N/A		N/A		N/A		N/A		0.38	J	0.41	J
EPA 6020	Silver	mg/kg	50	100	0.41		1.2		0.94		0.80		1.4		1.6		0.87	
EPA 6020	Arsenic	mg/kg	50	100	4.6		6.2		3.3		3.3		3.9		6.3		3.3	
EPA 6020	Barium	mg/kg	1000	2000	87.9		176		62.2		62.6		87		83.5		60.7	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.18		0.18		0.14		0.12		0.14		0.12		0.13	
EPA 6020	Cadmium	mg/kg	10	20	2.2		4.0		4.4		3.7		9.2		10.1		3.5	
EPA 6020	Cobalt	mg/kg	800	NE	5.9		6.1		5.0		4.2		4.9		6.0		4.3	
EPA 6020	Chromium	mg/kg	50	100	30.3		39.6		31.8		28.7		38.2		43.7		30.1	
EPA 6020	Copper	mg/kg	250	NE	68.5		601		118		68.4		201		211		57.5	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.69		6.1		1.1		0.75		0.91		1.4		0.47	J
EPA 6020	Nickel	mg/kg	200	NE	30.9		33.2		30.9		27.8		31.4		34.9		26.1	
EPA 6020	Lead	mg/kg	50	100	725		1980		221		292		324		487		272	
EPA 6020	Antimony	mg/kg	150	NE	3.4		8.2		1.7		1.3		2.3		3.8		0.93	
EPA 6020	Selenium	mg/kg	10	20	0.20	J	0.5	U	0.52	U	0.52	U	0.52	U	0.52	U	0.5	U
EPA 6020	Thallium	mg/kg	70	NE	0.091	J	0.095	J	0.076	J	0.31	U	0.083	J	0.078	J	0.3	U
EPA 6020	Vanadium	mg/kg	240	NE	24.8		28.3		20.0		18.9		24.2		22.9		23.4	
EPA 6020	Zinc	mg/kg	2500	NE	88.8		170		172		169		199		224		146	
EPA 7471A	Mercury	mg/kg	20	40	0.23		0.13		0.2		0.18		0.19		0.19		0.15	
EPA 8260B	Acetone	µg/kg	NE	NE	N/A		N/A		N/A		21	U	N/A		21	U	21	U
EPA 8260B	Benzene	µg/kg	NE	10000	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A		N/A		N/A		10	U	N/A		10	U	11	U
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A		N/A		N/A		21	U	N/A		21	U	21	U
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A		N/A		N/A		10	U	N/A		10	U	11	U
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A		N/A		N/A		5.2	U	N/A		5.2	U	5.3	U

Table G-8
Debris Pit Stockpile

	Characterization:				RCRA Haz (Lead)		RCRA Haz (Lead)			Non-RCRA Haz (Lead)			Non-RCRA	
	Sample Number:				15-017	15-018	15-037	15-038		15-057	15-058		15-089	
	Location:				DP-C-Spla	DP-C-SPlb	DP-F-SP11a	DP-F-SP11b		DP-F-SP21a	DP-F-SP21b		DP-F-SP31a	
	Sample Date:				6/12/2007	6/12/2007	6/25/2007	6/25/2007		6/26/2007	6/26/2007		7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**										
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A	N/A	N/A	10	U	N/A	10	U	11	U
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A	N/A	N/A	21	U	N/A	21	U	21	U
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A	N/A	N/A	3.5	J	N/A	14		21	
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A	N/A	N/A	21	U	N/A	21	U	21	U
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Styrene	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Toluene	µg/kg	NE	NE	N/A	N/A	N/A	1.1	J	N/A	1.1	J	0.52	J
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A	N/A	N/A	5.2	U	N/A	5.2	U	5.3	U
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A	N/A	N/A	5.2	U	N/A	5.2	U	11	U
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A	N/A	N/A	690	U	N/A	690	U	690	U
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A	N/A	N/A	690	U	N/A	690	U	690	U
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U

Table G-8
Debris Pit Stockpile

	Characterization:				RCRA Haz (Lead)		RCRA Haz (Lead)			Non-RCRA Haz (Lead)			Non-RCRA	
	Sample Number:				15-017	15-018	15-037	15-038		15-057	15-058		15-089	
	Location:				DP-C-Spla	DP-C-SPlb	DP-F-SP11a	DP-F-SP11b		DP-F-SP21a	DP-F-SP21b		DP-F-SP31a	
	Sample Date:				6/12/2007	6/12/2007	6/25/2007	6/25/2007		6/26/2007	6/26/2007		7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**										
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	130	J	N/A	340	U	350	U
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	77	J	N/A	36	J	51	J
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A	N/A	N/A	49	J	N/A	340	U	350	U
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A	N/A	N/A	100	J	N/A	52	J	65	J
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	61	J	N/A	340	U	350	U
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A	N/A	N/A	92	J	N/A	340	U	350	U
EPA 8270C	Phenol	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	580		N/A	270	J	430	
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	440		N/A	140	J	260	J
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	88	J	N/A	42	J	49	J
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	110	J
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	690		N/A	330	J	540	
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	380		N/A	190	J	290	J
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A	N/A	N/A	1700	U	N/A	1700	U	1700	U
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	470		N/A	250	J	360	

Table G-8
Debris Pit Stockpile

	Characterization:				RCRA Haz (Lead)		RCRA Haz (Lead)			Non-RCRA Haz (Lead)			Non-RCRA	
	Sample Number:				15-017	15-018	15-037	15-038		15-057	15-058		15-089	
	Location:				DP-C-Spla	DP-C-SPlb	DP-F-SP11a	DP-F-SP11b		DP-F-SP21a	DP-F-SP21b		DP-F-SP31a	
	Sample Date:				6/12/2007	6/12/2007	6/25/2007	6/25/2007		6/26/2007	6/26/2007		7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**										
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A	N/A	N/A	47	J	N/A	39	J	53	J
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A	N/A	N/A	340	U	N/A	340	U	350	U
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	480		N/A	250	J	360	
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	390		N/A	220	J	380	
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	470		N/A	240	J	400	
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	280	J	N/A	140	J	250	J
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	320	J	N/A	160	J	250	J
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A	N/A	N/A	70		N/A	35		43	
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A	N/A	N/A	9.9		N/A	9.9		13	
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A	N/A	N/A	90		N/A	43		45	
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	390	E	N/A	200		250	
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	680	E	N/A	360		370	E
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	530	E	N/A	280		390	E
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A	N/A	N/A	160		N/A	77		120	
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	570	E	N/A	300		430	E
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A	N/A	N/A	460	E	N/A	250		320	
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A	N/A	N/A	62		N/A	29		46	
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A	N/A	N/A	970	E	N/A	440	E	540	E
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A	N/A	N/A	60		N/A	23		19	
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A	N/A	N/A	200		N/A	90		160	
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A	N/A	N/A	120		N/A	4.8	J	5.8	J
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A	N/A	N/A	420	E	N/A	130		220	
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A	N/A	N/A	780	E	N/A	270		310	
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A	N/A	N/A	0.10	U	N/A	0.10	U	0.11	U
EPA 8015B	Diesel	mg/kg	NE	NE	N/A	N/A	N/A	NOT RAN		N/A	260	U	530	U
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A	N/A	N/A	NOT RAN		N/A	300		340	J
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A	N/A	N/A	21	U	N/A	21	U	42	U
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A	N/A	N/A	180	U	N/A	180	U	360	U
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A	N/A	N/A	34		N/A	18	U	79	
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A	N/A	N/A	18	U	N/A	18	U	36	U

Table G-8
Debris Pit Stockpile

	Characterization:				RCRA Haz (Lead)			RCRA Haz (Lead)				Non-RCRA Haz (Lead)				Non-RCRA	
	Sample Number:				15-017		15-018		15-037		15-038		15-057		15-058		15-089	
	Location:				DP-C-Spla		DP-C-SPlb		DP-F-SP11a		DP-F-SP11b		DP-F-SP21a		DP-F-SP21b		DP-F-SP31a	
	Sample Date:				6/12/2007		6/12/2007		6/25/2007		6/25/2007		6/26/2007		6/26/2007		7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**														
EPA 8081A	Endrin	µg/kg	200	400	N/A		N/A		N/A		18	U	N/A		18	U	36	U
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A		N/A		N/A		18	U	N/A		18	U	36	U
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A		N/A		N/A		18	U	N/A		18	U	36	U
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A		N/A		N/A		21	U	N/A		21	U	42	U
EPA 8081A	Heptachlor Epoxide	µg/kg	47000	NE	N/A		N/A		N/A		18	U	N/A		18	U	36	U
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A		N/A		N/A		34	U	N/A		34	U	69	U
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A		N/A		N/A		700	U	N/A		700	U	1400	U
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		34	U	35	U
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		34	U	35	U
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		34	U	35	U
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		34	U	35	U
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		34	U	35	U
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A		N/A		N/A		34	U	N/A		43		77	
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A		N/A		N/A		50		N/A		54		100	
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	HMX	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	RDX	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	Tetryl	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A		N/A		N/A		0.26	U	N/A		0.26	U	0.26	U
EPA 6020	STLC Lead	µg/L	5000	N/A	10000		10900		31600		67500		18100		18100		41500	
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A		2800		N/A		N/A		N/A		N/A		N/A	
EPA 6020	STLC Cadmium	µg/L	1000	N/A	N/A		N/A		N/A		N/A		N/A		366		N/A	
EPA 6020	TCLP Lead	µg/L	N/A	5000	192	J	215000		5670		304		2150		1440		1260	

Table G-8
Debris Pit Stockpile

	Characterization:				Haz (Lead)	
	Sample Number:				15-090	
	Location:				DP-F-SP31b	
	Sample Date:				7/16/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**		
EPA 901.1	Americium 241	pCi/g	NE	NE	-0.0003	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.029	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.007	U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.022	U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.11	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	9.1	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.32	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.32	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.46	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A	
EPA 6020	Silver	mg/kg	50	100	1.7	
EPA 6020	Arsenic	mg/kg	50	100	3.2	
EPA 6020	Barium	mg/kg	1000	2000	62.3	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.13	
EPA 6020	Cadmium	mg/kg	10	20	3.9	
EPA 6020	Cobalt	mg/kg	800	NE	4.6	
EPA 6020	Chromium	mg/kg	50	100	34.2	
EPA 6020	Copper	mg/kg	250	NE	71.1	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.65	
EPA 6020	Nickel	mg/kg	200	NE	30.1	
EPA 6020	Lead	mg/kg	50	100	243	
EPA 6020	Antimony	mg/kg	150	NE	1.1	
EPA 6020	Selenium	mg/kg	10	20	0.5	U
EPA 6020	Thallium	mg/kg	70	NE	0.3	U
EPA 6020	Vanadium	mg/kg	240	NE	24.8	
EPA 6020	Zinc	mg/kg	2500	NE	188	
EPA 7471A	Mercury	mg/kg	20	40	0.12	
EPA 8260B	Acetone	µg/kg	NE	NE	N/A	
EPA 8260B	Benzene	µg/kg	NE	10000	N/A	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	N/A	
EPA 8260B	Bromoform	µg/kg	NE	NE	N/A	
EPA 8260B	Bromomethane	µg/kg	NE	NE	N/A	
EPA 8260B	2-Butanone	µg/kg	NE	NE	N/A	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	N/A	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	N/A	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	N/A	
EPA 8260B	Chloroethane	µg/kg	NE	NE	N/A	
EPA 8260B	Chloroform	µg/kg	NE	120000	N/A	

Table G-8
Debris Pit Stockpile

	Characterization:				Haz (Lead)
	Sample Number:				15-090
	Location:				DP-F-SP31b
	Sample Date:				7/16/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8260B	Chloromethane	µg/kg	NE	NE	N/A
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	N/A
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	N/A
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	N/A
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	N/A
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	N/A
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	N/A
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	N/A
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	N/A
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	N/A
EPA 8260B	2-Hexanone	µg/kg	NE	NE	N/A
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	N/A
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	N/A
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	N/A
EPA 8260B	Styrene	µg/kg	NE	NE	N/A
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	N/A
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	N/A
EPA 8260B	Toluene	µg/kg	NE	NE	N/A
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	N/A
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	N/A
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	N/A
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	N/A
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	N/A
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	N/A
EPA 8270C	Pyridine	µg/kg	NE	100000	N/A
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	N/A
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	N/A
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	N/A
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	N/A
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	N/A
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	N/A
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	N/A
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	N/A
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	N/A
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	N/A
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	N/A
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	N/A
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	N/A
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	N/A

Table G-8
Debris Pit Stockpile

	Characterization:				Haz (Lead)
	Sample Number:				15-090
	Location:				DP-F-SP31b
	Sample Date:				7/16/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	N/A
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	N/A
EPA 8270C	Naphthalene	µg/kg	NE	NE	N/A
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	N/A
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	N/A
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	N/A
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	N/A
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	N/A
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	N/A
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	N/A
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Acenaphthene	µg/kg	NE	NE	N/A
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	N/A
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	N/A
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	N/A
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	N/A
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	N/A
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	N/A
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	N/A
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	N/A
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Fluorene	µg/kg	NE	NE	N/A
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	N/A
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	N/A
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	N/A
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	N/A
EPA 8270C	Phenol	µg/kg	NE	NE	N/A
EPA 8270C	Pyrene	µg/kg	NE	NE	N/A
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	N/A
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	N/A
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	N/A
EPA 8270C	Phenanthrene	µg/kg	NE	NE	N/A
EPA 8270C	Anthracene	µg/kg	NE	NE	N/A
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	N/A
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	N/A
EPA 8270C	Chrysene	µg/kg	NE	NE	N/A

Table G-8
Debris Pit Stockpile

	Characterization:				Haz (Lead)
	Sample Number:				15-090
	Location:				DP-F-SP31b
	Sample Date:				7/16/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	N/A
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	N/A
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	N/A
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	N/A
EPA 8015B	Gasoline	mg/kg	NE	NE	N/A
EPA 8015B	Diesel	mg/kg	NE	NE	N/A
EPA 8015B	Motor Oil	mg/kg	NE	NE	N/A
EPA 8081A	Aldrin	µg/kg	1400	NE	N/A
EPA 8081A	alpha-BHC	µg/kg	NE	NE	N/A
EPA 8081A	beta-BHC	µg/kg	NE	NE	N/A
EPA 8081A	delta-BHC	µg/kg	NE	NE	N/A
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	N/A
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	N/A
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	N/A
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	N/A
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	N/A
EPA 8081A	Dieldrin	µg/kg	8000	NE	N/A
EPA 8081A	Endosulfan I	µg/kg	NE	NE	N/A
EPA 8081A	Endosulfan II	µg/kg	NE	NE	N/A
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	N/A

Table G-8
Debris Pit Stockpile

	Characterization:				Haz (Lead)
	Sample Number:				15-090
	Location:				DP-F-SP31b
	Sample Date:				7/16/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8081A	Endrin	µg/kg	200	400	N/A
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	N/A
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	N/A
EPA 8081A	Heptachlor	µg/kg	47000	160	N/A
EPA 8081A	Heptachlor Epoxide	µg/kg	47000	NE	N/A
EPA 8081A	Methoxychlor	µg/kg	100000	20000	N/A
EPA 8081A	Toxaphene	µg/kg	5000	10000	N/A
EPA 8082	Aroclor 1016	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1221	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1232	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1242	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1248	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1254	µg/kg	NE	50000	N/A
EPA 8082	Aroclor 1260	µg/kg	NE	50000	N/A
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	N/A
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	HMX	mg/kg	NE	NE	N/A
EPA 8330	Nitrobenzene	mg/kg	NE	NE	N/A
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	N/A
EPA 8330	RDX	mg/kg	NE	NE	N/A
EPA 8330	Tetryl	mg/kg	NE	NE	N/A
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	N/A
EPA 6020	STLC Lead	µg/L	5000	N/A	18200
EPA 6020	STLC Copper	µg/L	25000	N/A	N/A
EPA 6020	STLC Cadmium	µg/L	1000	N/A	N/A
EPA 6020	TCLP Lead	µg/L	N/A	5000	516

Table G-9
Disposal Trench Stockpile

	Characterization:				RCRA Haz (Lead)				Non-RCRA (Lead & Copper)			
	Sample Number:				15-144		15-145		15-146		15-147	
	Location:				DTS-SP58a		DTS-SP58b		DTS-59a		DTS-SP59b	
	Sample Date:				9/6/2007		9/6/2007		9/6/2007		9/6/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**								
EPA 901.1	Americium 241	pCi/g	NE	NE	0.05	U	-0.01	U	0.0028	U	0.052	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	-0.008	U	-0.017	U	0.0	U	0.0	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.003	U	0.0	U	0.0	U	0.0	U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.02	U	-0.01	U	-0.03	U	-0.02	U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.0	U	0.08	U	-0.02	U	0.02	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	8.2		6.5		6.0		7.8	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.49		0.57		0.53		0.6	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.24	U	0.25	U	0.2	U	0.24	U
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.48	J	0.5	J	0.93	J	0.97	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	N/A		N/A		N/A		-0.2	U
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	N/A		N/A		N/A		0.27	J
EPA 6020	Silver	mg/kg	50	100	2.4		2.5		2.8		2.2	
EPA 6020	Arsenic	mg/kg	50	100	10.2		5.8		7.9		9.3	
EPA 6020	Barium	mg/kg	1000	2000	157		187		161		173	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.18	J	0.19	J	0.2		0.21	
EPA 6020	Cadmium	mg/kg	10	20	19.2		19.6		21.1		19.6	
EPA 6020	Cobalt	mg/kg	800	NE	8.4		9.5		8.5		8.5	
EPA 6020	Chromium	mg/kg	50	100	66.1		74.5		85.5		83.3	
EPA 6020	Copper	mg/kg	250	NE	274		298		417		330	
EPA 6020	Molybdenum	mg/kg	3500	NE	3.1		3.3		4.2		4.4	
EPA 6020	Nickel	mg/kg	200	NE	81.2		87.6		74.3		68.6	
EPA 6020	Lead	mg/kg	50	100	562		598		598		576	
EPA 6020	Antimony	mg/kg	150	NE	23.3		15.6		19.2		19.7	
EPA 6020	Selenium	mg/kg	10	20	1	U	1	U	1	U	1	U
EPA 6020	Thallium	mg/kg	70	NE	0.17	J	0.6	U	0.6	U	0.6	U
EPA 6020	Vanadium	mg/kg	240	NE	26.2		26.4		25.5		25.6	
EPA 6020	Zinc	mg/kg	2500	NE	756		801		1060		971	
EPA 7471A	Mercury	mg/kg	20	40	0.33		0.32		0.41		0.53	
EPA 8260B	Acetone	µg/kg	NE	NE	NA		NA		NA		23	U
EPA 8260B	Benzene	µg/kg	NE	10000	NA		NA		NA		0.28	J
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	NA		NA		NA		5.8	U
EPA 8260B	Bromoform	µg/kg	NE	NE	NA		NA		NA		5.8	U
EPA 8260B	Bromomethane	µg/kg	NE	NE	NA		NA		NA		12	U
EPA 8260B	2-Butanone	µg/kg	NE	NE	NA		NA		NA		23	U
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	NA		NA		NA		5.8	U
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	NA		NA		NA		5.8	U
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	NA		NA		NA		5.8	U
EPA 8260B	Chloroethane	µg/kg	NE	NE	NA		NA		NA		12	U
EPA 8260B	Chloroform	µg/kg	NE	120000	NA		NA		NA		0.33	J

Table G-9
Disposal Trench Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA (Lead & Copper)		
	Sample Number:				15-144	15-145	15-146	15-147	
	Location:				DTS-SP58a	DTS-SP58b	DTS-59a	DTS-SP59b	
	Sample Date:				9/6/2007	9/6/2007	9/6/2007	9/6/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**					
EPA 8260B	Chloromethane	µg/kg	NE	NE	NA	NA	NA	12	U
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	NA	NA	NA	5.8	U
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	NA	NA	NA	5.8	U
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	NA	NA	NA	0.31	J
EPA 8260B	2-Hexanone	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	NA	NA	NA	7.9	JB
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	NA	NA	NA	23	U
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	Styrene	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	NA	NA	NA	5.8	U
EPA 8260B	Toluene	µg/kg	NE	NE	NA	NA	NA	1.1	J
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	NA	NA	NA	5.8	U
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	NA	NA	NA	0.85	J
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	NA	NA	NA	5.8	U
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	NA	NA	NA	1	J
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Pyridine	µg/kg	NE	100000	NA	NA	NA	760	U
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	NA	NA	NA	380	U
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	NA	NA	NA	380	U
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	NA	NA	NA	760	U
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	NA	NA	NA	380	U
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	NA	NA	NA	380	U
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	NA	NA	NA	380	U

Table G-9
Disposal Trench Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA (Lead & Copper)		
	Sample Number:				15-144	15-145	15-146	15-147	
	Location:				DTS-SP58a	DTS-SP58b	DTS-59a	DTS-SP59b	
	Sample Date:				9/6/2007	9/6/2007	9/6/2007	9/6/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**					
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Naphthalene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	NA	NA	NA	380	U
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	NA	NA	NA	380	U
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	NA	NA	NA	380	U
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Acenaphthene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	NA	NA	NA	52	J
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	NA	NA	NA	63	J
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	NA	NA	NA	380	U
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Fluorene	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Phenol	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Pyrene	µg/kg	NE	NE	NA	NA	NA	350	J
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	NA	NA	NA	380	U
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	NA	NA	NA	1800	U
EPA 8270C	Phenanthrene	µg/kg	NE	NE	NA	NA	NA	150	J
EPA 8270C	Anthracene	µg/kg	NE	NE	NA	NA	NA	98	J
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	NA	NA	NA	44	J
EPA 8270C	Fluoranthene	µg/kg	NE	NE	NA	NA	NA	340	J
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	NA	NA	NA	190	J
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	NA	NA	NA	1800	U
EPA 8270C	Chrysene	µg/kg	NE	NE	NA	NA	NA	370	J

Table G-9
Disposal Trench Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA (Lead & Copper)		
	Sample Number:				15-144	15-145	15-146	15-147	
	Location:				DTS-SP58a	DTS-SP58b	DTS-59a	DTS-SP59b	
	Sample Date:				9/6/2007	9/6/2007	9/6/2007	9/6/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**					
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	NA	NA	NA	180	J
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	NA	NA	NA	380	U
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	NA	NA	NA	310	J
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	NA	NA	NA	290	J
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	NA	NA	NA	290	J
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	NA	NA	NA	210	J
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	NA	NA	NA	270	J
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	NA	NA	NA	19	
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	NA	NA	NA	73	
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	NA	NA	NA	100	
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	NA	NA	NA	170	
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	NA	NA	NA	370	
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	NA	NA	NA	360	
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	NA	NA	NA	140	
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	NA	NA	NA	310	
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	NA	NA	NA	260	
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	NA	NA	NA	42	
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	NA	NA	NA	400	
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	NA	NA	NA	17	
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	NA	NA	NA	130	
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	NA	NA	NA	23	
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	NA	NA	NA	140	B
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	NA	NA	NA	270	
EPA 8015B	Gasoline	mg/kg	NE	NE	NA	NA	NA	0.12	U
EPA 8015B	Diesel	mg/kg	NE	NE	NA	NA	NA	290	U
EPA 8015B	Motor Oil	mg/kg	NE	NE	NA	NA	NA	260	JD
EPA 8081A	Aldrin	µg/kg	1400	NE	NA	NA	NA	20	U
EPA 8081A	alpha-BHC	µg/kg	NE	NE	NA	NA	NA	23	U
EPA 8081A	beta-BHC	µg/kg	NE	NE	NA	NA	NA	20	U
EPA 8081A	delta-BHC	µg/kg	NE	NE	NA	NA	NA	20	U
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	NA	NA	NA	20	U
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	NA	NA	NA	200	U
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	NA	NA	NA	20	U
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	NA	NA	NA	72	D
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	NA	NA	NA	20	U
EPA 8081A	Dieldrin	µg/kg	8000	NE	NA	NA	NA	20	U
EPA 8081A	Endosulfan I	µg/kg	NE	NE	NA	NA	NA	20	U
EPA 8081A	Endosulfan II	µg/kg	NE	NE	NA	NA	NA	20	U
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	NA	NA	NA	20	U

Table G-9
Disposal Trench Stockpile

	Characterization:				RCRA Haz (Lead)		Non-RCRA (Lead & Copper)	
	Sample Number:				15-144	15-145	15-146	15-147
	Location:				DTS-SP58a	DTS-SP58b	DTS-59a	DTS-SP59b
	Sample Date:				9/6/2007	9/6/2007	9/6/2007	9/6/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**				
EPA 8081A	Endrin	µg/kg	200	400	NA	NA	NA	20 U
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	NA	NA	NA	20 U
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	NA	NA	NA	20 U
EPA 8081A	Heptachlor	µg/kg	47000	160	NA	NA	NA	23 U
EPA 8081A	Heptachlor Epoxide	µg/kg	47000	NE	NA	NA	NA	20 U
EPA 8081A	Methoxychlor	µg/kg	100000	20000	NA	NA	NA	38 U
EPA 8081A	Toxaphene	µg/kg	5000	10000	NA	NA	NA	770 U
EPA 8082	Aroclor 1016	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8082	Aroclor 1221	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8082	Aroclor 1232	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8082	Aroclor 1242	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8082	Aroclor 1248	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8082	Aroclor 1254	µg/kg	NE	50000	NA	NA	NA	2500 D
EPA 8082	Aroclor 1260	µg/kg	NE	50000	NA	NA	NA	38 U
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	HMX	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	Nitrobenzene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	RDX	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	Tetryl	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	NA	NA	NA	290 U
EPA 6020	STLC Lead	µg/L	5000	N/A	30600	43300	33600	19600
EPA 6020	STLC Chromium	µg/L	5000	NA	924	1580	1210	622
EPA 6020	STLC Copper	µg/L	25000	N/A	26600	42900	50200	10700
EPA 6020	STLC Cadmium	µg/L	1000	N/A	1220	1550	1230	596
EPA 6020	TCLP Lead	µg/L	N/A	5000	6350	499	1010	327

Table G-10
Bedding Sand Stockpile

	Characterization:				Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCR	
	Sample Number:				15-128		15-129		15-130		15-131		15-132		15-133		15-134	
	Location:				BSS-SP50a		BSS-SP50b		BSS-SP51a		BSS-SP51b		BSS-SP52a		BSS-SP52b		BSS-SP53a	
	Sample Date:				8/30/2007		8/30/2007		8/30/2007		8/30/2007		8/30/2007		8/30/2007		8/30/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**														
EPA 901.1	Americium 241	pCi/g	NE	NE	0.013	U	0.047	U	-0.007	U	0.037	U	0.068	U	-0.01	U	-0.03	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.006	U	0.0	U	0.025	U	0.0	U	0.022	U	0.026	U	-0.015	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	-0.003	U	0.0007	U	0.0	U	0.006	U	0.0	U	0.0	U	0.025	U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.022	U	0.038	U	-0.023	U	-0.01	U	-0.00003	U	-0.03	U	-0.02	U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.006	U	0.09	U	-0.11	U	0.0	U	0.0	U	0.020	U	0.006	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	10.8		10		11.2		9.8		9.5		11.6		10.3	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.35		0.31		0.27		0.49		0.73		0.53		0.39	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.28		0.3		0.34		0.42		0.31	U	0.34		0.17	U
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.37	J	0.34	J	0.38	J	0.5	J	0.72	J	0.37	J	0.59	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	0.1	U	NA		NA		NA		NA		NA		NA	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	0.49	J	NA		NA		NA		NA		NA		NA	
EPA 6020	Silver	mg/kg	50	100	0.14	J	0.13	J	0.13	J	0.14	J	0.12	J	0.13	J	0.12	J
EPA 6020	Arsenic	mg/kg	50	100	2.7		3.1		3.1		3.1		2.5		2.8		3	
EPA 6020	Barium	mg/kg	1000	2000	94.9		164		108		86.9		56.8		67.2		170	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.17	J	0.19		0.17		0.17		0.17		0.17		0.19	
EPA 6020	Cadmium	mg/kg	10	20	0.83		0.61		0.89		0.82		0.86		0.99		0.67	
EPA 6020	Cobalt	mg/kg	800	NE	5		6.2		5.4		5.4		4.9		5.5		5.7	
EPA 6020	Chromium	mg/kg	50	100	26.2		28.1		27.9		30.8		26.7		27.4		29.2	
EPA 6020	Copper	mg/kg	250	NE	17.4		19.8		17.5		17.4		16.5		17.1		14.5	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.49	J	0.9		0.47	J	0.52		0.4	J	0.47	J	0.52	
EPA 6020	Nickel	mg/kg	200	NE	25.8		27.9		27.6		27.9		25.1		27.7		28.8	
EPA 6020	Lead	mg/kg	50	100	70.9		87.6		153		77.7		93.6		86.3		81.2	
EPA 6020	Antimony	mg/kg	150	NE	0.73		0.38	J	1.9		0.48	J	0.65		0.52		0.53	
EPA 6020	Selenium	mg/kg	10	20	0.17	J	0.17	J	0.29	J	0.5	U	0.5	U	0.5	U	0.2	J
EPA 6020	Thallium	mg/kg	70	NE	0.24	J	0.16	J	0.12	J	0.11	J	0.088	J	0.089	J	0.094	J
EPA 6020	Vanadium	mg/kg	240	NE	22.3		26.7		23.3		23.9		21.2		23		25.4	
EPA 6020	Zinc	mg/kg	2500	NE	36.9		36		38		37.1		35.9		37.5		51.3	
EPA 7471A	Mercury	mg/kg	2	4	0.18		0.068		0.081		0.069		0.083		0.076		0.054	
EPA 8260B	Acetone	µg/kg	NE	NE	20	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Benzene	µg/kg	NE	10000	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Bromoform	µg/kg	NE	NE	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Bromomethane	µg/kg	NE	NE	10	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	2-Butanone	µg/kg	NE	NE	20	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	5.1	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Chloroethane	µg/kg	NE	NE	10	U	NA		NA		NA		NA		NA		NA	
EPA 8260B	Chloroform	µg/kg	NE	120000	5.1	U	NA		NA		NA		NA		NA		NA	

Table G-10
Bedding Sand Stockpile

	Characterization:				Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)			Non-RCR
	Sample Number:				15-128	15-129	15-130	15-131	15-132	15-133	15-134	
	Location:				BSS-SP50a	BSS-SP50b	BSS-SP51a	BSS-SP51b	BSS-SP52a	BSS-SP52b	BSS-SP53a	
	Sample Date:				8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**								
EPA 8260B	Chloromethane	µg/kg	NE	NE	10	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	2-Hexanone	µg/kg	NE	NE	20	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	10	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	20	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Styrene	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Toluene	µg/kg	NE	NE	0.2	J	NA	NA	NA	NA	NA	NA
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	5.1	U	NA	NA	NA	NA	NA	NA
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	10	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Pyridine	µg/kg	NE	100000	670	U	NA	NA	NA	NA	NA	NA
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	670	U	NA	NA	NA	NA	NA	NA
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)			Non-RCR
	Sample Number:				15-128	15-129	15-130	15-131	15-132	15-133	15-134	
	Location:				BSS-SP50a	BSS-SP50b	BSS-SP51a	BSS-SP51b	BSS-SP52a	BSS-SP52b	BSS-SP53a	
	Sample Date:				8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**								
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Naphthalene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Acenaphthene	µg/kg	NE	NE	47	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	40	J	NA	NA	NA	NA	NA	NA
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Fluorene	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Phenol	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Pyrene	µg/kg	NE	NE	360		NA	NA	NA	NA	NA	NA
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Phenanthrene	µg/kg	NE	NE	200	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Anthracene	µg/kg	NE	NE	52	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Fluoranthene	µg/kg	NE	NE	410		NA	NA	NA	NA	NA	NA
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	340	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	240	J	NA	NA	NA	NA	NA	NA
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	1600	U	NA	NA	NA	NA	NA	NA
EPA 8270C	Chrysene	µg/kg	NE	NE	440		NA	NA	NA	NA	NA	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)			Non-RCR
	Sample Number:				15-128	15-129	15-130	15-131	15-132	15-133	15-134	
	Location:				BSS-SP50a	BSS-SP50b	BSS-SP51a	BSS-SP51b	BSS-SP52a	BSS-SP52b	BSS-SP53a	
	Sample Date:				8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**								
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	88	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	85	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	280	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	360		NA	NA	NA	NA	NA	NA
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	330	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	140	J	NA	NA	NA	NA	NA	NA
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	170	J	NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	46		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	11		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	51		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	220		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	290		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	340		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	120		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	340		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	310		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	49		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	490	E	NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	30		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	130		NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	5.8	J	NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	190	B	NA	NA	NA	NA	NA	NA
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	280		NA	NA	NA	NA	NA	NA
EPA 8015B	Gasoline	mg/kg	NE	NE	0.1	U	NA	NA	NA	NA	NA	NA
EPA 8015B	Diesel	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA
EPA 8015B	Motor Oil	mg/kg	NE	NE	310	D	NA	NA	NA	NA	NA	NA
EPA 8081A	Aldrin	µg/kg	1400	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	alpha-BHC	µg/kg	NE	NE	41	U	NA	NA	NA	NA	NA	NA
EPA 8081A	beta-BHC	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	delta-BHC	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	350	U	NA	NA	NA	NA	NA	NA
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Dieldrin	µg/kg	8000	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Endosulfan I	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Endosulfan II	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCRA (Lead)		Non-RCR
	Sample Number:				15-128	15-129	15-130	15-131	15-132	15-133	15-134		
	Location:				BSS-SP50a	BSS-SP50b	BSS-SP51a	BSS-SP51b	BSS-SP52a	BSS-SP52b	BSS-SP53a		
	Sample Date:				8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007		
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**									
EPA 8081A	Endrin	µg/kg	200	400	35	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	35	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Heptachlor	µg/kg	47000	160	41	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Heptachlor Epoxide	µg/kg	47000	NE	35	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Methoxychlor	µg/kg	100000	20000	67	U	NA	NA	NA	NA	NA	NA	
EPA 8081A	Toxaphene	µg/kg	5000	10000	1400	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1016	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1221	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1232	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1242	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1248	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1254	µg/kg	NE	50000	34	U	NA	NA	NA	NA	NA	NA	
EPA 8082	Aroclor 1260	µg/kg	NE	50000	49		NA	NA	NA	NA	NA	NA	
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	HMX	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	Nitrobenzene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	RDX	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	Tetryl	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	250	U	NA	NA	NA	NA	NA	NA	
EPA 6020	STLC Lead	µg/L	5000	N/A	7340		2490	J	11500		4800	5320	7950	21700
EPA 6020	STLC Copper	µg/L	25000	N/A	NA		NA		NA		NA	NA	NA	NA
EPA 6020	STLC Cadmium	µg/L	1000	N/A	NA		NA		NA		NA	NA	NA	NA
EPA 6020	STLC Chromium	µg/L	5000	NA	NA		NA		NA		NA	NA	NA	NA
EPA 6020	TCLP Lead	µg/L	N/A	5000	NA		NA		550		NA	NA	NA	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				?A (Lead)	
	Sample Number:				15-135	
	Location:				BSS-SP53b	
	Sample Date:				8/30/2007	
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**		
EPA 901.1	Americium 241	pCi/g	NE	NE	-0.0003	U
EPA 901.1	Cesium 137	pCi/g	NE	NE	0.035	U
EPA 901.1	Cobalt 60	pCi/g	NE	NE	0.0	U
EPA 901.1	Europium 152	pCi/g	NE	NE	-0.014	U
EPA 901.1	Europium 154	pCi/g	NE	NE	0.1	U
EPA 901.1	Potassium 40	pCi/g	NE	NE	11.4	
EPA 901.1	Radium 226 (3 Day)	pCi/g	NE	NE	0.29	
EPA 901.1	Thorium 232	pCi/g	NE	NE	0.31	
DOE GA-01-R	Radium 226 (21 Day)	pCi/g	NE	NE	0.51	J
DOE SR-03-RC MOD	Strontium 90	pCi/g	NE	NE	NA	
DOE A-01-R U MOD	Uranium 238	pCi/g	NE	NE	NA	
EPA 6020	Silver	mg/kg	50	100	0.091	J
EPA 6020	Arsenic	mg/kg	50	100	2.4	
EPA 6020	Barium	mg/kg	1000	2000	49.9	
EPA 6020	Beryllium	mg/kg	7.5	NE	0.16	
EPA 6020	Cadmium	mg/kg	10	20	0.58	
EPA 6020	Cobalt	mg/kg	800	NE	6.8	
EPA 6020	Chromium	mg/kg	50	100	27	
EPA 6020	Copper	mg/kg	250	NE	12.4	
EPA 6020	Molybdenum	mg/kg	3500	NE	0.37	J
EPA 6020	Nickel	mg/kg	200	NE	40.4	
EPA 6020	Lead	mg/kg	50	100	45.8	
EPA 6020	Antimony	mg/kg	150	NE	0.3	J
EPA 6020	Selenium	mg/kg	10	20	0.5	U
EPA 6020	Thallium	mg/kg	70	NE	0.081	J
EPA 6020	Vanadium	mg/kg	240	NE	25.2	
EPA 6020	Zinc	mg/kg	2500	NE	32.1	
EPA 7471A	Mercury	mg/kg	2	4	0.077	
EPA 8260B	Acetone	µg/kg	NE	NE	NA	
EPA 8260B	Benzene	µg/kg	NE	10000	NA	
EPA 8260B	Bromodichloromethane	µg/kg	NE	NE	NA	
EPA 8260B	Bromoform	µg/kg	NE	NE	NA	
EPA 8260B	Bromomethane	µg/kg	NE	NE	NA	
EPA 8260B	2-Butanone	µg/kg	NE	NE	NA	
EPA 8260B	Carbon Tetrachloride	µg/kg	NE	10000	NA	
EPA 8260B	Chlorobenzene	µg/kg	NE	2000000	NA	
EPA 8260B	Dibromochloromethane	µg/kg	NE	NE	NA	
EPA 8260B	Chloroethane	µg/kg	NE	NE	NA	
EPA 8260B	Chloroform	µg/kg	NE	120000	NA	

Table G-10
Bedding Sand Stockpile

	Characterization:				CA (Lead)
	Sample Number:				15-135
	Location:				BSS-SP53b
	Sample Date:				8/30/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8260B	Chloromethane	µg/kg	NE	NE	NA
EPA 8260B	1,1-Dichloroethane	µg/kg	NE	NE	NA
EPA 8260B	1,2-Dichloroethane	µg/kg	NE	10000	NA
EPA 8260B	cis-1,2-Dichloroethane	µg/kg	NE	NE	NA
EPA 8260B	trans-1,2-Dichloroethane	µg/kg	NE	NE	NA
EPA 8260B	1,1-Dichloroethene	µg/kg	NE	14000	NA
EPA 8260B	1,2-Dichloropropane	µg/kg	NE	NE	NA
EPA 8260B	cis-1,3-Dichloropropene	µg/kg	NE	NE	NA
EPA 8260B	trans-1,3-dichloropropene	µg/kg	NE	NE	NA
EPA 8260B	Ethylbenzene	µg/kg	NE	NE	NA
EPA 8260B	2-Hexanone	µg/kg	NE	NE	NA
EPA 8260B	Methylene Chloride	µg/kg	NE	NE	NA
EPA 8260B	Methyl Isobutyl Ketone	µg/kg	NE	NE	NA
EPA 8260B	Methyl tert-butyl ether	µg/kg	NE	NE	NA
EPA 8260B	Styrene	µg/kg	NE	NE	NA
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/kg	NE	NE	NA
EPA 8260B	Tetrachloroethene	µg/kg	NE	14000	NA
EPA 8260B	Toluene	µg/kg	NE	NE	NA
EPA 8260B	1,1,1-Trichloroethane	µg/kg	NE	NE	NA
EPA 8260B	1,1,2-Trichloroethane	µg/kg	NE	NE	NA
EPA 8260B	Trichloroethene	µg/kg	2040000	10000	NA
EPA 8260B	Vinyl Chloride	µg/kg	NE	4000	NA
EPA 8260B	Xylenes (Total)	µg/kg	NE	NE	NA
EPA 8270C	2-Chloronaphthalene	µg/kg	NE	NE	NA
EPA 8270C	Pyridine	µg/kg	NE	100000	NA
EPA 8270C	bis(2-Chloroethyl)-ether	µg/kg	NE	NE	NA
EPA 8270C	2-Chlorophenol	µg/kg	NE	NE	NA
EPA 8270C	1,3-Dichlorobenzene	µg/kg	NE	NE	NA
EPA 8270C	1,4-Dichlorobenzene	µg/kg	NE	150000	NA
EPA 8270C	1,2-Dichlorobenzene	µg/kg	NE	NE	NA
EPA 8270C	2-Methylphenol	µg/kg	NE	4000000	NA
EPA 8270C	3-&4-Methylphenol	µg/kg	NE	4000000	NA
EPA 8270C	bis(2-Chloroisoproply)ether	µg/kg	NE	NE	NA
EPA 8270C	N-nitrosodi-n-propylamine	µg/kg	NE	NE	NA
EPA 8270C	Hexachloroethane	µg/kg	NE	60000	NA
EPA 8270C	Nitrobenzene	µg/kg	NE	40000	NA
EPA 8270C	2-Nitrophenol	µg/kg	NE	NE	NA
EPA 8270C	2,4-Dimethylphenol	µg/kg	NE	NE	NA
EPA 8270C	bis(2-Chlorethoxy)methane	µg/kg	NE	NE	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				RA (Lead)
	Sample Number:				15-135
	Location:				BSS-SP53b
	Sample Date:				8/30/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8270C	2,4-Dichlorophenol	µg/kg	NE	NE	NA
EPA 8270C	1,2,4-Trichlorobenzene	µg/kg	NE	NE	NA
EPA 8270C	Naphthalene	µg/kg	NE	NE	NA
EPA 8270C	4-Chloroaniline	µg/kg	NE	NE	NA
EPA 8270C	Hexachlorobutadiene	µg/kg	NE	10000	NA
EPA 8270C	4-Chloro-3-methylphenol	µg/kg	NE	NE	NA
EPA 8270C	Hexachlorocyclopentadiene	µg/kg	NE	NE	NA
EPA 8270C	2,4,6-Trichlorophenol	µg/kg	NE	40000	NA
EPA 8270C	2,4,5-Trichlorophenol	µg/kg	NE	8000000	NA
EPA 8270C	2-Nitroaniline	µg/kg	NE	NE	NA
EPA 8270C	Dimethyl phthalate	µg/kg	NE	NE	NA
EPA 8270C	Acenaphthene	µg/kg	NE	NE	NA
EPA 8270C	Acenaphthylene	µg/kg	NE	NE	NA
EPA 8270C	2,6-Dinitrotoluene	µg/kg	NE	NE	NA
EPA 8270C	3-Nitroaniline	µg/kg	NE	NE	NA
EPA 8270C	2,4-Dinitrophenol	µg/kg	NE	NE	NA
EPA 8270C	4-Nitrophenol	µg/kg	NE	NE	NA
EPA 8270C	Dibenzofuran	µg/kg	NE	NE	NA
EPA 8270C	Dibenz(a,h)anthracene	µg/kg	NE	NE	NA
EPA 8270C	2,4-Dinitrotoluene	µg/kg	NE	2600	NA
EPA 8270C	Diethyl phthalate	µg/kg	NE	NE	NA
EPA 8270C	Fluorene	µg/kg	NE	NE	NA
EPA 8270C	4-Chlorophenyl phenyl ether	µg/kg	NE	NE	NA
EPA 8270C	4-Nitroaniline	µg/kg	NE	NE	NA
EPA 8270C	4,6-Dinitro-2-methylphenol	µg/kg	NE	NE	NA
EPA 8270C	N-Nitrosodiphenylamine	µg/kg	NE	NE	NA
EPA 8270C	Phenol	µg/kg	NE	NE	NA
EPA 8270C	Pyrene	µg/kg	NE	NE	NA
EPA 8270C	4-Bromophenyl phenylether	µg/kg	NE	NE	NA
EPA 8270C	Hexachlorobenzene	µg/kg	NE	2600	NA
EPA 8270C	Pentachlorophenol	µg/kg	17000	2000000	NA
EPA 8270C	Phenanthrene	µg/kg	NE	NE	NA
EPA 8270C	Anthracene	µg/kg	NE	NE	NA
EPA 8270C	Di-n-butyl phthalate	µg/kg	NE	NE	NA
EPA 8270C	Fluoranthene	µg/kg	NE	NE	NA
EPA 8270C	Butyl benzyl phthalate	µg/kg	NE	NE	NA
EPA 8270C	Benzo (a) anthracene	µg/kg	NE	NE	NA
EPA 8270C	3,3'-Dichlorobenzidine	µg/kg	NE	NE	NA
EPA 8270C	Chrysene	µg/kg	NE	NE	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				CA (Lead)
	Sample Number:				15-135
	Location:				BSS-SP53b
	Sample Date:				8/30/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8270C	bis(2-Ethylhexyl)phthalate	µg/kg	NE	NE	NA
EPA 8270C	Di-n-octyl phthalate	µg/kg	NE	NE	NA
EPA 8270C	Benzo (b) fluoranthene	µg/kg	NE	NE	NA
EPA 8270C	Benzo (k) fluoranthene	µg/kg	NE	NE	NA
EPA 8270C	Benzo (a) pyrene	µg/kg	NE	NE	NA
EPA 8270C	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	NA
EPA 8270C	Benzo (ghi) perylene	µg/kg	NE	NE	NA
EPA 8270C SIM	Acenaphthene	µg/kg	NE	NE	NA
EPA 8270C SIM	Acenaphthylene	µg/kg	NE	NE	NA
EPA 8270C SIM	Anthracene	µg/kg	NE	NE	NA
EPA 8270C SIM	Benzo (a) anthracene	µg/kg	NE	NE	NA
EPA 8270C SIM	Benzo (b) fluoranthene	µg/kg	NE	NE	NA
EPA 8270C SIM	Benzo (k) fluoranthene	µg/kg	NE	NE	NA
EPA 8270C SIM	Benzo (ghi) perylene	µg/kg	NE	NE	NA
EPA 8270C SIM	Benzo (a) pyrene	µg/kg	NE	NE	NA
EPA 8270C SIM	Chrysene	µg/kg	NE	NE	NA
EPA 8270C SIM	Dibenz (a,h) anthracene	µg/kg	NE	NE	NA
EPA 8270C SIM	Fluoranthene	µg/kg	NE	NE	NA
EPA 8270C SIM	Fluorene	µg/kg	NE	NE	NA
EPA 8270C SIM	Indeno (1,2,3-cd) pyrene	µg/kg	NE	NE	NA
EPA 8270C SIM	Naphthalene	µg/kg	NE	NE	NA
EPA 8270C SIM	Phenanthrene	µg/kg	NE	NE	NA
EPA 8270C SIM	Pyrene	µg/kg	NE	NE	NA
EPA 8015B	Gasoline	mg/kg	NE	NE	NA
EPA 8015B	Diesel	mg/kg	NE	NE	NA
EPA 8015B	Motor Oil	mg/kg	NE	NE	NA
EPA 8081A	Aldrin	µg/kg	1400	NE	NA
EPA 8081A	alpha-BHC	µg/kg	NE	NE	NA
EPA 8081A	beta-BHC	µg/kg	NE	NE	NA
EPA 8081A	delta-BHC	µg/kg	NE	NE	NA
EPA 8081A	Lindane (gamma-BHC)	µg/kg	4000	8000	NA
EPA 8081A	Chlordane (technical)	µg/kg	2500	NE	NA
EPA 8081A	4,4'-DDD	µg/kg	1000	NE	NA
EPA 8081A	4,4'-DDE	µg/kg	1000	NE	NA
EPA 8081A	4,4'-DDT	µg/kg	1000	NE	NA
EPA 8081A	Dieldrin	µg/kg	8000	NE	NA
EPA 8081A	Endosulfan I	µg/kg	NE	NE	NA
EPA 8081A	Endosulfan II	µg/kg	NE	NE	NA
EPA 8081A	Endosulfan sulfate	µg/kg	NE	NE	NA

Table G-10
Bedding Sand Stockpile

	Characterization:				?A (Lead)
	Sample Number:				15-135
	Location:				BSS-SP53b
	Sample Date:				8/30/2007
Method	**Analyte**	**Units**	**STLC Limits**	**TCLP Limits**	
EPA 8081A	Endrin	µg/kg	200	400	NA
EPA 8081A	Endrin Aldehyde	µg/kg	NE	NE	NA
EPA 8081A	Endrin Ketone	µg/kg	NE	NE	NA
EPA 8081A	Heptachlor	µg/kg	47000	160	NA
EPA 8081A	Heptachlor Epoxide	µg/kg	47000	NE	NA
EPA 8081A	Methoxychlor	µg/kg	100000	20000	NA
EPA 8081A	Toxaphene	µg/kg	5000	10000	NA
EPA 8082	Aroclor 1016	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1221	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1232	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1242	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1248	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1254	µg/kg	NE	50000	NA
EPA 8082	Aroclor 1260	µg/kg	NE	50000	NA
EPA 8330	2,4,6-Trinitrotoluene	mg/kg	NE	NE	NA
EPA 8330	4-Amino-2,6-dinitrotoluene	mg/kg	NE	NE	NA
EPA 8330	2-Amino-4,6-dinitrotoluene	mg/kg	NE	NE	NA
EPA 8330	1,3-Dinitrobenzene	mg/kg	NE	NE	NA
EPA 8330	2,4-Dinitrotoluene	mg/kg	NE	NE	NA
EPA 8330	2,6-Dinitrotoluene	mg/kg	NE	NE	NA
EPA 8330	HMX	mg/kg	NE	NE	NA
EPA 8330	Nitrobenzene	mg/kg	NE	NE	NA
EPA 8330	2-Nitrotoluene	mg/kg	NE	NE	NA
EPA 8330	3-Nitrotoluene	mg/kg	NE	NE	NA
EPA 8330	4-Nitrotoluene	mg/kg	NE	NE	NA
EPA 8330	RDX	mg/kg	NE	NE	NA
EPA 8330	Tetryl	mg/kg	NE	NE	NA
EPA 8330	1,3,5-Trinitrobenzene	mg/kg	NE	NE	NA
EPA 6020	STLC Lead	µg/L	5000	N/A	NA
EPA 6020	STLC Copper	µg/L	25000	N/A	NA
EPA 6020	STLC Cadmium	µg/L	1000	N/A	NA
EPA 6020	STLC Chromium	µg/L	5000	NA	NA
EPA 6020	TCLP Lead	µg/L	N/A	5000	NA

APPENDIX H

INSTRUMENT CALIBRATION AND PERFORMANCE CHECK DATA
(Available on CD only)

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Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

10/25/2007

Calibration Certificate for 43-93,Serial # PR244487, Bar Code # ,Property # SEC-6461

Date: 10/25/07 Date Last Cal. Expires: Technician: David Moyer

Location: 9999, Reason For Calibration: Due for Calibration

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 145478 CAL DUE 10/25/08

MODEL: SERIAL #: CAL DUE

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
	4049-02	Th-230	30300 dpm	15,400 cpm	10/17/2005
	4050-02	Tc-99	36600 dpm	22,900 cpm	10/13/2005
	4052-02	Sr-90	22400 dpm	15,700 cpm	10/13/2005
	99PU470-0268	Pu-239	15400 dpm	7,820 cpm	9/26/2006

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

Efficiencies from last calibration	
Pu:	%
Tc:	%
Th:	%
SrY:	%

Back ground:	Alpha CPM	Beta CPM	A-B XTLK
Pu-239:	CPM	CPM	
Tc-99:	CPM	CPM	
Th-230:	CPM	N/A	
SrY-90:	N/A	CPM	

AS FOUND Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

☐ Is the As Found Data Within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair or HV adjust

HV : V

Back ground:	Alpha CPM	Beta CPM	A-B XTLK
Pu-239:	CPM	CPM	
Tc-99:	CPM	CPM	
Th-230:	CPM	N/A	
SrY-90:	N/A	CPM	

AS LEFT Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

Reproducibility : Isotope: Sr-90 8016 8103 7928 Average: 8015.7 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified. Calibrated with a 5 foot cable unless otherwise specified.

PLATEAU DATA

Source 1: Sr-90 Source 2: Pu-239

High Voltage	Response (CPM) A ch.	B ch.	Net Eff.	Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
830	32	7353	32.00%	3366	312	21.86%	0	184	3.80%
840	25	7549	32.84%	3378	357	21.94%	0	193	4.85%
850	34	7728	33.68%	3453	402	22.42%	0	184	6.31%
860	39	7954	34.56%	3631	517	23.58%	0	213	8.37%
870	33	8043	34.76%	3510	591	22.79%	1	257	9.52%
880	35	8192	35.38%	3539	616	22.98%	0	268	9.83%

	Alpha	Beta		Pu-239	Tc-99	Th-230	SrY-90
Background:	0	274	870	3515 CPM	6476 CPM	6060 CPM	8204 CPM
AL Efficiencies:				22.82%	16.95%	20.00%	35.40%

Comments: Married as a set with: Model: 2360 Serial #: 145478 Bar Code #:

Initial calibration.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: Reviewed by: Date: 10/25/07

Printed Name: David Moyer

Entered in Computer Inventory By: Date: 10.25.07

Safety and Ecology Corporation
2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE #

10/25/2007

Calibration Certificate for 2360,Serial # 145478, Bar Code # ,Property # SEC-5844

Date: 10/25/07 **Date Last Cal. Expires:** 03/03/07 **Technician:** David Moyer

Location: 9999, **Reason For Calibration:** Due for Calibration

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 **SERIAL #:** 209797 **CAL DUE:** 01/24/08

MODEL: **SERIAL #:** **CAL DUE:**

AS FOUND DATA

Geotropism: SAT **AS FOUND Instrument Condition:** UNSAT **AS LEFT Instrument Condition:** SAT

☐ New Batteries? **Battery Check:** SAT **AS FOUND Mechanical Zero:** 0 **AS LEFT Mechanical Zero:** 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	520 V	515 V
1000 V:	1010 V	1000 V
1500 V:	1500 V	1485 V
AF HV Setting:	610 V	AL HV Setting: 870 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.3 mV	4 mV
BW (40 mV +/- 4 mV):	41 mV	40 mV
AT (120 mV +/- 10 mV):	122 mV	120 mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2499	% ERR: 0.04%	AL 2500:	AF	% ERR: 0.04%
AF 25K:	24.99 K	% ERR: 0.04%	AL 25K:	AF K	% ERR: 0.04%
AF 250K:	249.8 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: **Married as a set with:** **Model:** 43-93 **Serial #:** PR244487 **Bar Code #:**

Repaired hv circuit.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: _____ **Reviewed by:** _____ **Date:** 10/25/07

Printed Name: David Moyer

Entered in Computer Inventory By: _____ **Date:** 10.25.07

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE #

10/25/2007

Calibration Certificate for 43-93,Serial # PR244488, Bar Code # ,Property # SEC-6464

Date: 10/25/07 Date Last Cal. Expires: Technician: David Moyer

Location: 9999, Reason For Calibration: Due for Calibration

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 133663 CAL DUE 10/25/08

MODEL: SERIAL #: CAL DUE

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
	4049-02	Th-230	30300 dpm	15,400 cpm	10/17/2005
	4050-02	Tc-99	36600 dpm	22,900 cpm	10/13/2005
	4052-02	Sr-90	22400 dpm	15,700 cpm	10/13/2005
	99PU470-0268	Pu-239	15400 dpm	7,820 cpm	9/26/2006

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

Efficiencies from last calibration	
Pu:	%
Tc:	%
Th:	%
SrY:	%

	Alpha	Beta		
Back ground:	CPM	CPM	A-B XTLK	
Pu-239:	CPM	CPM		
Tc-99:	CPM	CPM		
Th-230:	CPM	N/A		
SrY-90:	N/A	CPM		

AS FOUND Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

☐ Is the As Found Data Within 20% of the efficiency from the last cal.?

AS LEFT DATA

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair or HV adjust

HV : V

	Alpha	Beta		
Back ground:	CPM	CPM	A-B XTLK	
Pu-239:	CPM	CPM		
Tc-99:	CPM	CPM		
Th-230:	CPM	N/A		
SrY-90:	N/A	CPM		

AS LEFT Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

Reproducibility : Isotope: Sr-90 7739 7974 7728 Average: 7813.7 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified. Calibrated with a 5 foot cable unless otherwise specified.

PLATEAU DATA

Source 1: Sr-90 Source 2: Pu-239

High Voltage	Response (CPM) A ch.	B ch.	Net Eff.	Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
790	19	7216	31.30%	3467	346	22.51%	0	205	4.07%
800	25	7510	32.68%	3417	393	22.19%	0	189	5.97%
810	29	7823	33.86%	3417	416	22.19%	0	238	5.21%
820	44	7970	34.51%	3442	498	22.35%	0	239	7.52%
830	28	7805	33.73%	3398	525	22.06%	0	250	8.09%
840	38	7961	34.41%	3528	664	22.91%	0	254	11.62%

	Alpha	Beta		Pu-239	Tc-99	Th-230	SrY-90
Background:	0	210	820	3458 CPM	6334 CPM	5951 CPM	7800 CPM
AL Efficiencies:				22.45%	16.73%	19.64%	33.88%

Comments: Married as a set with: Model: 2360 Serial #: 133663 Bar Code #:

Initial calibration.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: Printed Name: David Moyer Reviewed by: Date: 10/25/07

Entered in Computer Inventory By: Date: 10.25.07

Safety and Ecology Corporation
2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE #

10/25/2007

Calibration Certificate for 2360,Serial # 133663, Bar Code # ,Property # SEC-5909

Date: 10/25/07 **Date Last Cal. Expires:** **Technician:** David Moyer

Location: 9999, **Reason For Calibration:** Due and Repair

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 **SERIAL #:** 209797 **CAL DUE:** 01/24/08

MODEL: **SERIAL #:** **CAL DUE:**

AS FOUND DATA

Geotropism: SAT **AS FOUND Instrument Condition:** UNSAT **AS LEFT Instrument Condition:** SAT

☒ New Batteries? **Battery Check:** SAT **AS FOUND Mechanical Zero:** 0 **AS LEFT Mechanical Zero:** 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	635 V	515 V
1000 V:	1250 V	1000 V
1500 V:	1875 V	1500 V
AF HV Setting:	1008 V	AL HV Setting: 820 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.2 mV	4 mV
BW (40 mV +/- 4 mV):	39 mV	AF mV
AT (120 mV +/- 10 mV):	122 mV	120 mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	245	2.00%	250	0.00%
	400	390	2.50%	400	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2450	2.00%	2500	0.00%
	4000	3900	2.50%	4000	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	24.5	2.00%	25	0.00%
	40K	39	2.50%	40	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	245	2.00%	250	0.00%
	400K	390	2.50%	400	0.00%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	**% ERR:**	0.00%	**AL 250:**	AF	**% ERR:**	0.00%
AF 2500:	2499	**% ERR:**	0.04%	**AL 2500:**	AF	**% ERR:**	0.04%
AF 25K:	24.99 K	**% ERR:**	0.04%	**AL 25K:**	AF K	**% ERR:**	0.04%
AF 250K:	249.8 K	**% ERR:**	0.08%	**AL 250K:**	AF K	**% ERR:**	0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: **Married as a set with:** **Model:** 43-93 **Serial #:** PR244488 **Bar Code #:**

Replaced missing alarm led.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: _____ **Reviewed by:** _____ **Date:** 10/25/07

Printed Name: David Moyer

Entered in Computer Inventory By: _____ **Date:** 10.25.07

SEC PROCEDURE #

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

10/25/2007

Calibration Certificate for 43-93,Serial # PR244486, Bar Code # ,Property # SEC-6465

Date: 10/25/07 Date Last Cal. Expires: Technician: Carl Hall

Location: 9999, Reason For Calibration: Due for Calibration

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 138261 CAL DUE 10/25/08

MODEL: SERIAL #: CAL DUE

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
	5744-06	Sr-90	21700 dpm	15,200 cpm	12/6/2006
	5746-06	Tc-99	34000 dpm	21,200 cpm	12/7/2006
	5747-06	Pu-239	27700 dpm	14,100 cpm	12/6/2006
	5748-06	Th-230	34700 dpm	17,600 cpm	12/6/2006

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : V

Threshold Beta: 3.5 - 36.8 mV Alpha: 120 mV

Efficiencies from last calibration	
Pu:	%
Tc:	%
Th:	%
SrY:	%

	Alpha		Beta		
Back ground:		CPM		CPM	A-B XTLK
Pu-239:		CPM		CPM	
Tc-99:		CPM		CPM	
Th-230:		CPM	N/A		
SrY-90:	N/A			CPM	

AS FOUND Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

☐ Is the As Found Data Within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair or HV adjust

HV : V

	Alpha		Beta		
Back ground:		CPM		CPM	A-B XTLK
Pu-239:		CPM		CPM	
Tc-99:		CPM		CPM	
Th-230:		CPM	N/A		
SrY-90:	N/A			CPM	

AS LEFT Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

Reproducibility : Isotope: Sr-90 7584 7625 7649 Average: 7619.3 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified. Calibrated with a 5 foot cable unless otherwise specified.

PLATEAU DATA

Source 1: Tc-99 Source 2: Pu-239

High Voltage	Response (CPM) A ch.	B ch.	Net Eff.	Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
700	7	6628	19.01%	6301	765	22.75%	0	166	9.51%
725	9	6969	19.92%	6535	887	23.59%	0	197	10.56%
750	3	8263	23.54%	6631	1245	23.94%	1	258	14.89%

	Alpha	Beta		Pu-239	Tc-99	Th-230	SrY-90
Background:	0	194	725	6548 CPM	6983 CPM	7217 CPM	7623 CPM
AL Efficiencies:				23.64%	19.97%	20.80%	34.24%

Comments: Married as a set with: Model: 2360 Serial #: 138261 Bar Code #:

Initial calibration.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: Reviewed by: Date: 10.25.07

Printed Name: Carl Hall

Entered in Computer Inventory By: Date: 10/25/07

Safety and Ecology Corporation
2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE #

10/25/2007

Calibration Certificate for 2360,Serial # 138261, Bar Code # ,Property # SEC-5494

Date: 10/25/07 **Date Last Cal. Expires:** 03/08/08 **Technician:** Carl Hall

Location: 117611, **Reason For Calibration:** Due for Calibration

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 **SERIAL #:** 132896 **CAL DUE:** 02/09/08

MODEL: **SERIAL #:** **CAL DUE:**

AS FOUND DATA

Geotropism: SAT **AS FOUND Instrument Condition:** SAT **AS LEFT Instrument Condition:** SAT

☐ New Batteries? **Battery Check:** SAT **AS FOUND Mechanical Zero:** 0 **AS LEFT Mechanical Zero:** 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	530 V	515 V
1000 V:	1018 V	1000 V
1500 V:	1505 V	1477 V
AF HV Setting:	864 V	AL HV Setting: 725 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	3.6 mV	3.5 mV
BW (40 mV +/- 4 mV):	36.8 mV	36.8 mV
AT (120 mV +/- 10 mV):	128 mV	120 mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	95	5.00%	AF	5.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	950	5.00%	AF	5.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	9.5	5.00%	AF	5.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	95	5.00%	AF	5.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	**% ERR:** 0.00%	**AL 250:**	AF	**% ERR:** 0.00%
AF 2500:	2502	**% ERR:** 0.08%	**AL 2500:**	AF	**% ERR:** 0.08%
AF 25K:	25.02 K	**% ERR:** 0.08%	**AL 25K:**	AF K	**% ERR:** 0.08%
AF 250K:	250.2 K	**% ERR:** 0.08%	**AL 250K:**	AF K	**% ERR:** 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: Married as a set with: **Model:** 43-93 **Serial #:** PR244486 **Bar Code #:**

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: _____ **Reviewed by:** _____ **Date:** 10.25.07

Printed Name: Carl Hall

Entered in Computer Inventory By: _____ **Date:** 10/25/07

SEC PROCEDURE #

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

10/25/2007

Calibration Certificate for 43-93,Serial # PR244501, Bar Code # ,Property # SEC-6462

Date: 10/25/07 Date Last Cal. Expires: Technician: Carl Hall

Location: 9999, Reason For Calibration: Due for Calibration

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 193637 CAL DUE 10/25/08

MODEL: SERIAL #: CAL DUE

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
	5744-06	Sr-90	21700 dpm	15,200 cpm	12/6/2006
	5746-06	Tc-99	34000 dpm	21,200 cpm	12/7/2006
	5747-06	Pu-239	27700 dpm	14,100 cpm	12/6/2006
	5748-06	Th-230	34700 dpm	17,600 cpm	12/6/2006

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : V

Threshold Beta: 3.5 - 40 mV Alpha: 120 mV

Efficiencies from last calibration	
Pu:	%
Tc:	%
Th:	%
SrY:	%

	Alpha		Beta	
Back ground:		CPM		CPM A-B XTLK
Pu-239:		CPM		CPM
Tc-99:		CPM		CPM
Th-230:		CPM	N/A	
SrY-90:	N/A			CPM

AS FOUND Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

☐ Is the As Found Data Within 20% of the efficiency from the last cal.?

AS LEFT DATA

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair or HV adjust

HV : V

	Alpha		Beta	
Back ground:		CPM		CPM A-B XTLK
Pu-239:		CPM		CPM
Tc-99:		CPM		CPM
Th-230:		CPM	N/A	
SrY-90:	N/A			CPM

AS LEFT Efficiencies: Pu-239: Tc-99: Th-230: SrY-90:

Reproducibility : Isotope: Sr-90 7786 7856 7816 Average: 7819.3 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified. Calibrated with a 5 foot cable unless otherwise specified.

PLATEAU DATA

Source 1: Tc-99 Source 2: Pu-239

High Voltage	Response (CPM) A ch.	B ch.	Net Eff.	Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
750	3	6213	17.74%	6027	702	21.76%	0	183	8.61%
775	6	6578	18.74%	6257	763	22.59%	0	207	8.89%
800	4	7811	22.32%	6373	1309	23.01%	0	221	17.07%
825	14	8661	24.75%	6334	1413	22.87%	0	246	18.42%

	Alpha	Beta		Pu-239	Tc-99	Th-230	SrY-90
Background:	0	212	775	6272 CPM	6611 CPM	7067 CPM	7827 CPM
AL Efficiencies:				22.64%	18.82%	20.37%	35.09%

Comments: Married as a set with: Model: 2360 Serial #: 193637 Bar Code #:

Initial calibration.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 10/25/08

Performed by: Reviewed by: Date: 10.25.07

Printed Name: Carl Hall

Entered in Computer Inventory By: Date: 10/25/07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 43-10-1 Serial No.: PR126405

Counter Mfg.: Ludlum Model: 2929 Serial No.: 121870

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Alpha Threshold: 170 mV Beta Threshold: 4 mV Beta Window: 50 mV

Geometry / Distance to source: In planchett Cable Length: ☑ 39 inch ☐ Other: _____

Alpha Source: ☑ Th230 @ 13,300 dpm (1/19/07) sn: 4098-03 ☐ Other: _____

Beta Source: ☑ Tc99 @ 17,800 dpm (1/15/07) sn: 4099-03 ☐ Other: _____

Count Time: 1 minute(s)

High Voltage	Alpha Source Counts		Beta Source Counts		Background Counts		Pot. Setting
	Alpha	Beta	Alpha	Beta	Alpha	Beta	
700	2915	349	3	370	2	10	2.86
750	4003	260	4	831	1	31	3.06
800	4441	263	2	1427	0	48	3.26
850	4646	279	8	2064	0	58	3.46
900	4633	333	9	2866	3	60	3.66
950	4653	531	4	3799	0	86	3.86

Comments: Recommended Operating High Voltage: 900 volts

Calibrated By: _____ Calibration Date: 10-24-07

Calibration Due: 10-24-08

Reviewed By: _____ Date: 10/24/07

Certificate of Calibration

2 Channel Scaler Certificate of Calibration

Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2929 Serial No.: 121870

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: 97743 ☐ 201932 ☑

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☐ Meter Zeroed ☐ Geotropism ck. ☐ F/S Response ck. ☑ Audio ck.

☐ THR/WIN ck. High Voltage ck. ☑ 500v ☑ 1000v ☑ 1500v ☐ Battery ck. (min 4.4 vdc)

Alpha Threshold.: 170 mV Beta Threshold.: 4 mV Beta Window.: 50 mV

Voltage setting: 900 volts = 3.66 on HV Dial (Pot.)

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Setting	Alpha Channel Digital Readout		Beta Channel Digital Readout	
	Instrument "As Found Reading"	Integrated Counts (1-minute count)	Instrument "As Found Reading"	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	399318	+/- 10%	399331
40 Kcpm	+/- 10%	39935	+/- 10%	39931
4 Kcpm	+/- 10%	3994	+/- 10%	3993
400 cpm	+/- 10%	400	+/- 10%	399

Calibrated By: _____ Calibration Date: 10-24-07

Calibration Due: 10.24.08

Reviewed By: _____ Date: 10/24/07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 43-10-1 Serial No.: PR194726

Counter Mfg.: Ludlum Model: 2929 Serial No.: ~~185277~~ 185277

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Alpha Threshold: 170 mV Beta Threshold: 4 mV Beta Window: 50 mV

Geometry / Distance to source: In planchett Cable Length: ☑ 39 inch ☐ Other:

Alpha Source: ☑ Th230 @ 13,300 dpm (1/19/07) sn: 4098-03 ☐ Other:

Beta Source: ☑ Tc99 @ 17,800 dpm (1/15/07) sn: 4099-03 ☐ Other:

Count Time: 1 minute(s)

High Voltage	Alpha Source Counts		Beta Source Counts		Background Counts		Pot. Setting
	Alpha	Beta	Alpha	Beta	Alpha	Beta	
600	2039	481	4	246	1	6	2.46
650	3794	308	6	1266	1	30	2.70
700	4402	253	4	2136	1	44	2.90
750	4832	312	6	2821	0	57	3.10
800	4804	373	6	3505	3	81	3.30

Comments: Recommended Operating High Voltage: 750 volts

Calibrated By: _____ Calibration Date: 10-24-07

Calibration Due: 10-24-08

Reviewed By: _____ Date: 10/24/07

Certificate of Calibration

2 Channel Scaler Certificate of Calibration

ERG
Environmental Restoration Group, I
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2929 Serial No.: 185277

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: 97743 ☐ 201932 ☑

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☐ Meter Zeroed ☐ Geotropism ck. ☐ F/S Response ck. ☑ Audio ck.

☐ THR/WIN ck. High Voltage ck. ☑ 500v ☑ 1000v ☑ 1500v ☐ Battery ck. (min 4.4 vdc)

Alpha Threshold.: 170 mV Beta Threshold.: 4 mV Beta Window.: 50 mV

Voltage setting: 750 volts = 3.10 on HV Dial (Pot.)

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Setting	Alpha Channel Digital Readout		Beta Channel Digital Readout	
	Instrument "As Found Reading"	Integrated Counts (1-minute count)	Instrument "As Found Reading"	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	399401	+/- 10%	399405
40 Kcpm	+/- 10%	39942	+/- 10%	39941
4 Kcpm	+/- 10%	3995	+/- 10%	3994
400 cpm	+/- 10%	399	+/- 10%	400

Calibrated By: _____ Calibration Date: 10-24-07

Calibration Due: 10-24-08

Reviewed By: _____ Date: 10-29-07

Certificate of Calibration

2 Channel Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2929 Serial No.: 142654

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: 97743 ☐ 201932 ☑

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NVLAP Registration No. 481-3 - Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☐ Meter Zeroed ☐ Geotropism ck. ☐ F/S Response ck. ☑ Audio ck.

☐ THR/WIN ck. High Voltage ck. ☑ 500v ☑ 1000v ☑ 1500v ☐ Battery ck. (min 4.4 vdc)

Alpha Threshold.: 170 mV Beta Threshold.: 4 mV Beta Window.: 50 mV

Voltage setting: 750 volts = 3.10 on HV Dial (Pot.)

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Setting	Alpha Channel Digital Readout		Beta Channel Digital Readout	
	Instrument "As Found Reading"	Integrated Counts (1-minute count)	Instrument "As Found Reading"	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	399012	+/- 10%	399061
40 Kcpm	+/- 10%	39904	+/- 10%	39907
4 Kcpm	+/- 10%	3990	+/- 10%	3991
400 cpm	+/- 10%	399	+/- 10%	399

Calibrated By: [signature] Calibration Date: 10-17-07

Calibration Due: 10-17-08

Reviewed By: [signature] Date: 10/18/07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 43-10-1 Serial No.: PR145340

Counter Mfg.: Ludlum Model: 2929 Serial No.: 142654

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Alpha Threshold: 170 mV Beta Threshold: 4 mV Beta Window: 50 mV

Geometry / Distance to source: In planchett Cable Length: ☑ 39 inch ☐ Other:

Alpha Source: ☑ Th230 @ 13,300 dpm (1/19/07) sn: 4098-03 ☐ Other:

Beta Source: ☑ Tc99 @ 17,800 dpm (1/15/07) sn: 4099-03 ☐ Other:

Count Time: 1 minute(s)

High Voltage	Alpha Source Counts		Beta Source Counts		Background Counts		Pot. Setting
	Alpha	Beta	Alpha	Beta	Alpha	Beta	
600	2707	622	5	835	0	11	2.50
650	3825	535	3	1963	0	35	2.70
700	4215	561	6	2889	1	63	2.90
750	4466	593	2	3680	0	56	3.10
800	4676	757	8	4414	2	80	3.30

Comments: Recommended Operating High Voltage: 750 volts

Calibrated By: [signature] Calibration Date: 10-17-07

Calibration Due: 10-17-08

Reviewed By: [signature] Date: 10/18/07

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	0.133333333	6383	67%	7.0	JY
1/3/2008	0.166666667	6322	66%	7.5	JY
1\7\2008	0.066666667	6325	66%	6.1	SR
1/8/2008	0.133333333	6407	67%	7.0	JY

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12/11/2007	0.033333333	6320	66%	5.4	JY
12/12/2007	0.033333333	6416	67%	5.3	JY
12/13/2007	0.033333333	6294	66%	5.4	JY
12/14/2007	0	6464	68%	3.5	JY
12/17/2007	0.166666667	6222	65%	7.7	JY
12/18/2007	0.233333333	6422	67%	8.1	JY
12/19/2007	0.033333333	6186	65%	5.5	JY
12/20/2007	0	6463	68%	3.5	JY
12/21/2007	0.1	6380	67%	6.6	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

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BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
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12/12/2007	0.033333333	6416	67%	5.3	JY
12/13/2007	0.033333333	6294	66%	5.4	JY
12/14/2007	0	6464	68%	3.5	JY
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BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
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MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	0.033333333	6311	66%	5.4	JY
12/4/2007	0.133333333	6389	67%	7.0	JY
12/5/2007	0.066666667	6397	67%	6.0	JY
12/6/2007	0.033333333	6322	66%	5.4	JY
12/7/2007	0	6496	68%	3.5	JY
12/8/2007	0.1	6472	68%	6.5	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

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12/6/2007	0.033333333	6322	66%	5.4	JY
12/7/2007	0	6496	68%	3.5	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

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SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME		< 20 DPM ALPHA	
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ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

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ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	0.033333333	6222	65%	5.5	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

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BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

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BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
11/10/2007	0.1	6411	67.3%	6.6	JY
11/12/2007	0.1	6389	67.0%	7.0	JY
11/13/2007	0.1	6484	68.0%	6.5	JY
11/14/2007	0.033333333	6339	66.5%	5.4	JY
11/15/2007	0.1	6362	66.8%	6.6	JY
11/16/2007	0.1	6330	66.4%	6.6	JY
11/17/2007	0.066666667	6191	65.0%	6.2	JY
11/19/2007	0.133333333	6314	66.3%	7.1	JY
11/20/2007	0.2	6390	67.0%	7.8	JY
11/26/2007	0.1	6305	66.2%	6.7	JY
11/27/2007	0.1	6249	65.6%	6.7	JY
11/28/2007	0.066666667	6232	65.4%	6.2	JY
11/29/2007	0.1	6230	65.4%	6.7	JY
11/30/2007	0.166666667	6292	66.0%	7.6	JY

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	November, 2007							
Instrument ID:	121870				Detector ID:	126405		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			29	CPM to	44	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
11/1/2007	4	349	0.4	34.9	6384	67	1214	22	JY
11/2/2007	0	375	0.0	37.5	6343	67	1224	22	JY
11/3/2007	2	391	0.2	39.1	6318	66	1312	23	JY
11/5/2007	0	413	0.0	41.3	6359	67	1307	23	JY
11/6/2007	1	418	0.1	41.8	6427	67	1322	23	JY
11/7/2007	3	364	0.3	36.4	6371	67	1288	23	JY
11/8/2007	3	390	0.3	39.0	6368	67	1233	22	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 2.39\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	36.93333333	1223	22%	188.9	JY
1/3/2008	38.56666667	1273	23%	185.2	JY
1\7\2008	39.33333333	1299	23%	183.2	SR
1/8/2008	39.33333333	1316	23%	180.8	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	36.93333333	1223	22%	188.9	JY
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BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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BKG BACKGROUND COUNTS	R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY
12/6/2007	38.13333333	1295	23%	181.0	JY
12/7/2007	37.8	1249	22%	187.0	JY
12/8/2007	38.73333333	1285	23%	183.8	JY
12/10/2007	39.2	1214	22%	196.1	JY
12/11/2007	37.46666667	1238	22%	187.9	JY
12/12/2007	37.6	1219	22%	191.2	JY
12/13/2007	37.13333333	1268	23%	182.5	JY
12/14/2007	38.16666667	1215	22%	193.3	JY
12/17/2007	37.23333333	1238	22%	187.3	JY
12/18/2007	38.33333333	1265	22%	185.9	JY
12/19/2007	36.06666667	1213	22%	188.2	JY
12/20/2007	38.13333333	1207	21%	194.6	JY
12/21/2007	34.83333333	1180	21%	190.3	JY

BETA DAILY SCALER LOG

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12/17/2007	37.23333333	1238	22%	187.3	JY
12/18/2007	38.33333333	1265	22%	185.9	JY
12/19/2007	36.06666667	1213	22%	188.2	JY
12/20/2007	38.13333333	1207	21%	194.6	JY

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BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY
12/6/2007	38.13333333	1295	23%	181.0	JY
12/7/2007	37.8	1249	22%	187.0	JY
12/8/2007	38.73333333	1285	23%	183.8	JY
12/10/2007	39.2	1214	22%	196.1	JY
12/11/2007	37.46666667	1238	22%	187.9	JY
12/12/2007	37.6	1219	22%	191.2	JY
12/13/2007	37.13333333	1268	23%	182.5	JY
12/14/2007	38.16666667	1215	22%	193.3	JY
12/17/2007	37.23333333	1238	22%	187.3	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS
SCT SAMPLE COUNT TIME
EFF EFFICIENCY

R_b BACKGROUND CPM
T_b BACKGROUND COUNT TIME
T_{s+b} SAMPLE COUNT TIME

CTO 15 & 28 PROJECTS MDA LIMIT
< 20 DPM ALPHA
< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY
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12/13/2007	37.13333333	1268	23%	182.5	JY
12/14/2007	38.16666667	1215	22%	193.3	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
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12/12/2007	37.6	1219	22%	191.2	JY
12/13/2007	37.13333333	1268	23%	182.5	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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BKG BACKGROUND COUNTS	R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT SAMPLE COUNT TIME	T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA
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12/11/2007	37.46666667	1238	22%	187.9	JY
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BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

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12/8/2007	38.73333333	1285	23%	183.8	JY
12/10/2007	39.2	1214	22%	196.1	JY
12/11/2007	37.46666667	1238	22%	187.9	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

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BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
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12/7/2007	37.8	1249	22%	187.0	JY
12/8/2007	38.73333333	1285	23%	183.8	JY
12/10/2007	39.2	1214	22%	196.1	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
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12/7/2007	37.8	1249	22%	187.0	JY
12/8/2007	38.73333333	1285	23%	183.8	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY
12/6/2007	38.13333333	1295	23%	181.0	JY
12/7/2007	37.8	1249	22%	187.0	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

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SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
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DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY
12/6/2007	38.13333333	1295	23%	181.0	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

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BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY
12/5/2007	38.4	1227	22%	192.0	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT SAMPLE COUNT TIME	T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF EFFICIENCY	T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	38.4	1213	22%	194.3	JY
12/4/2007	36.63333333	1274	23%	180.4	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

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BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	31.26666667	1279	23%	166.0	JY

MODEL: Ludlum 2929 SERIAL NUMBER: 121870 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
11/10/2007	36.9	1274	22.7%	181.1	JY
11/12/2007	37.0	1245	22.1%	185.5	JY
11/13/2007	37.0	1240	22.0%	186.5	JY
11/14/2007	37.1	1252	22.3%	184.7	JY
11/15/2007	36.0	1195	21.2%	191.1	JY
11/16/2007	36.7	1204	21.4%	191.3	JY
11/17/2007	39.0	1235	21.9%	192.2	JY
11/19/2007	38.1	1262	22.4%	185.8	JY
11/20/2007	39.1	1256	22.3%	189.2	JY
11/26/2007	38.8	1260	22.4%	187.8	JY
11/27/2007	37.1	1291	23.0%	179.1	JY
11/28/2007	35.5	1256	22.4%	180.1	JY
11/29/2007	37.0	1266	22.5%	182.5	JY
11/30/2007	38.4	1288	22.9%	182.7	JY

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	November, 2007							
Instrument ID:	121870				Detector ID:	126405		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			29	CPM to	44	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
11/1/2007	4	349	0.4	34.9	6384	67	1214	22	JY
11/2/2007	0	375	0.0	37.5	6343	67	1224	22	JY
11/3/2007	2	391	0.2	39.1	6318	66	1312	23	JY
11/5/2007	0	413	0.0	41.3	6359	67	1307	23	JY
11/6/2007	1	418	0.1	41.8	6427	67	1322	23	JY
11/7/2007	3	364	0.3	36.4	6371	67	1288	23	JY
11/8/2007	3	390	0.3	39.0	6368	67	1233	22	JY
11/9/2007	1	395	0.1	39.5	6316	66	1179	21	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	October, 2007							
Instrument ID:	121870				Detector ID:	126405		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			29	CPM to	44	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
10/26/2007	1	368	0.1	36.8	6187	65	1221	22	JY
10/30/2007	1	363	0.1	36.3	6205	65	1243	22	JY
10/31/2007	3	369	0.3	36.9	6368	67	1312	23	JY
11/1/2007	4	349	0.4	34.9	6384	67	1214	22	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1/2/2008	0.133333333	6174	65%	7.3	JY
1/3/2008	0.033333333	6238	65%	5.4	JY
1/7/2008	0.066666667	6303	66%	6.1	SR
1/8/2008	0.133333333	6309	66%	7.1	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM		CTO 15 & 28 PROJECTS MDA LIMIT	
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME		< 20 DPM ALPHA	
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME		< 200 DPM BETA/GAMMA	
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	0.133333333	6174	65%	7.3	JY
1/3/2008	0.033333333	6238	65%	5.4	JY
1/7/2008	0.066666667	6303	66%	6.1	SR

ALPHA DAILY SCALER LOG

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12/7/2007	0.1	6430		67%	6.5	JY
12/8/2007	0.166666667	6328		66%	7.5	JY
12/10/2007	0.066666667	6429		67%	6.0	JY
12/11/2007	0.033333333	6570		69%	5.2	JY
12/12/2007	0.133333333	6439		68%	7.0	JY
12/13/2007	0.066666667	6339		67%	6.1	JY
12/14/2007	0.133333333	6438		68%	7.0	JY
12/17/2007	0.133333333	6315		66%	7.1	JY
12/18/2007	0	6472		68%	3.5	JY
12/19/2007	0.133333333	6329		66%	7.1	JY
12/20/2007	0.033333333	6425		67%	5.3	JY
12/21/2007	0.066666667	6401		67%	6.0	JY

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BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM		CTO 15 & 28 PROJECTS MDA LIMIT	
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME		< 20 DPM ALPHA	
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME		< 200 DPM BETA/GAMMA	
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	0.033333333	6222	65%	5.5	JY
12/4/2007	0.033333333	6342	67%	5.4	JY
12/5/2007	0.033333333	6389	67%	5.3	JY
12/6/2007	0.033333333	6263	66%	5.4	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	0.033333333	6222	65%	5.5	JY
12/4/2007	0.033333333	6342	67%	5.4	JY
12/5/2007	0.033333333	6389	67%	5.3	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
12/3/2007	0.033333333	6222	65%	5.5	JY
12/4/2007	0.033333333	6342	67%	5.4	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	0.033333333	6222	65%	5.5	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
11/10/2007	0.1	6255	65.6%	6.2	JY
11/12/2007	0.1	6293	66.0%	6.7	JY
11/13/2007	0.1	6334	66.5%	6.1	JY
11/14/2007	0.0	6254	65.6%	3.7	JY
11/15/2007	0.0	6354	66.7%	3.6	JY
11/16/2007	0.0	6297	66.1%	3.6	JY
11/17/2007	0.0	6460	67.8%	3.5	JY
11/19/2007	0.1	6354	66.7%	6.1	JY
11/20/2007	0.1	6198	65.0%	6.8	JY
11/26/2007	0.1	6459	67.8%	6.0	JY
11/27/2007	0.1	6378	66.9%	6.6	JY
11/28/2007	0.0	6190	65.0%	5.5	JY
11/29/2007	0.1	6455	67.7%	6.5	JY
11/30/2007	0.1	6213	65.2%	6.8	JY

ALPHA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
11/10/2007	0.1	6255	65.6%	6.2	JY
11/12/2007	0.1	6293	66.0%	6.7	JY
11/13/2007	0.1	6334	66.5%	6.1	JY
11/14/2007	0.0	6254	65.6%	3.7	JY
11/15/2007	0.0	6354	66.7%	3.6	JY
11/16/2007	0.0	6297	66.1%	3.6	JY
11/17/2007	0.0	6460	67.8%	3.5	JY
11/19/2007	0.1	6354	66.7%	6.1	JY
11/20/2007	0.1	6198	65.0%	6.8	JY
11/26/2007	0.1	6459	67.8%	6.0	JY
11/27/2007	0.1	6378	66.9%	6.6	JY
11/28/2007	0.0	6190	65.0%	5.5	JY
11/29/2007	0.1	6455	67.7%	6.5	JY

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	November, 2007							
Instrument ID:	185277				Detector ID:	194726		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	30	Minutes			25	CPM to	38	CPM βγ

Date	Total Counts α	Total Counts βγ	30-Minute Background (CPM) α	30-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
11/10/2007	2	1006	0.1	33.5	6255	65.6%	1282	22.9%	JY
11/12/2007	3	940	0.1	31.3	6293	66.0%	1197	21.3%	JY
11/13/2007	2	960	0.1	32.0	6334	66%	1244	22%	JY
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	
			0.0	0.0		0%		0%	

Reviewed by:		Date:	

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	November, 2007							
Instrument ID:	185277				Detector ID:	194726		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	30	Minutes			25	CPM to	38	CPM βγ

Date	Total Counts α	Total Counts βγ	30 Minute Baackground (CPM) α	30 Minute Baackground (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
11/10/2007	2	1006	0.1	33.5	6255	66	1282	23	JY
11/12/2007	3	940	0.1	31.3	6293	66	1197	21	JY
			#VALUE!	#VALUE!		#VALUE!		#VALUE!	
			#VALUE!	#VALUE!		#VALUE!		#VALUE!	
			#VALUE!	#VALUE!		#VALUE!		#VALUE!	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	October, 2007							
Instrument ID:	185277				Detector ID:	194726		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			25	CPM to	38	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
10/26/2007	1	334	0.1	33.4	6345	67	1269	23	JY
10/30/2007	2	302	0.2	30.2	6187	65	1239	22	JY
11/7/2007	2	318	0.2	31.8	6389	67	1267	23	TS
11/8/2007	1	359	0.1	35.9	6454	68	1193	21	JY
11/9/2007	0	320	0.0	32.0	6404	67	1251	22	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	October, 2007							
Instrument ID:	185277				Detector ID:	194726		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			25	CPM to	38	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
10/26/2007	1	334	0.1	33.4	6345	67	1269	23	JY
10/30/2007	2	302	0.2	30.2	6187	65	1239	22	JY
11/7/2007	2	318	0.2	31.8	6389	67	1267	23	TS
11/8/2007	1	359	0.1	35.9	6454	68	1193	21	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

ALAMEDA POINT

For:	October, 2007							
Instrument ID:	185277				Detector ID:	194726		
Cal Due Date:	10/24/2008							
Sources Used:			Alpha S/N:	Th-230 2127-96		Activity:	9,530	alphas/min
			Beta S/N:	Tc-99 97TC4702666		Activity:	5,460	betas/min
			Acceptable Range of Background:		0	CPM to	0.2	CPM α
Background Count Time:	10	Minutes			25	CPM to	38	CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
10/26/2007	1	334	0.1	33.4	6345	67	1269	23	JY
10/30/2007	2	302	0.2	30.2	6187	65	1239	22	JY
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	
			0.0	0.0		0		0	

Reviewed by:		Date:	

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	32.6	1274	23%	170.2	JY
1/3/2008	32.8	1271	23%	171.1	JY
1/7/2008	33.56666667	1278	23%	172.1	SR
1/8/2008	31.7	1226	22%	174.6	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT SAMPLE COUNT TIME	T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF EFFICIENCY	T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1/2/2008	32.6	1274	23%	170.2	JY
1/3/2008	32.8	1271	23%	171.1	JY
1/7/2008	33.56666667	1278	23%	172.1	SR

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT SAMPLE COUNT TIME	T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF EFFICIENCY	T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1/2/2008	32.6	1274	23%	170.2	JY
1/3/2008	32.8	1271	23%	171.1	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME		T_b BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY		T_{s+b} SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		
DATE	**BKG**	**SOURCE COUNTS**	**EFF**	**MDA**	**INITIALS**
1/2/2008	32.6	1274	23%	170.2	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$\text{Eff} = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$\text{MDA} = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(\text{Eff} * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS		R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT SAMPLE COUNT TIME		T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF EFFICIENCY		T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	
DATE	**BKG**	**SOURCE COUNTS**		**EFF**	**MDA**	**INITIALS**
12/3/2007	31.26666667	1279		23%	166.0	JY
12/4/2007	30.36666667	1236		22%	169.5	JY
12/5/2007	35.06666667	1260		22%	178.5	JY
12/6/2007	32.66666667	1222		22%	177.8	JY
12/7/2007	33.43333333	1279		23%	171.6	JY
12/8/2007	34.26666667	1276		23%	174.2	JY
12/10/2007	32.96666667	1200		21%	182.0	JY
12/11/2007	30.93333333	1296		23%	163.0	JY
12/12/2007	32.2	1295		23%	166.3	JY
12/13/2007	32.23333333	1234		22%	174.9	JY
12/14/2007	32.96666667	1245		22%	175.2	JY
12/17/2007	31.86666667	1264		23%	169.7	JY
12/18/2007	33.26666667	1256		22%	174.4	JY
12/19/2007	32.7	1234		22%	176.1	JY
12/20/2007	30.36666667	1220		22%	171.8	JY
12/21/2007	32.33333333	1254		22%	172.3	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
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EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12/3/2007	31.26666667	1279	23%	166.0	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS	R_b	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT		
SCT SAMPLE COUNT TIME	T_b	BACKGROUND COUNT TIME	< 20 DPM ALPHA		
EFF EFFICIENCY	T_{s+b}	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA		

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
11/10/2007	33.5	1282	22.9%	171.5	JY
11/12/2007	31.3	1197	21.3%	177.9	JY
11/13/2007	32.0	1244	22.2%	172.8	JY
11/14/2007	29.1	1304	23.3%	157.2	JY
11/15/2007	31.1	1309	23.4%	161.7	JY
11/16/2007	30.7	1229	21.9%	171.4	JY
11/17/2007	31.2	1234	22.0%	172.0	JY
11/19/2007	33.6	1286	22.9%	171.2	JY
11/20/2007	33.2	1239	22.1%	176.8	JY
11/26/2007	31.2	1303	23.3%	162.8	JY
11/27/2007	30.7	1238	22.1%	170.1	JY
11/28/2007	31.8	1254	22.4%	170.9	JY
11/29/2007	32.4	1274	22.7%	169.6	JY
11/30/2007	31.6	1259	22.5%	169.7	JY

BETA DAILY SCALER LOG

MODEL: Ludlum 2929 SERIAL NUMBER: 185277 CAL DUE: 10/24/2008

SOURCE INFORMATION:

ALPHA SOURCE #: Th-230 2127-96 ISOTOPE: Th-230 SOURCE ACTIVITY: 9,530 alphas/min

BETA SOURCE #: Tc-99 97TC4702666 ISOTOPE: Tc-99 SOURCE ACTIVITY: 5,460 betas/min

$$Eff = \frac{\text{NET SOURCE COUNTS}}{\text{SOURCE ACTIVITY}}$$

$$MDA = \frac{3 + 3.29\sqrt{R_b T_{s+b}(1 + T_{s+b}/T_b)}}{(Eff * 0.25 * T_{s+b})}$$

BKG BACKGROUND COUNTS
SCT SAMPLE COUNT TIME
EFF EFFICIENCY

R_b BACKGROUND CPM
T_b BACKGROUND COUNT TIME
T_{s+b} SAMPLE COUNT TIME

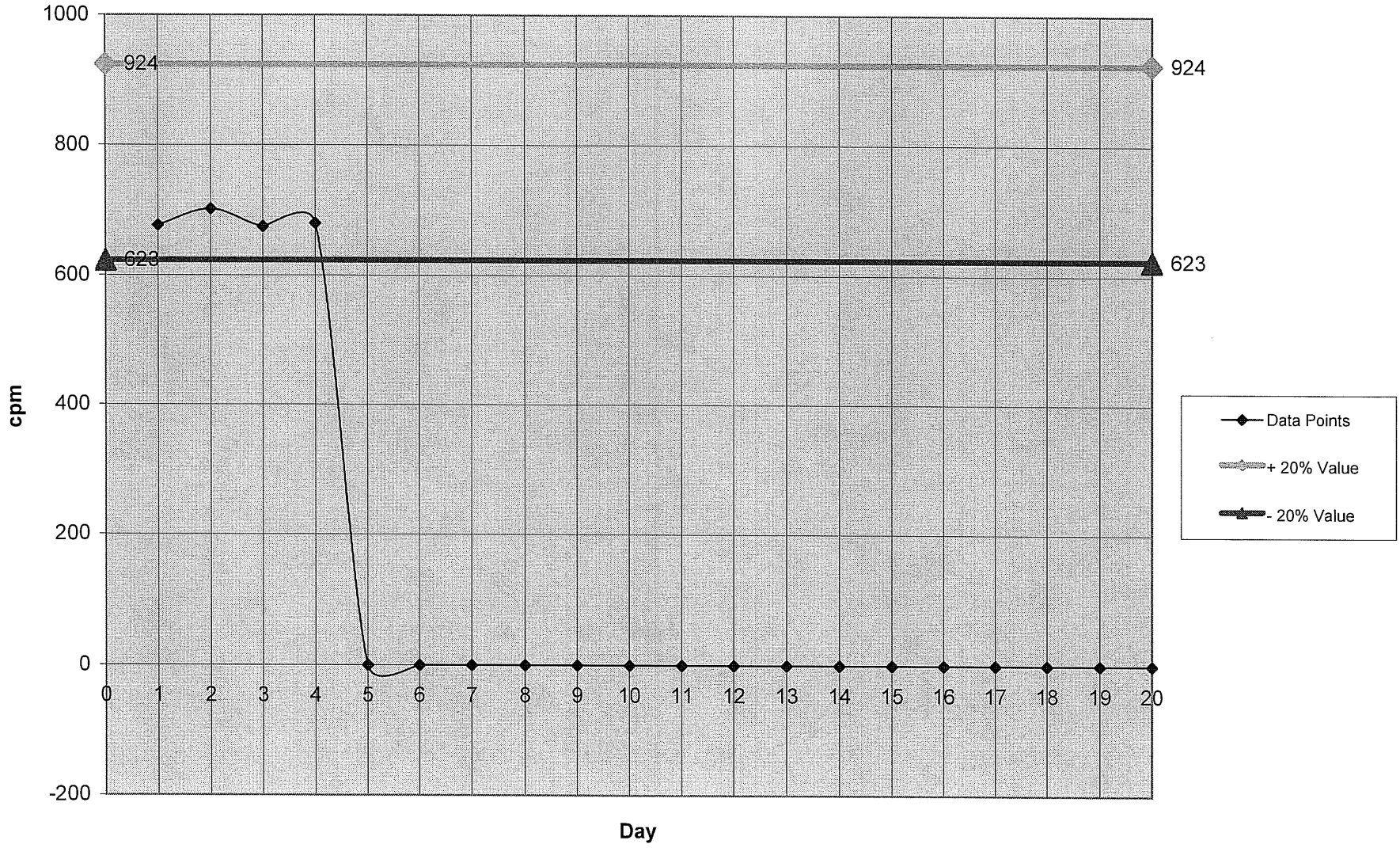
CTO 15 & 28 PROJECTS MDA LIMIT
< 20 DPM ALPHA
< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
11/10/2007	33.5	1282	22.9%	171.5	JY
11/12/2007	31.3	1197	21.3%	177.9	JY
11/13/2007	32.0	1244	22.2%	172.8	JY
11/14/2007	29.1	1304	23.3%	157.2	JY
11/15/2007	31.1	1309	23.4%	161.7	JY
11/16/2007	30.7	1229	21.9%	171.4	JY
11/17/2007	31.2	1234	22.0%	172.0	JY
11/19/2007	33.6	1286	22.9%	171.2	JY
11/20/2007	33.2	1239	22.1%	176.8	JY
11/26/2007	31.2	1303	23.3%	162.8	JY
11/27/2007	30.7	1238	22.1%	170.1	JY
11/28/2007	31.8	1254	22.4%	170.9	JY
11/29/2007	32.4	1274	22.7%	169.6	JY

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	677	677	12.8	P	JY	
1/3/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	703	702	13.3	P	JY	
1/7/2008	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	676	675	12.8	P	SR	
1/8/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

Alpha Control Chart

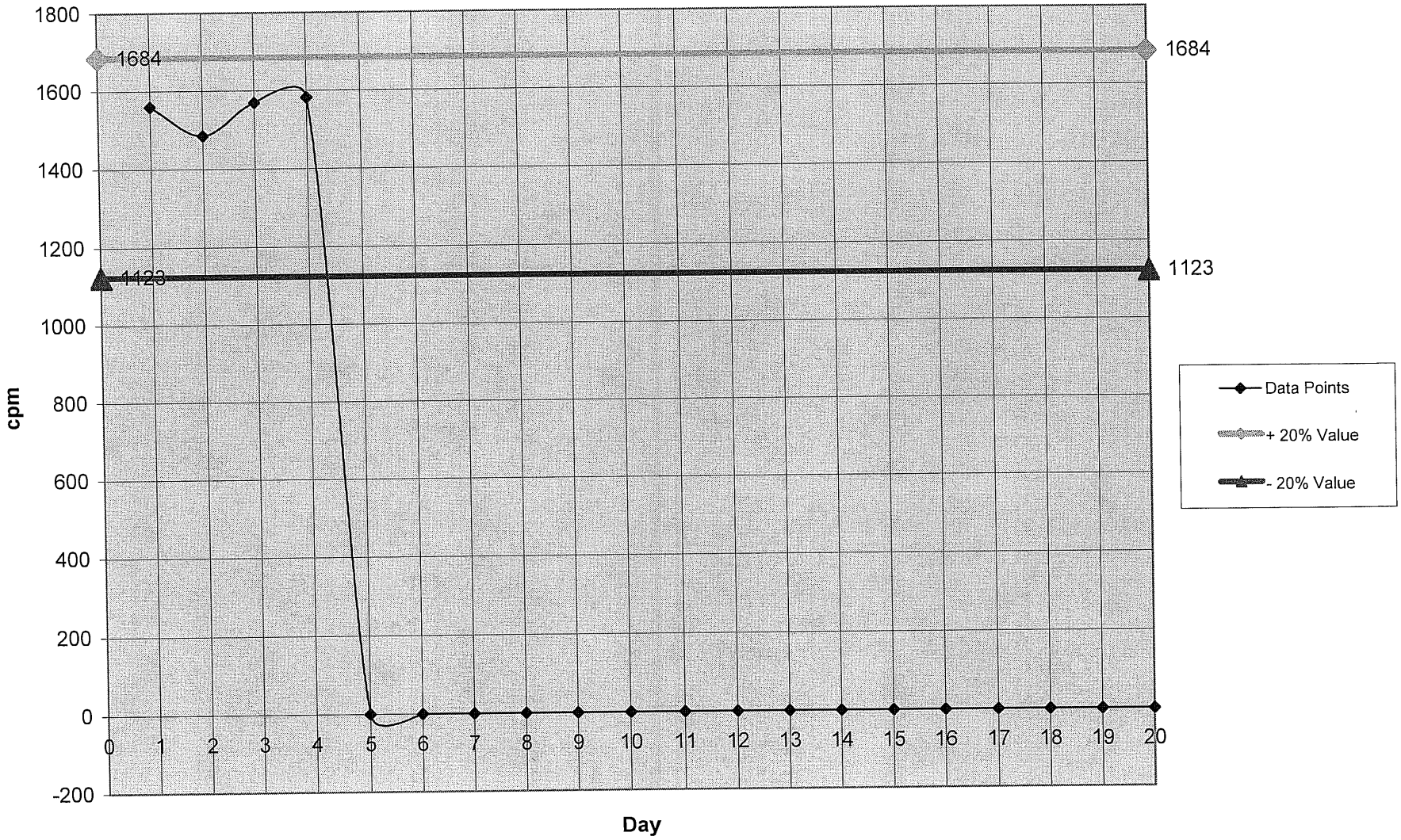


TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	155	1714	1559	7.8	P	JY	
1/3/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	171	1656	1485	7.4	P	JY	
1/7/2008	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	179	1748	1569	7.8	P	SR	
1/8/2008	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	161	1743	1582	7.9	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

Beta Control Chart



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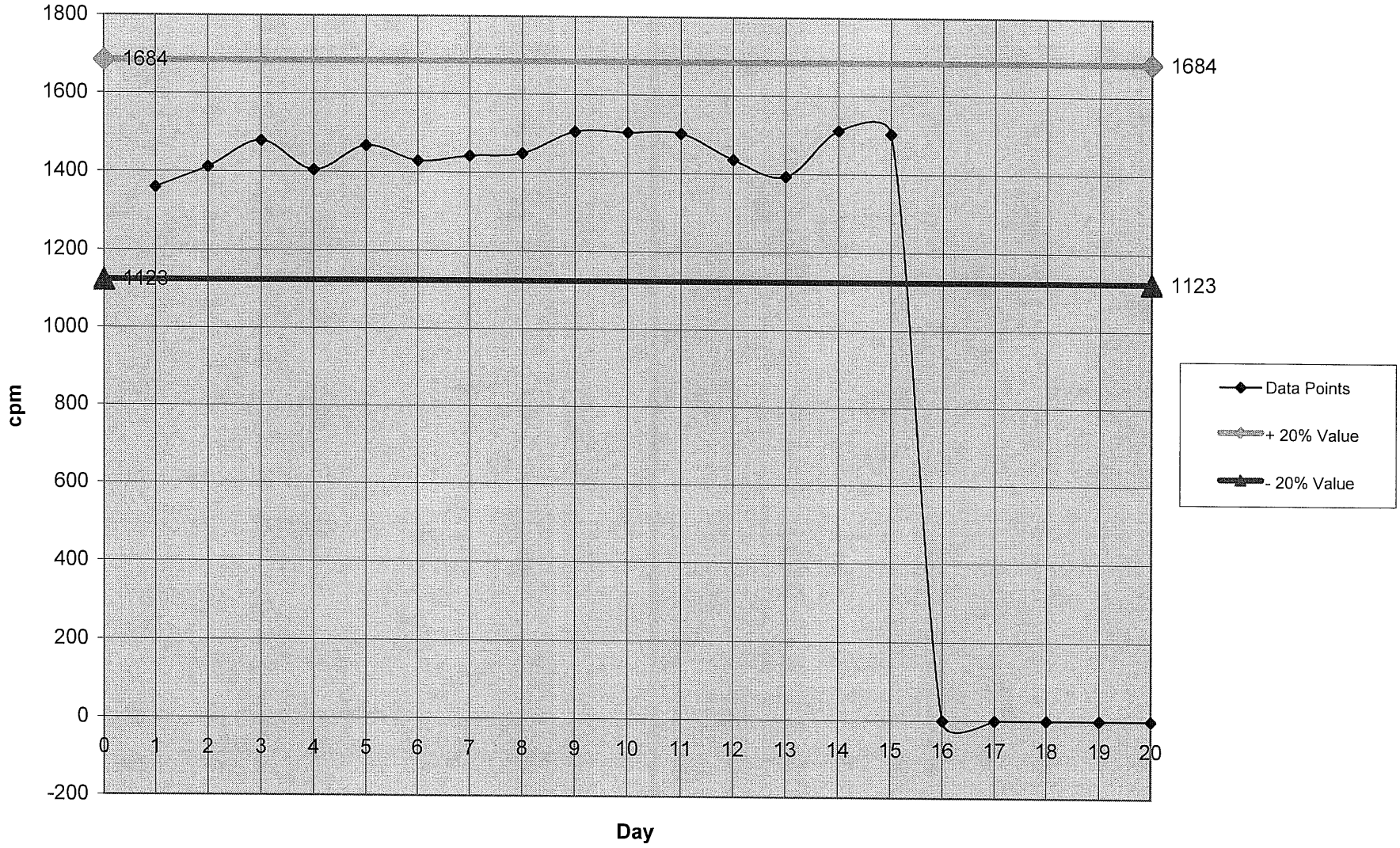
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	166	1526	1360	6.8	P	JY	
12/4/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	171	1583	1412	7.0	P	JY	
12/5/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	177	1656	1479	7.4	P	JY	
12/6/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	175	1580	1405	7.0	P	JY	
12/7/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	162	1629	1467	7.3	P	JY	
12/10/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1598	1429	7.1	P	JY	
12/11/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	163	1605	1442	7.2	P	JY	
12/12/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	184	1633	1449	7.2	P	JY	
12/13/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	181	1686	1505	7.5	P	JY	
12/14/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	166	1670	1504	7.5	P	JY	
12/17/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	168	1670	1502	7.5	P	JY	
12/18/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	202	1638	1436	7.2	P	JY	
12/19/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	189	1583	1394	7.0	P	JY	
12/20/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	157	1668	1511	7.5	P	JY	
12/21/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1656	1503	7.5	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

Beta Control Chart



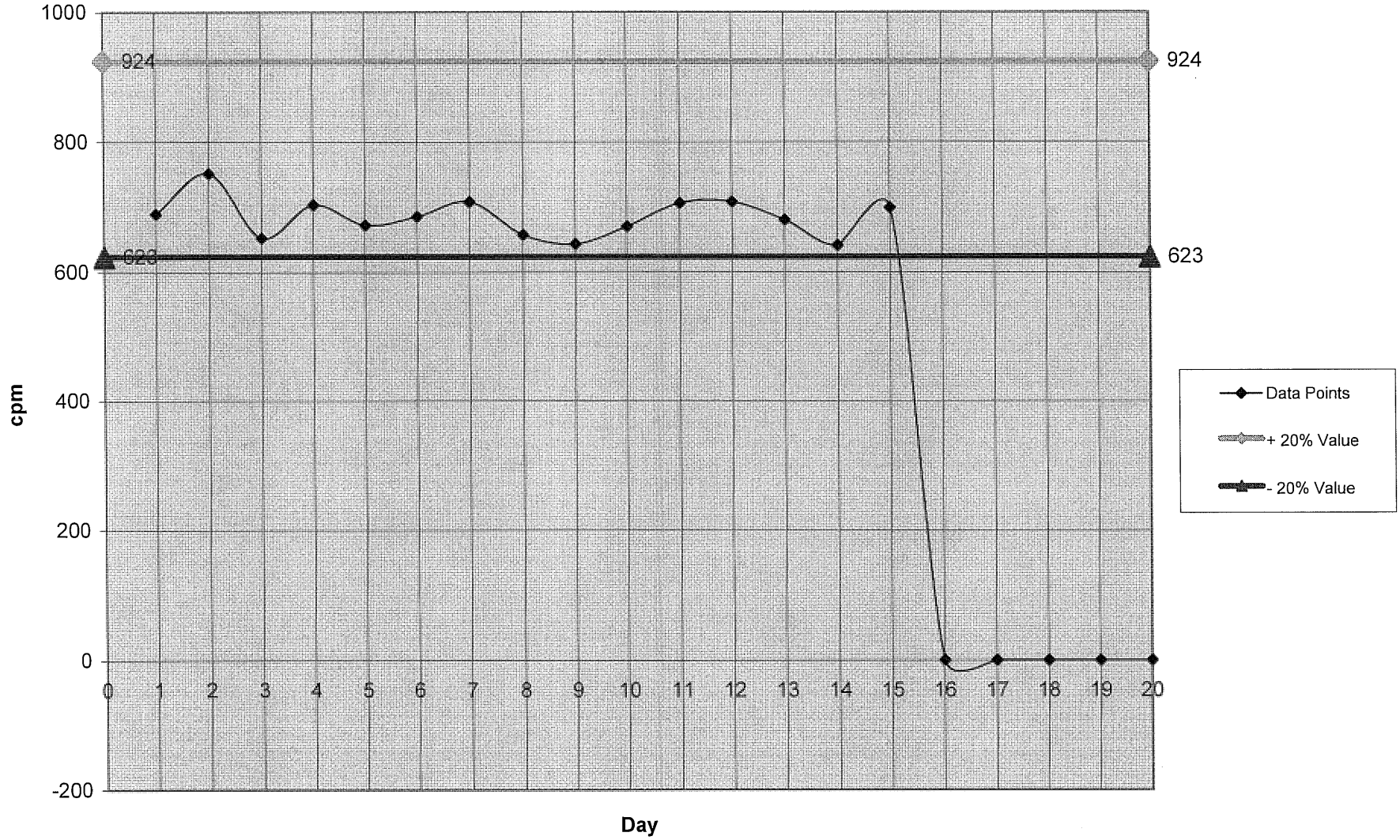
TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
12/4/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	752	751	14.2	P	JY	
12/5/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	652	652	12.4	P	JY	
12/6/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	703	703	13.3	P	JY	
12/7/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
12/10/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
12/11/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	708	708	13.4	P	JY	
12/12/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	657	657	12.4	P	JY	
12/13/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	643	643	12.2	P	JY	
12/14/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	670	670	12.7	P	JY	
12/17/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	707	706	13.4	P	JY	
12/18/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	708	708	13.4	P	JY	
12/19/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
12/20/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	642	641	12.1	P	JY	
12/21/2007	0625	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	700	699	13.2	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

Alpha Control Chart

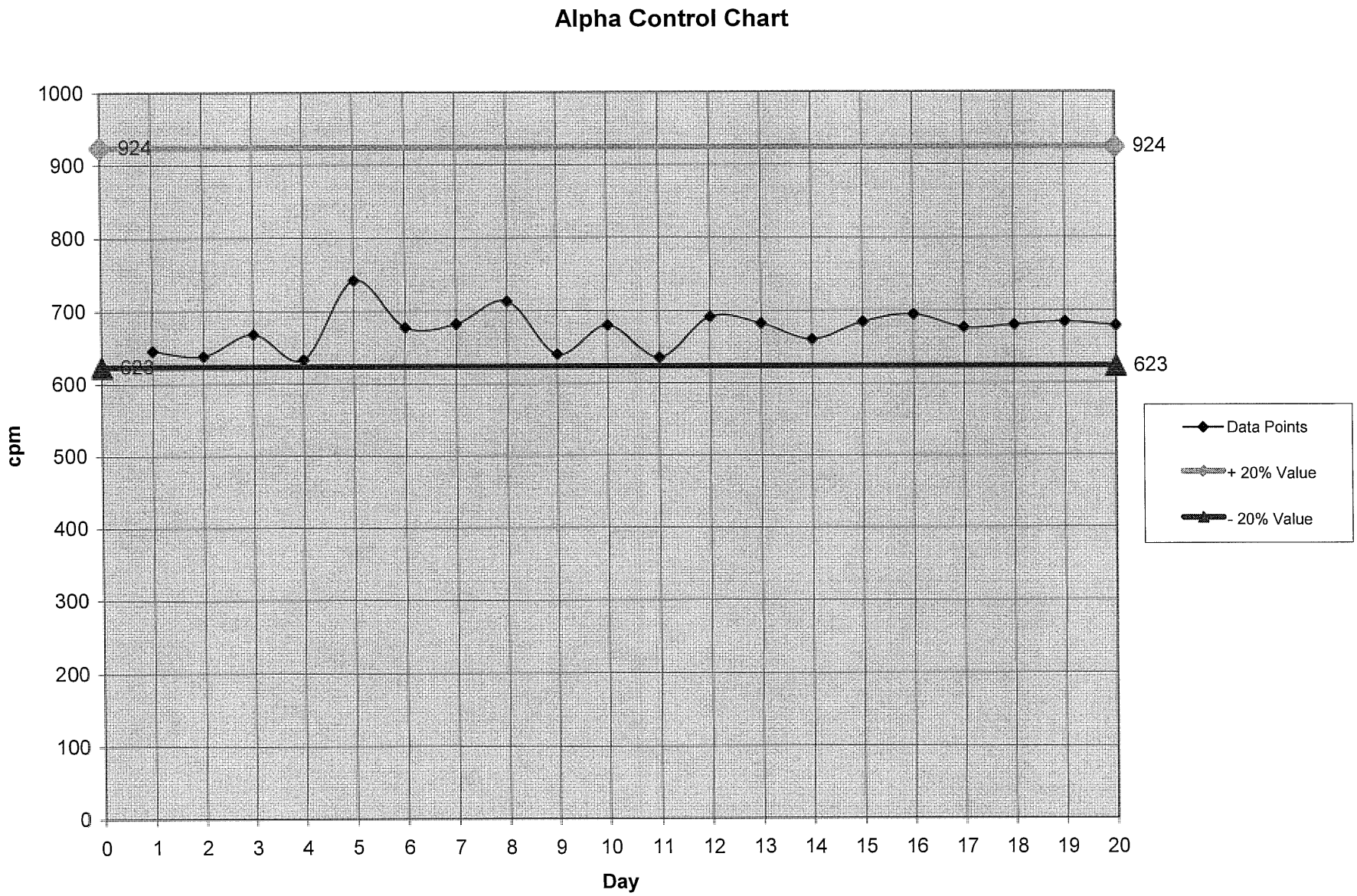


TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/19/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	677	676	12.8	P	JY	
11/27/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/29/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	679	679	12.9	P	SR	
11/30/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	


Alpha Control Chart
1000
900
800
700
600
500
400
300
200
100
0
cpm
924
924
623
623
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

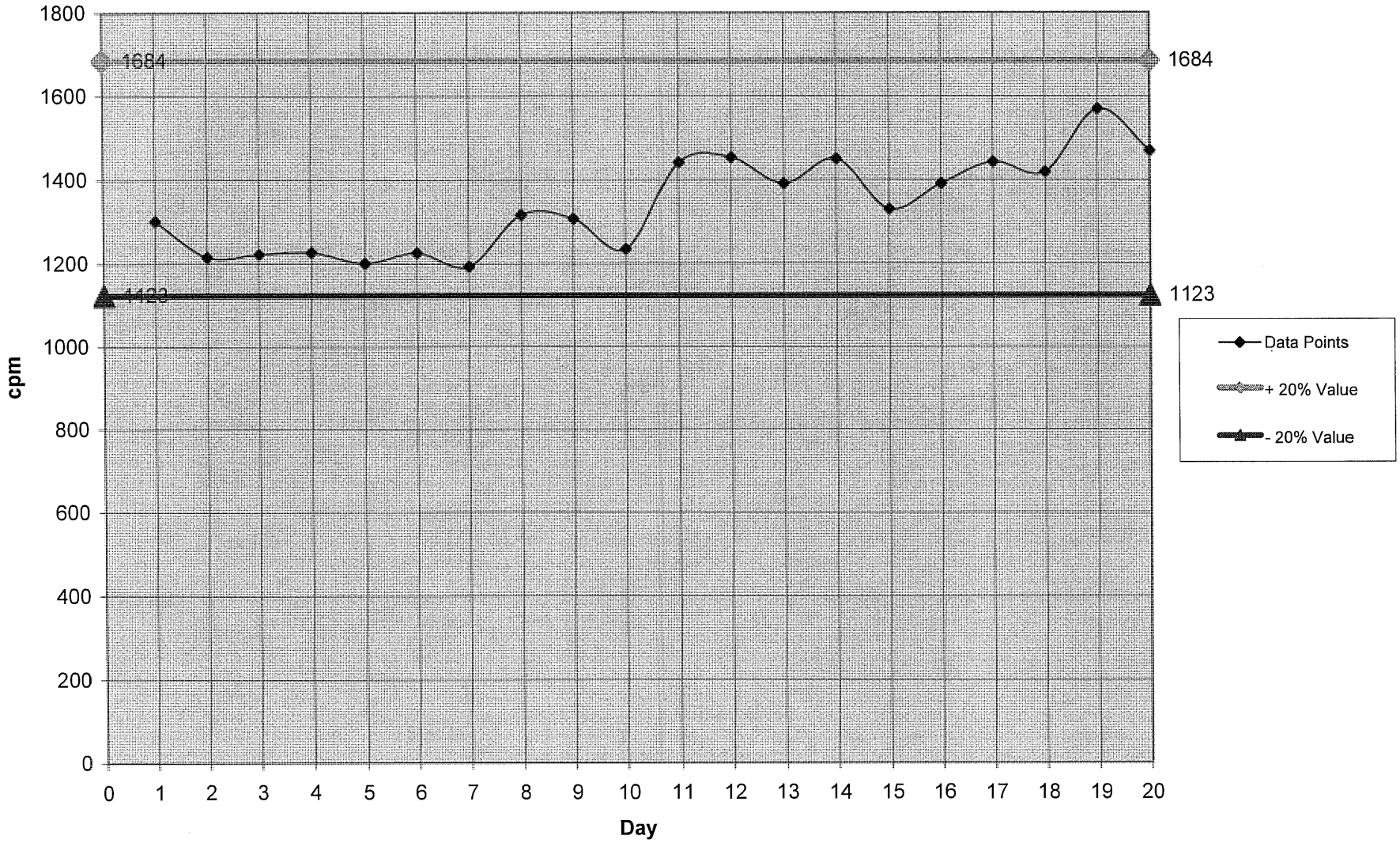
TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1500	1330	6.6	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1561	1391	6.9	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	163	1605	1442	7.2	P	JY	
11/27/2007	0640	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	168	1586	1418	7.1	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	165	1733	1568	7.8	P	JY	
11/29/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	166	1634	1468	7.3	P	SR	
11/30/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1556	1387	6.9	P	JY	

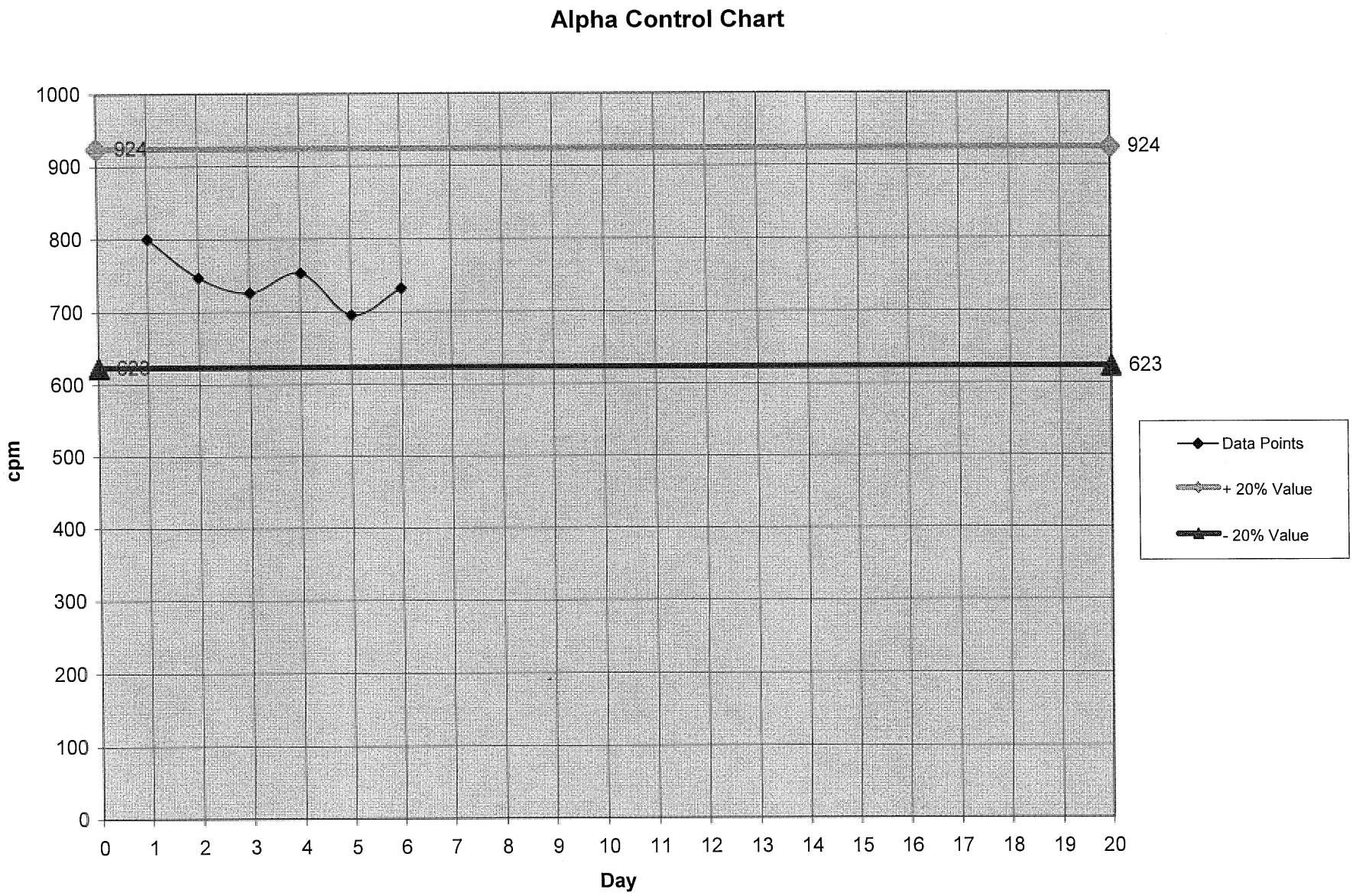
Beta Control Chart



TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	

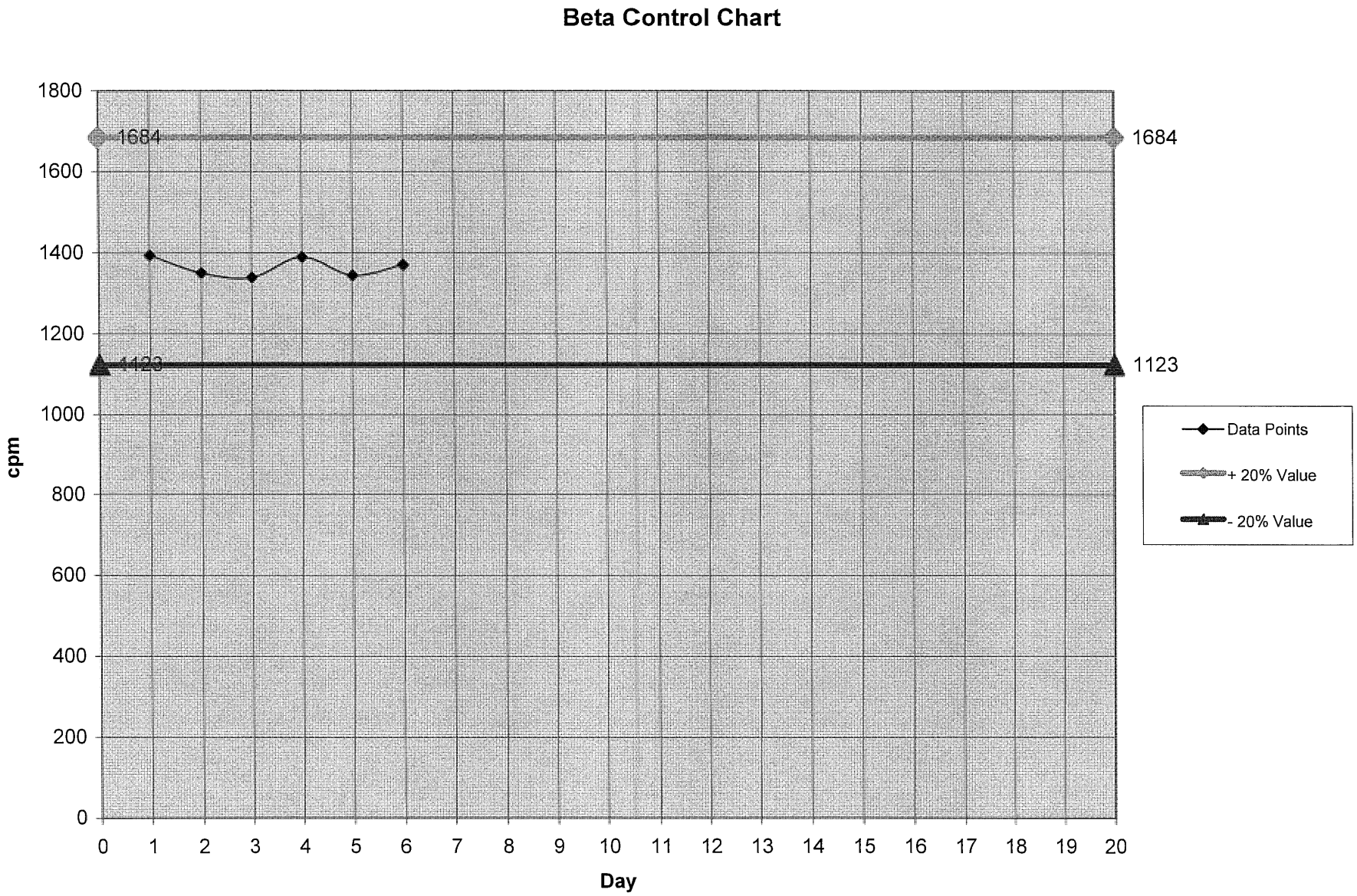

Alpha Control Chart
1000
900
800
700
600
500
400
300
200
100
0
cpm
924
623
924
623
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	


Beta Control Chart
1800
1600
1400
1200
1000
800
600
400
200
0
cpm
1684
1123
1684
1123
Data Points
+ 20% Value
- 20% Value
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1500	1330	6.6	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1561	1391	6.9	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	163	1605	1442	7.2	P	JY	
11/27/2007	0640	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	168	1586	1418	7.1	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	165	1733	1568	7.8	P	JY	
11/29/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	166	1634	1468	7.3	P	SR	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/19/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	677	676	12.8	P	JY	
11/27/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/29/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	679	679	12.9	P	SR	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1500	1330	6.6	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1561	1391	6.9	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	163	1605	1442	7.2	P	JY	
11/27/2007	0640	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	168	1586	1418	7.1	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	165	1733	1568	7.8	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/19/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	677	676	12.8	P	JY	
11/27/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/28/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/19/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	684	684	13.0	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	677	676	12.8	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	
11/20/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1500	1330	6.6	P	JY	
11/21/2007	0715	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	170	1561	1391	6.9	P	JY	
11/26/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	163	1605	1442	7.2	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

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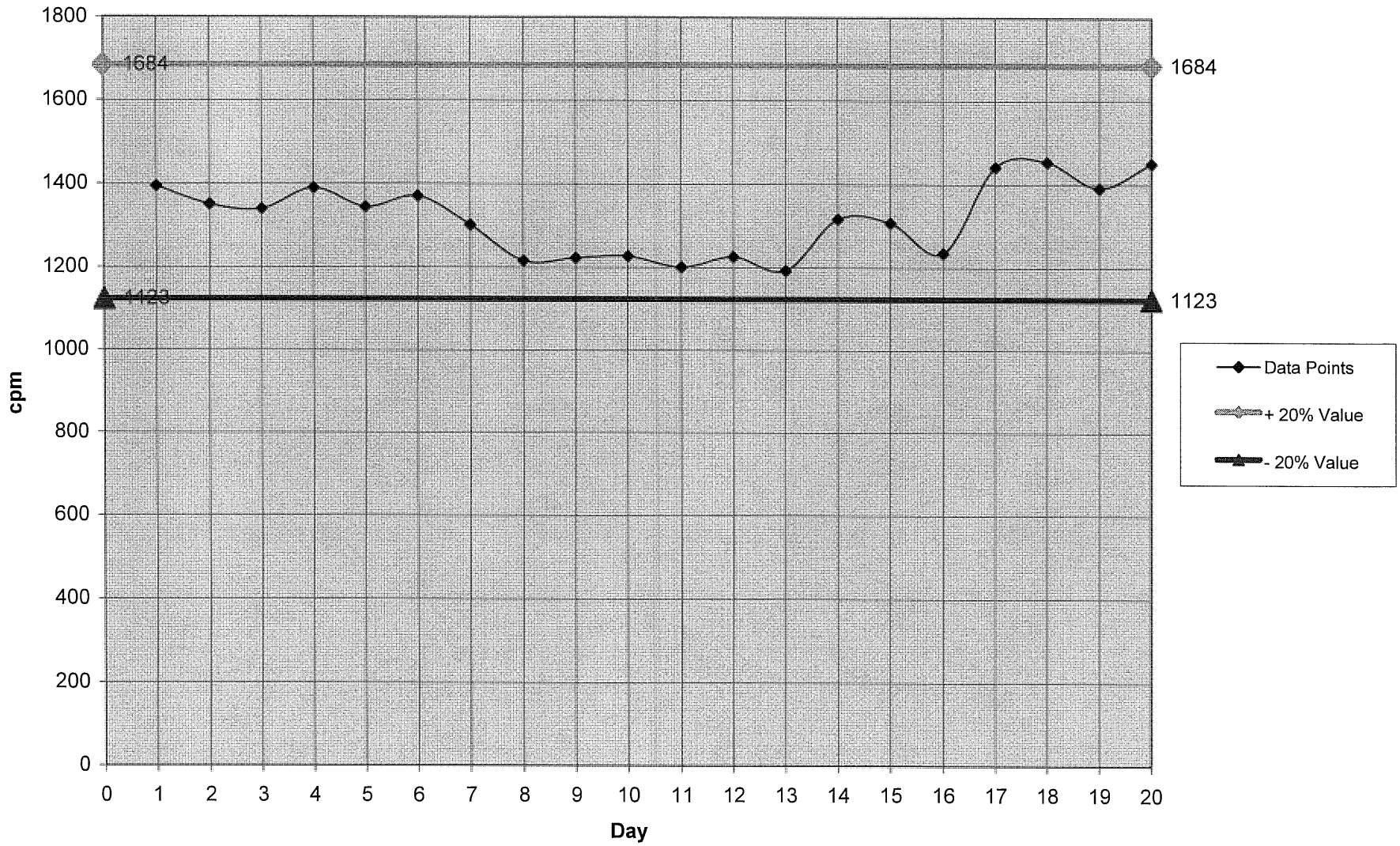
Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	

Beta Control Chart



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DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
11/19/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	178	1628	1450	7.2	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/19/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
11/12/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1451	1307	6.5	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	138	1372	1234	6.2	P	JY	
11/14/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	151	1592	1441	7.2	P	JY	
11/15/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	140	1593	1453	7.3	P	JY	
11/16/2007	0631	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	169	1560	1391	6.9	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
11/12/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	640	640	12.1	P	JY	
11/13/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	680	680	12.9	P	JY	
11/14/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	635	635	12.0	P	JY	
11/15/2007	0630	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	691	691	13.1	P	JY	
11/16/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
11/2/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	143	1358	1215	6.1	P	JY	
11/3/2007	0723	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1370	1222	6.1	P	JY	
11/5/2007	0722	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	123	1349	1226	6.1	P	JY	
11/6/2007	0637	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	137	1337	1200	6.0	P	JY	
11/7/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	174	1399	1225	6.1	P	JY	
11/8/2007	0632	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	139	1331	1192	5.9	P	JY	
11/9/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	148	1464	1316	6.6	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/2/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	2	640	638	12.1	P	JY	
11/3/2007	0727	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	668	668	12.7	P	JY	
11/5/2007	0724	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	633	633	12.0	P	JY	
11/6/2007	0638	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	742	742	14.1	P	JY	
11/7/2007	0639	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	678	677	12.8	P	JY	
11/8/2007	0633	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	682	682	12.9	P	JY	
11/9/2007	0634	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	714	713	13.5	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0737	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	800	800	15.2	P	JY	
10/25/2007	0739	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	1	748	747	14.2	P	SR	
10/26/2007	0735	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	726	726	13.8	P	SR	
10/27/2007	0728	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	753	753	14.3	P	SR	
10/29/2007	0636	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	695	695	13.2	P	JY	
10/30/2007	0628	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-33-1	4,222			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0725	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	152	1545	1393	7.0	P	JY	
10/25/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	164	1514	1350	6.7	P	SR	
10/26/2007	0729	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	176	1515	1339	6.7	P	SR	
10/27/2007	0732	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	144	1533	1389	6.9	P	JY	
10/29/2007	0635	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	153	1497	1344	6.7	P	JY	
10/30/2007	0730	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	156	1526	1370	6.8	P	JY	
11/1/2007	0750	2360/43-89	227422/240340	N	SAT	10/22/2008	564-13-3	16,030	180	1481	1301	6.5	P	JY	
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227422/240340			10/22/2008	564-13-3	16,030			0	0.0			

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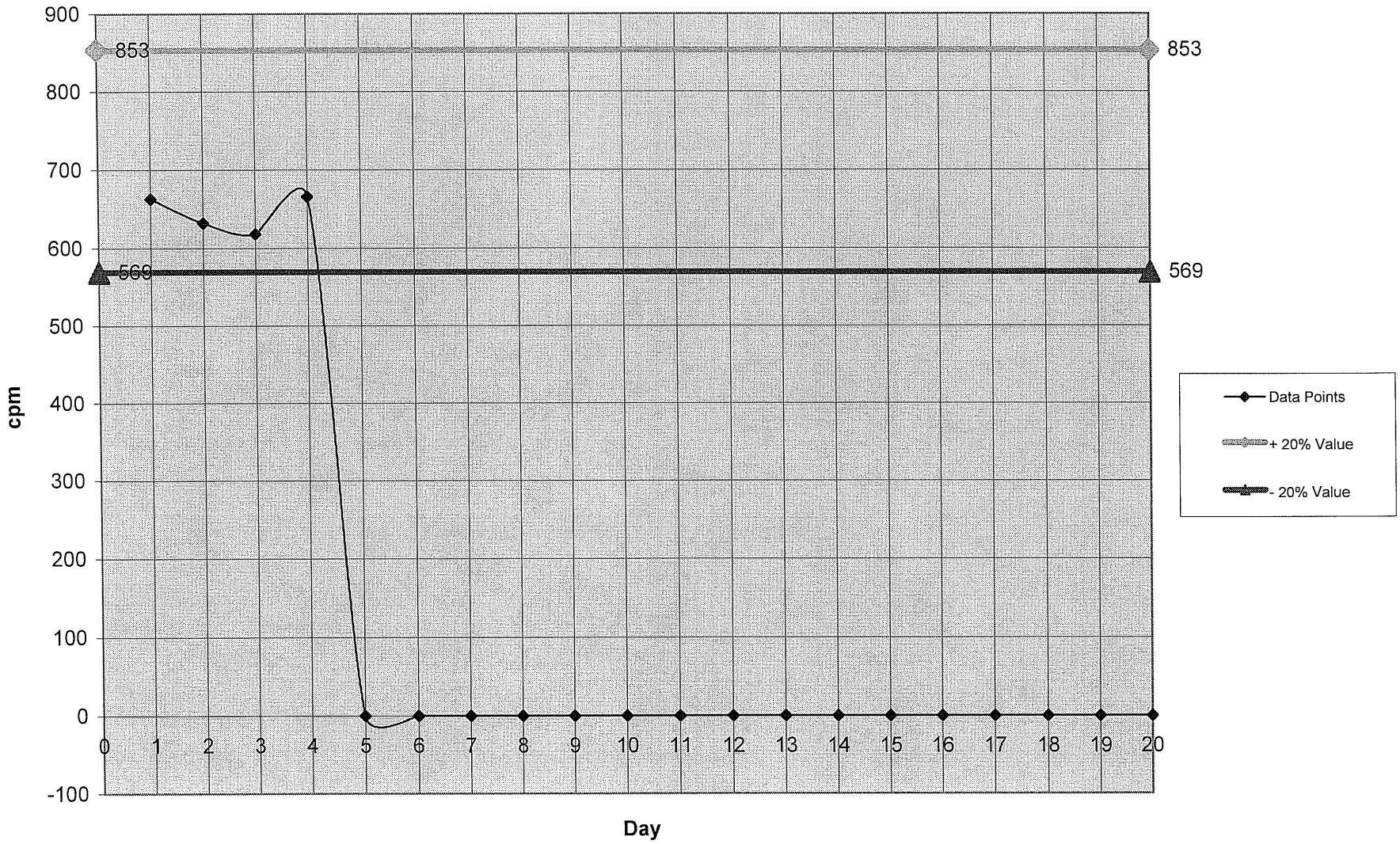
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	663	663	12.6	P	JY	
1/3/2008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	632	632	12.0	P	JY	
1/7/2008	0715	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	619	618	11.7	P	SR	
1/8/2008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	666	666	12.6	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

Alpha Control Chart



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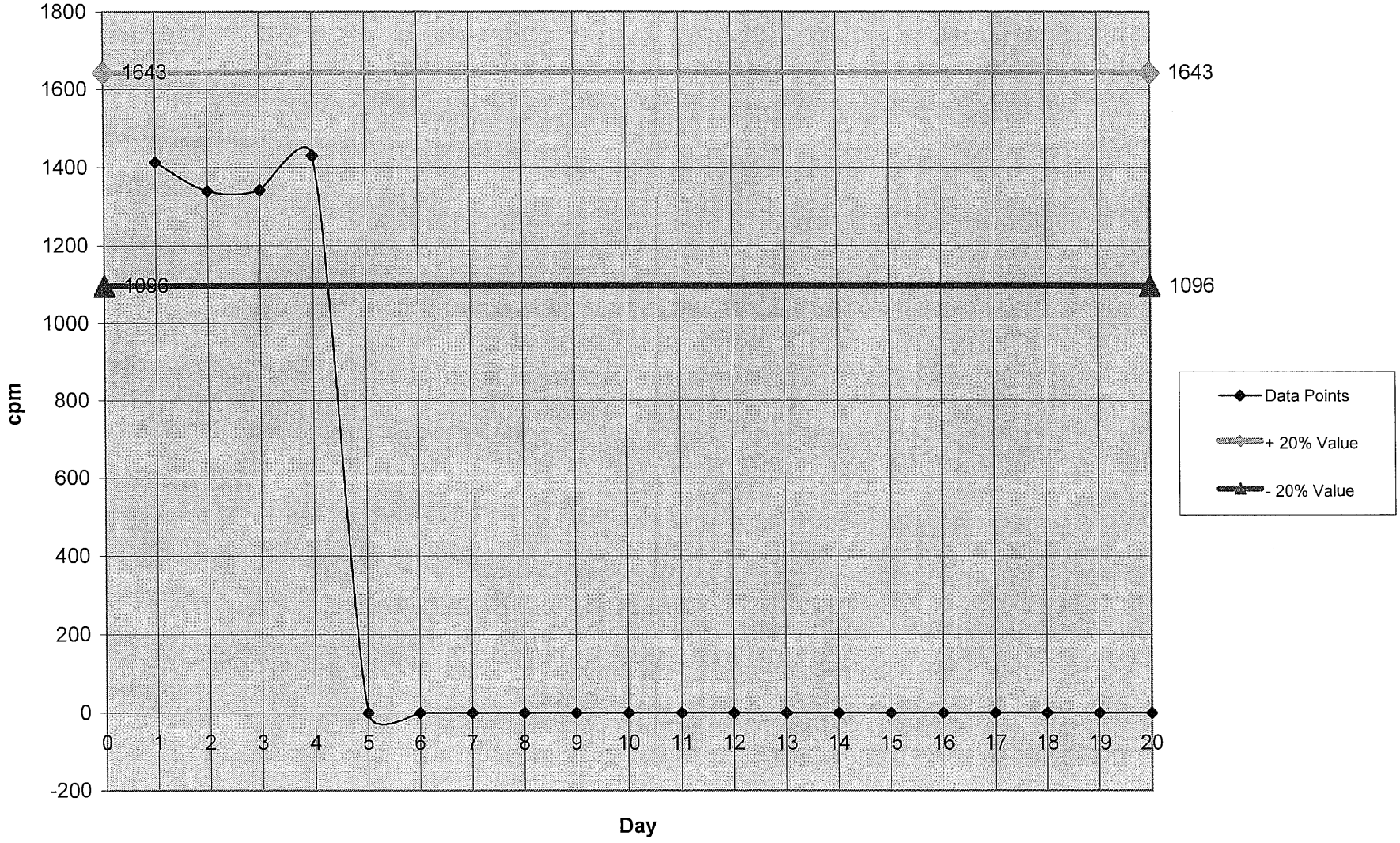
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	128	1541	1413	7.1	P	JY	
1/3/2008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	161	1501	1340	6.7	P	JY	
1/7/2008	0715	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	159	1501	1342	6.7	P	SR	
1/8/2008	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	131	1561	1430	7.1	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

Beta Control Chart



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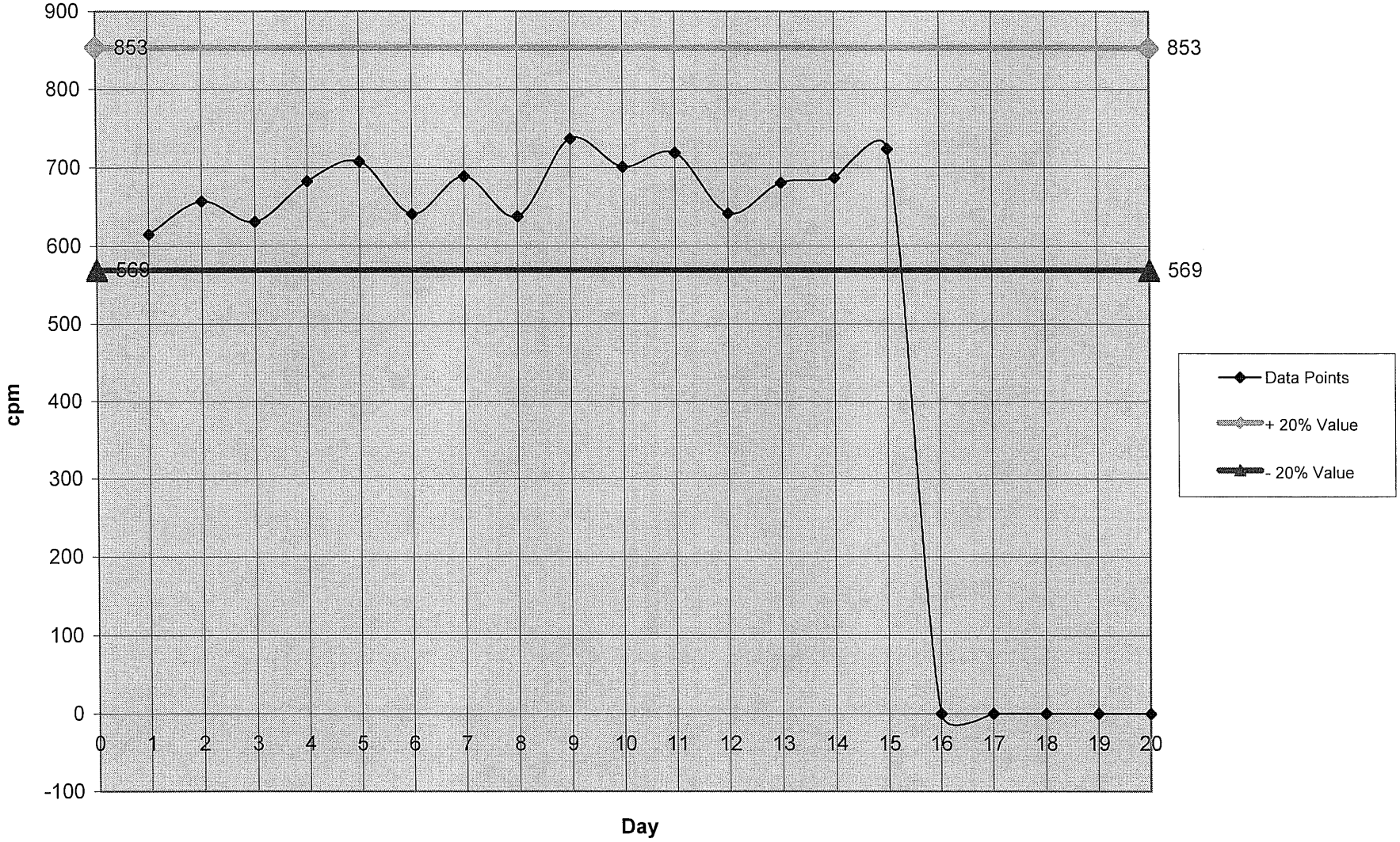
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	616	615	11.7	P	JY	
12/4/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	657	657	12.4	P	JY	
12/5/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	631	631	12.0	P	JY	
12/6/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
12/7/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	709	708	13.4	P	JY	
12/10/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	641	641	12.1	P	JY	
12/11/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
12/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
12/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	738	737	14.0	P	JY	
12/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	702	701	13.3	P	JY	
12/17/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
12/18/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	643	642	12.2	P	JY	
12/19/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
12/20/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	687	687	13.0	P	JY	
12/21/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	724	724	13.7	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

Alpha Control Chart



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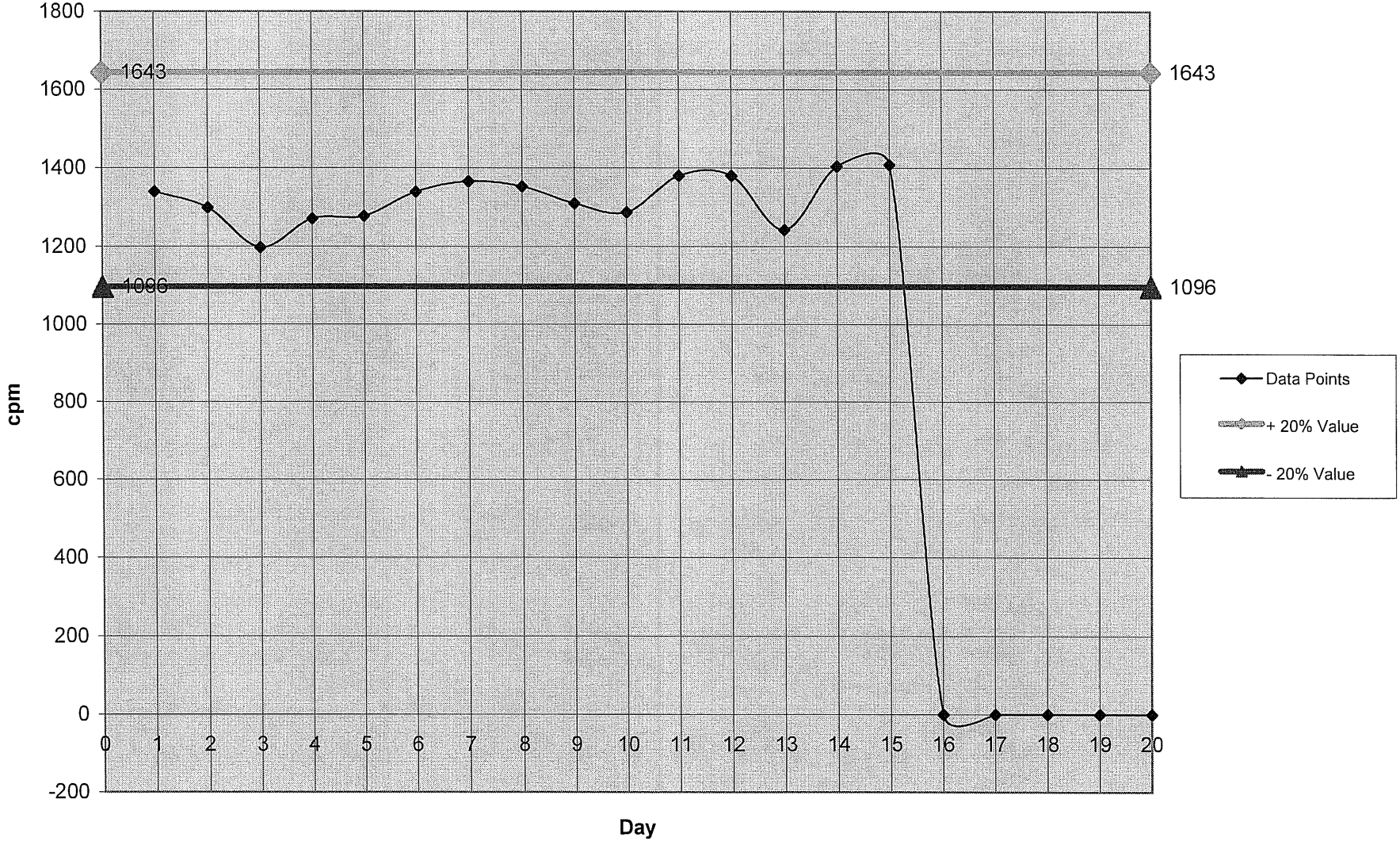
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	124	1464	1340	6.7	P	JY	
12/4/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	118	1417	1299	6.5	P	JY	
12/5/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	134	1331	1197	6.0	P	JY	
12/6/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	137	1408	1271	6.3	P	JY	
12/7/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	139	1416	1277	6.4	P	JY	
12/10/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	138	1477	1339	6.7	P	JY	
12/11/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	127	1493	1366	6.8	P	JY	
12/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	135	1488	1353	6.8	P	JY	
12/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	154	1464	1310	6.5	P	JY	
12/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1450	1287	6.4	P	JY	
12/17/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	147	1527	1380	6.9	P	JY	
12/18/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	162	1542	1380	6.9	P	JY	
12/19/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	175	1417	1242	6.2	P	JY	
12/20/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	146	1550	1404	7.0	P	JY	
12/21/2007	0625	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	135	1543	1408	7.0	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

Beta Control Chart

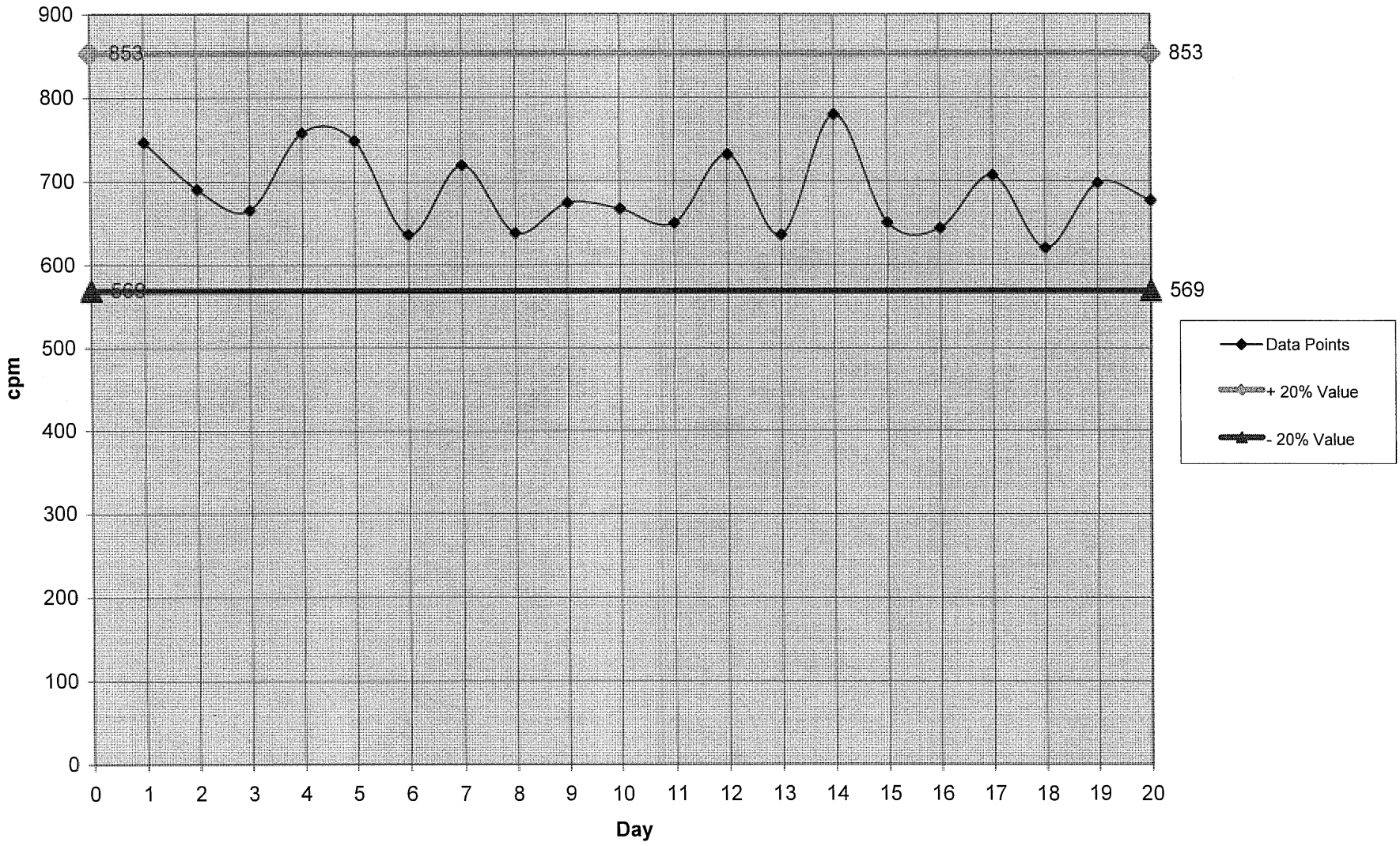


TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

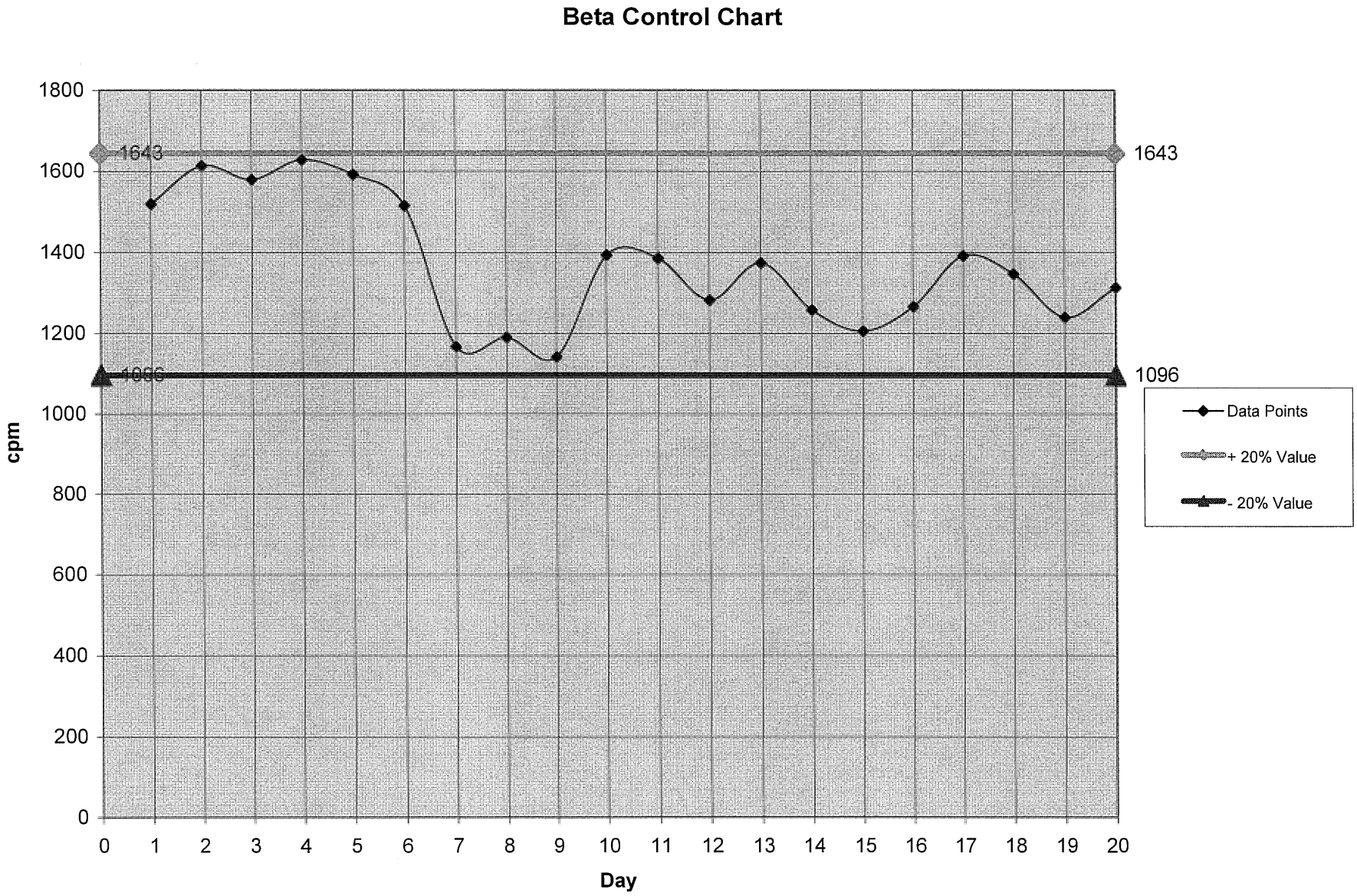
Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	JY	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	SR	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	SR	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
11/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	674	674	12.8	P	JY	
11/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	667	667	12.6	P	JY	
11/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	JY	
11/15/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/16/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/19/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	780	780	14.8	P	JY	
11/20/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	651	651	12.3	P	JY	
11/26/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	644	644	12.2	P	JY	
11/27/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	707	707	13.4	P	JY	
11/28/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	620	620	11.7	P	JY	
11/29/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	698	698	13.2	P	SR	
11/30/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	677	677	12.8	P	JY	


Alpha Control Chart
900
800
700
600
500
400
300
200
100
0
cpm
853
569
853
569
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1705	1518	7.6	P	JY	
11/2/2007	0731	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1788	1612	8.0	P	JY	
11/3/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	200	1778	1578	7.9	P	SR	
11/5/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	181	1808	1627	8.1	P	JY	
11/6/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	165	1756	1591	7.9	P	SR	
11/7/2007	0641	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	185	1699	1514	7.6	P	JY	
11/8/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1342	1166	5.8	P	JY	
11/9/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	109	1298	1189	5.9	P	JY	
11/12/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	146	1287	1141	5.7	P	JY	
11/13/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	138	1530	1392	6.9	P	JY	
11/14/2007	0631	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1516	1384	6.9	P	JY	
11/15/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	155	1437	1282	6.4	P	JY	
11/16/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	159	1532	1373	6.9	P	JY	
11/19/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	184	1441	1257	6.3	P	JY	
11/20/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	135	1340	1205	6.0	P	JY	
11/26/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	167	1432	1265	6.3	P	JY	
11/27/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	178	1568	1390	6.9	P	JY	
11/28/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	131	1477	1346	6.7	P	JY	
11/29/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	150	1389	1239	6.2	P	JY	
11/30/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	155	1468	1313	6.6	P	JY	

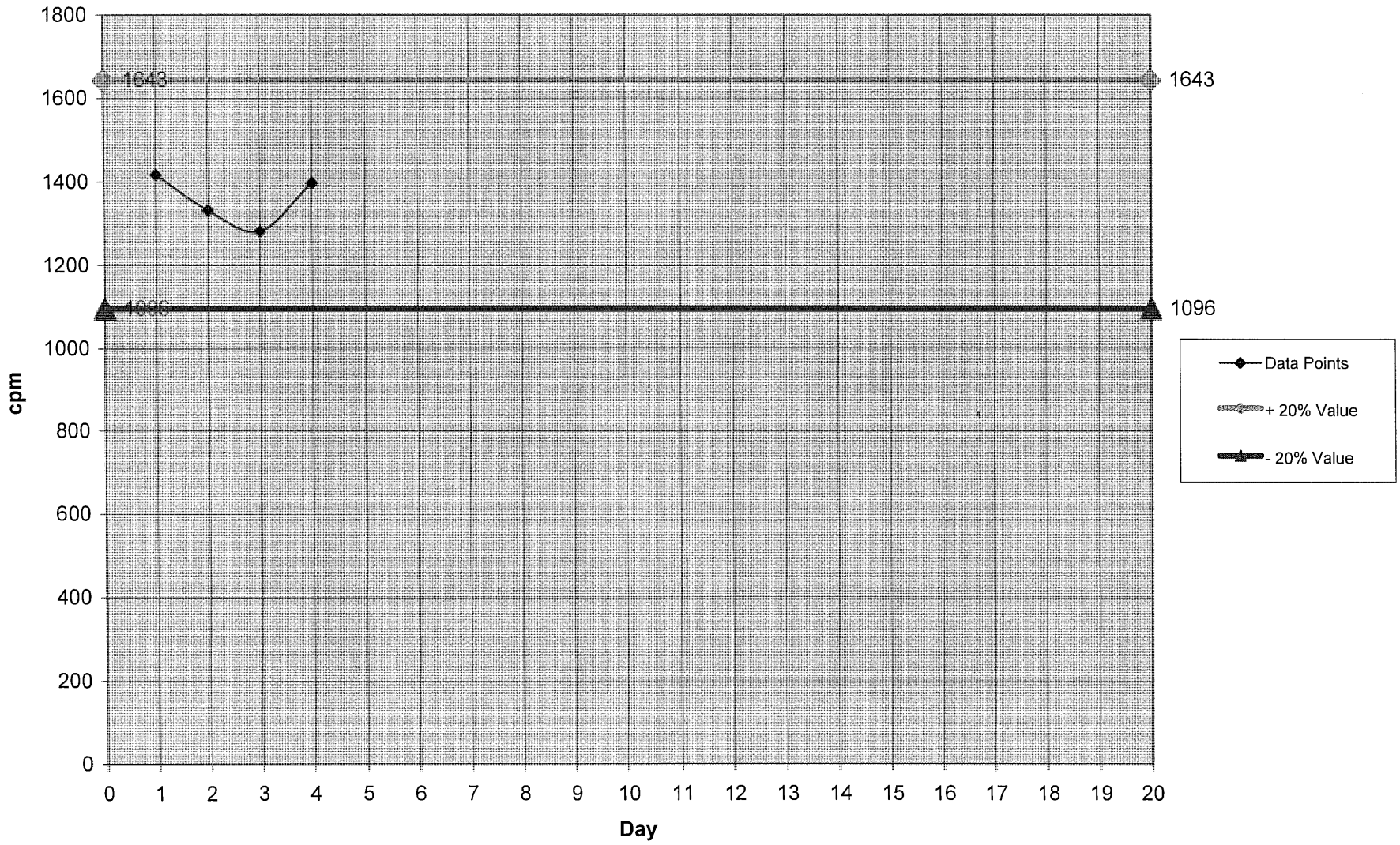

Beta Control Chart
1800
1600
1400
1200
1000
800
600
400
200
0
cpm
1643
1643
1096
1096
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:	Alameda Point														
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	

Beta Control Chart

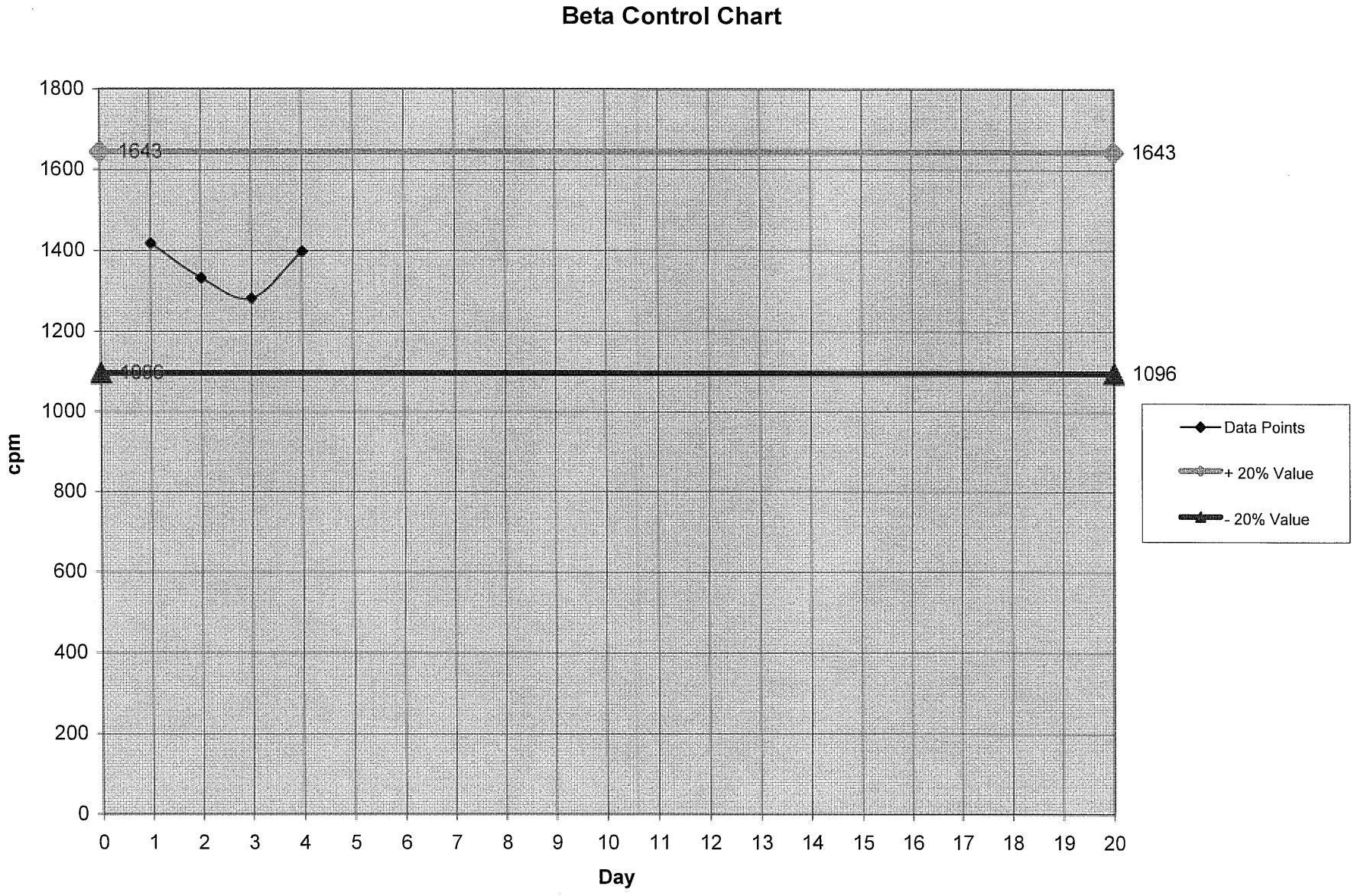


TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	


Beta Control Chart
1800
1600
1400
1200
1000
800
600
400
200
0
cpm
1643
1096
1643
1096
Data Points
+ 20% Value
- 20% Value
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	JY	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	SR	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	SR	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
11/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	674	674	12.8	P	JY	
11/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	667	667	12.6	P	JY	
11/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	JY	
11/15/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/16/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/19/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	780	780	14.8	P	JY	
11/20/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	651	651	12.3	P	JY	
11/26/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	644	644	12.2	P	JY	
11/27/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	707	707	13.4	P	JY	
11/28/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	620	620	11.7	P	JY	
11/29/2007	0721	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	698	698	13.2	P	SR	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point												
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	JY	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	SR	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	SR	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
11/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	674	674	12.8	P	JY	
11/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	667	667	12.6	P	JY	
11/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	JY	
11/15/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/16/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/19/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	780	780	14.8	P	JY	
11/20/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	651	651	12.3	P	JY	
11/26/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	644	644	12.2	P	JY	
11/27/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	707	707	13.4	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1705	1518	7.6	P	SR	
11/2/2007	0731	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1788	1612	8.0	P	JY	
11/3/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	200	1778	1578	7.9	P	JY	
11/5/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	181	1808	1627	8.1	P	JY	
11/6/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	165	1756	1591	7.9	P	JY	
11/7/2007	0641	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	185	1699	1514	7.6	P	JY	
11/8/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1342	1166	5.8	P	JY	
11/9/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	109	1298	1189	5.9	P	JY	
11/12/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	146	1287	1141	5.7	P	JY	
11/13/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	138	1530	1392	6.9	P	JY	
11/14/2007	0631	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1516	1384	6.9	P	JY	
11/15/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	155	1437	1282	6.4	P	JY	
11/16/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	159	1532	1373	6.9	P	JY	
11/19/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	184	1441	1257	6.3	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0734	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	747	747	14.2	P	JY	
10/25/2007	1010	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	745	745	14.1	P	JY	
10/26/2007	0740	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	736	735	13.9	P	SR	
10/31/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	SR	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	JY	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	JY	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
11/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	674	674	12.8	P	JY	
11/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	667	667	12.6	P	JY	
11/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	JY	
11/15/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/16/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/19/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	780	780	14.8	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0734	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	747	747	14.2	P	JY	
10/25/2007	1010	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	745	745	14.1	P	JY	
10/26/2007	0740	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	736	735	13.9	P	SR	
10/31/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	SR	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	JY	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	JY	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
11/12/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	674	674	12.8	P	JY	
11/13/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	667	667	12.6	P	JY	
11/14/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	JY	
11/15/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	732	732	13.9	P	JY	
11/16/2007	0630	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

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Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1705	1518	7.6	P	SR	
11/2/2007	0731	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1788	1612	8.0	P	JY	
11/3/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	200	1778	1578	7.9	P	JY	
11/5/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	181	1808	1627	8.1	P	JY	
11/6/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	165	1756	1591	7.9	P	JY	
11/7/2007	0641	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	185	1699	1514	7.6	P	JY	
11/8/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1342	1166	5.8	P	JY	
11/9/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	109	1298	1189	5.9	P	JY	
11/12/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	146	1287	1141	5.7	P	JY	
11/13/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	138	1530	1392	6.9	P	JY	
11/14/2007	0631	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1516	1384	6.9	P	JY	
11/15/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	155	1437	1282	6.4	P	JY	
11/16/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	159	1532	1373	6.9	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0734	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	747	747	14.2	P	JY	
10/25/2007	1010	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	745	745	14.1	P	JY	
10/26/2007	0740	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	736	735	13.9	P	SR	
10/31/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	SR	
11/2/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	690	690	13.1	P	JY	
11/3/2007	0722	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	665	665	12.6	P	JY	
11/5/2007	0720	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	757	757	14.3	P	JY	
11/6/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	748	748	14.2	P	JY	
11/7/2007	0637	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	636	636	12.1	P	JY	
11/8/2007	0633	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	JY	
11/9/2007	0632	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	638	638	12.1	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1705	1518	7.6	P	SR	
11/2/2007	0731	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1788	1612	8.0	P	JY	
11/3/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	200	1778	1578	7.9	P	JY	
11/5/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	181	1808	1627	8.1	P	JY	
11/6/2007	0640	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	165	1756	1591	7.9	P	JY	
11/7/2007	0641	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	185	1699	1514	7.6	P	JY	
11/8/2007	0635	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	176	1342	1166	5.8	P	JY	
11/9/2007	0636	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	109	1298	1189	5.9	P	JY	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0730	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	145	1562	1417	7.1	P	JY	
10/25/2007	1015	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	132	1464	1332	6.6	P	JY	
10/26/2007	0725	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1468	1281	6.4	P	SR	
10/31/2007	0727	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	163	1560	1397	7.0	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-13-3	16,030	187	1705	1518	7.6	P	SR	
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-13-3	16,030			0	0.0			

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Project: Alameda Point

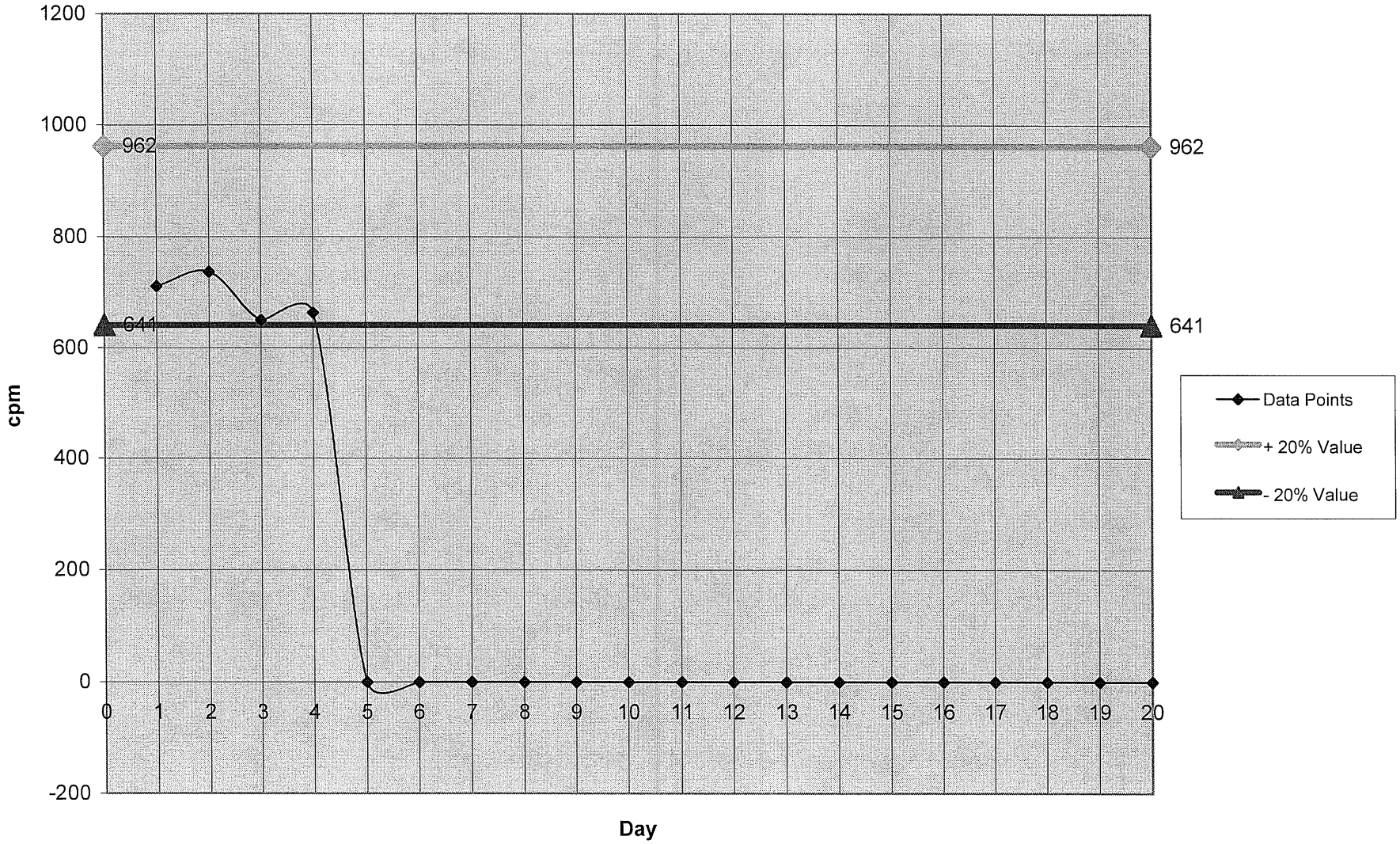
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0734	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	747	747	14.2	P	JY	
10/25/2007	1010	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	745	745	14.1	P	JY	
10/26/2007	0740	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	1	736	735	13.9	P	SR	
10/31/2007	0726	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	694	694	13.2	P	JY	
11/1/2007	0728	2360/43-89	227439/240339	N	SAT	10/22/2008	564-33-1	4,222	0	746	746	14.1	P	SR	
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227439/240339			10/22/2008	564-33-1	4,222			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/2008	0815	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	3	714	711	13.5	P	JY	
1/3/2008	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	738	737	14.0	P	JY	
1/7/2008	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	650	650	12.3	P	SR	
1/8/2008	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	663	663	12.6	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

Alpha Control Chart

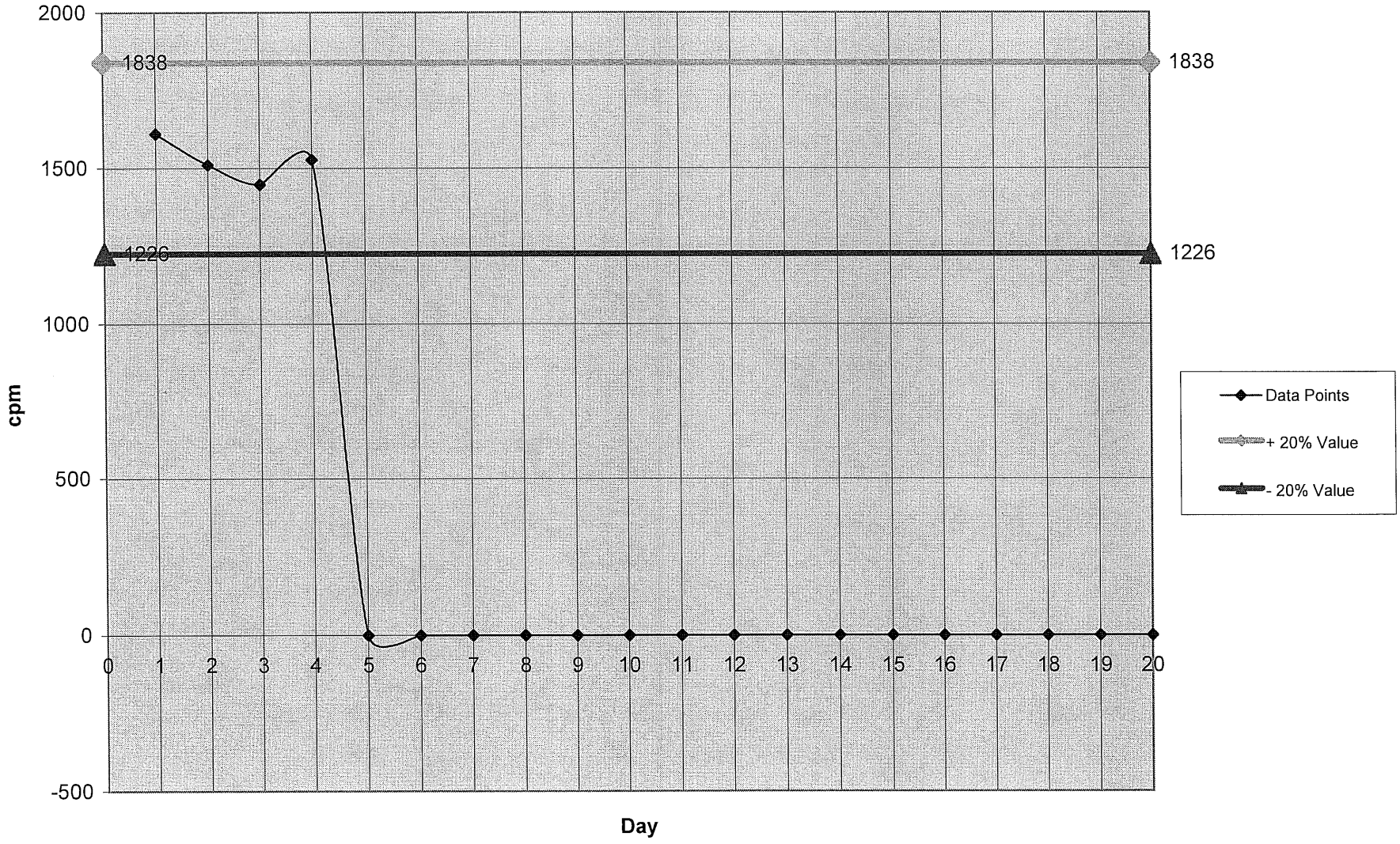


TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/2008	0815	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	222	1832	1610	8.0	P	JY	
1/3/2008	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	210	1721	1511	7.5	P	JY	
1/7/2008	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1647	1448	7.2	P	SR	
1/8/2008	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	186	1713	1527	7.6	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

Beta Control Chart



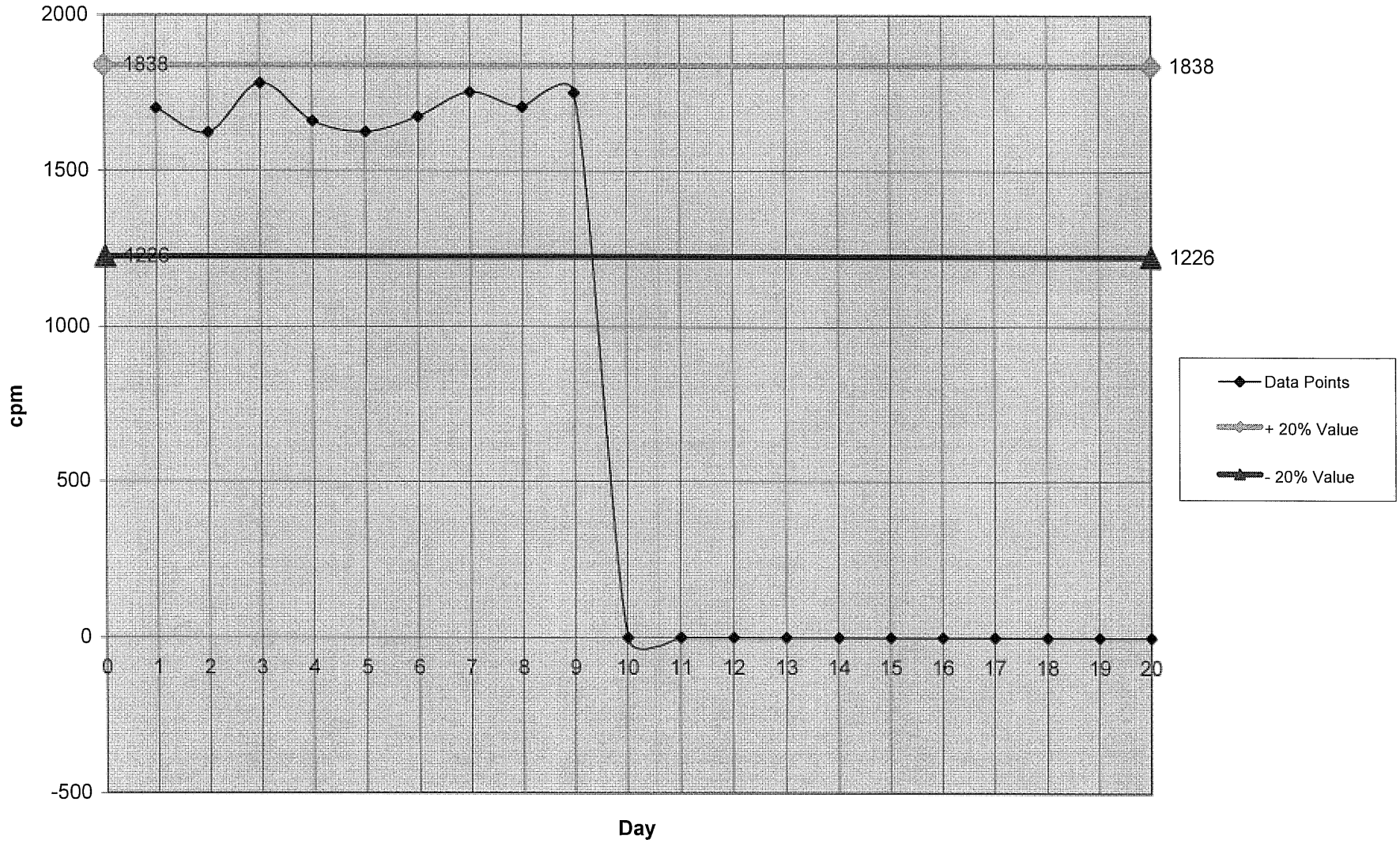
TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	669	669	12.7	P	JY	
12/4/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	750	750	14.2	P	JY	
12/5/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	700	700	13.3	P	JY	
12/6/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	687	687	13.0	P	JY	
12/7/2007	0625	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	715	715	13.5	P	JY	
12/10/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	769	767	14.5	P	JY	
12/11/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
12/12/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
12/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	697	697	13.2	P	JY	
12/14/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/15/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/16/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/17/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/18/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/19/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/20/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
12/21/2007		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			OUT OF SERVICE HOLE IN MYLAR
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

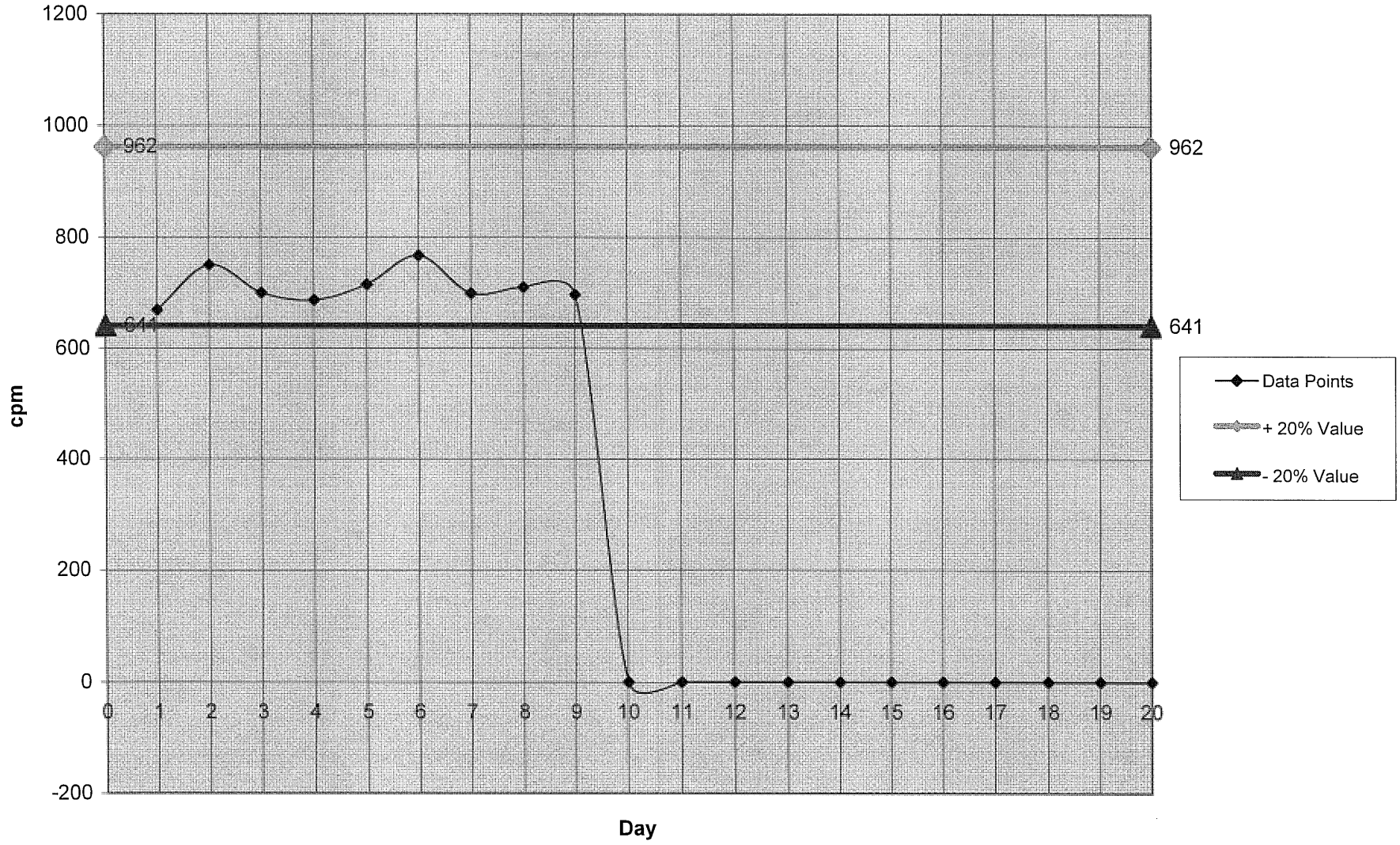
Beta Control Chart



TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
12/3/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	183	1883	1700	8.5	P	JY	
12/4/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	202	1824	1622	8.1	P	JY	
12/5/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1947	1780	8.9	P	JY	
12/6/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1840	1659	8.3	P	JY	
12/7/2007	0625	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	203	1828	1625	8.1	P	JY	
12/10/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	195	1869	1674	8.4	P	JY	
12/11/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	202	1954	1752	8.7	P	JY	
12/12/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	175	1879	1704	8.5	P	JY	
12/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1937	1749	8.7	P	JY	
12/14/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/15/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/16/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/17/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/18/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/19/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/20/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
12/21/2007	N/A	2360/43-89	227399/240348	OOS	N/A	10/22/2008	564-13-3	16,030	N/A	N/A	#VALUE!	#VALUE!			OUT OF SERVICE HOLE IN MYLAR
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

Alpha Control Chart



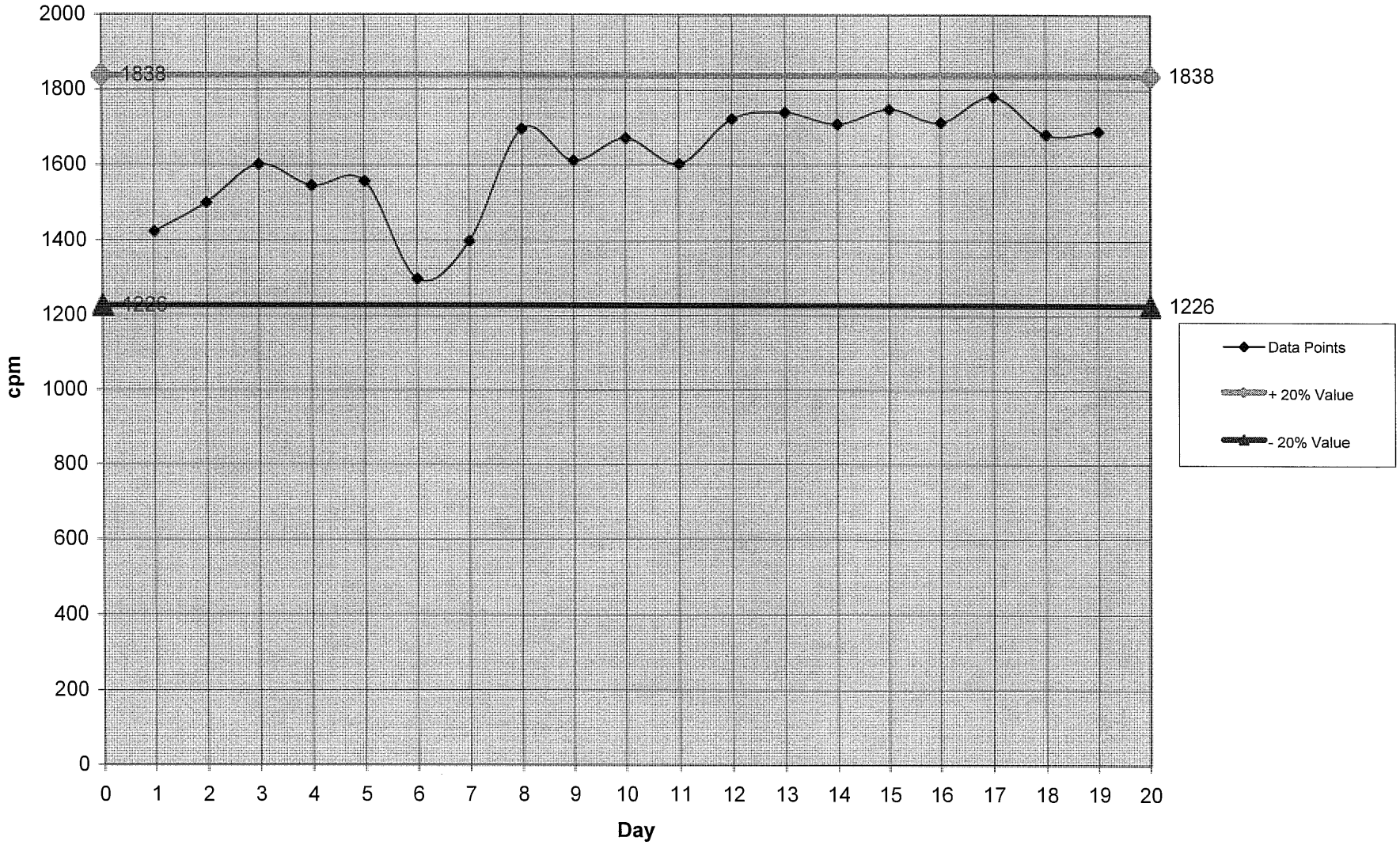
TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/2/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1897	1709	8.5	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	179	1927	1748	8.7	P	JY	
11/27/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	183	1896	1713	8.5	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1973	1781	8.9	P	JY	
11/29/2007	0718	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	210	1891	1681	8.4	P	SR	
11/30/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	195	1885	1690	8.4	P	JY	

Beta Control Chart

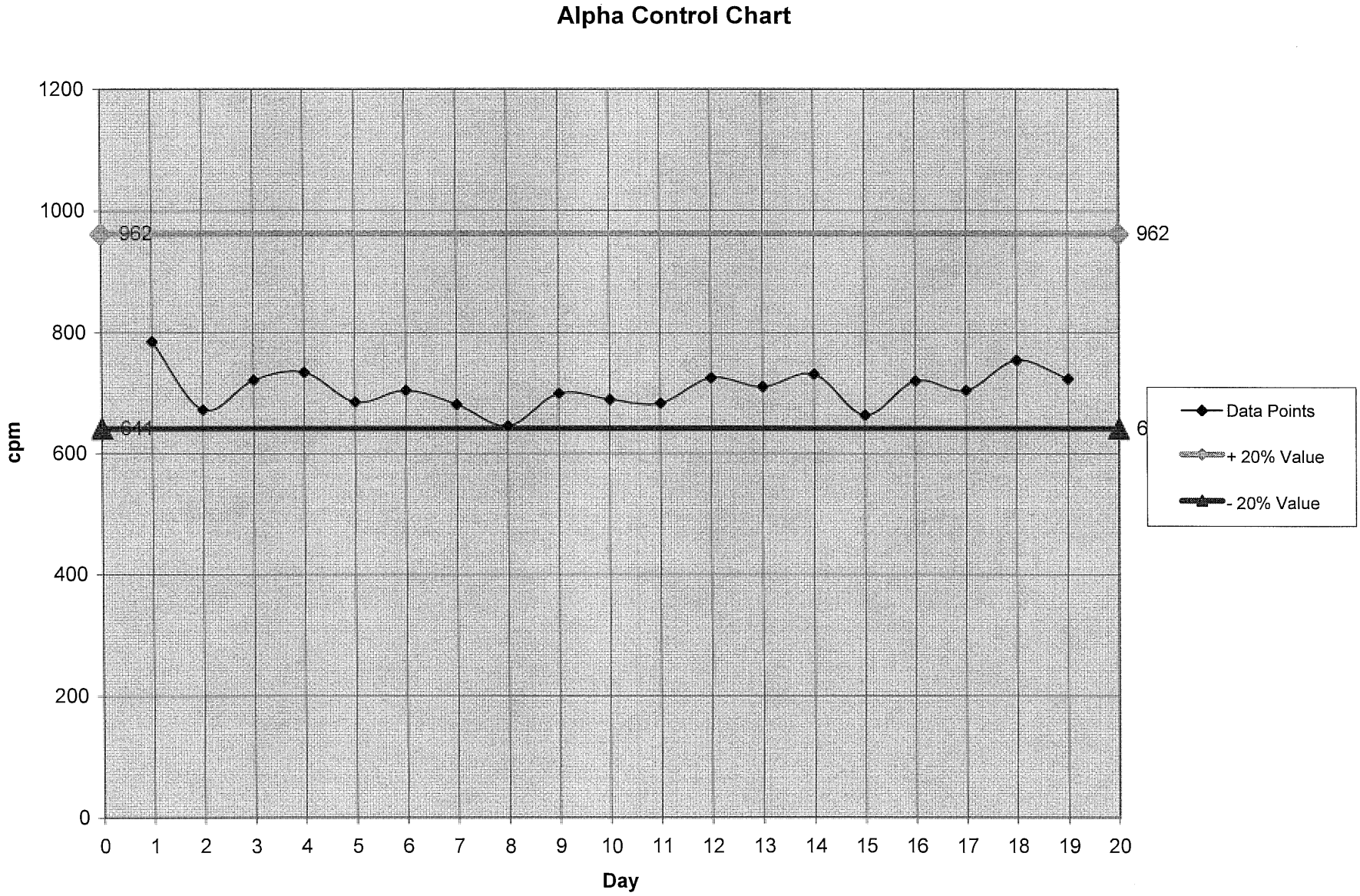


TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	733	731	13.9	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	664	663	12.6	P	JY	
11/27/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	705	704	13.3	P	JY	
11/29/2007	0720	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	SR	
11/30/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	723	723	13.7	P	JY	

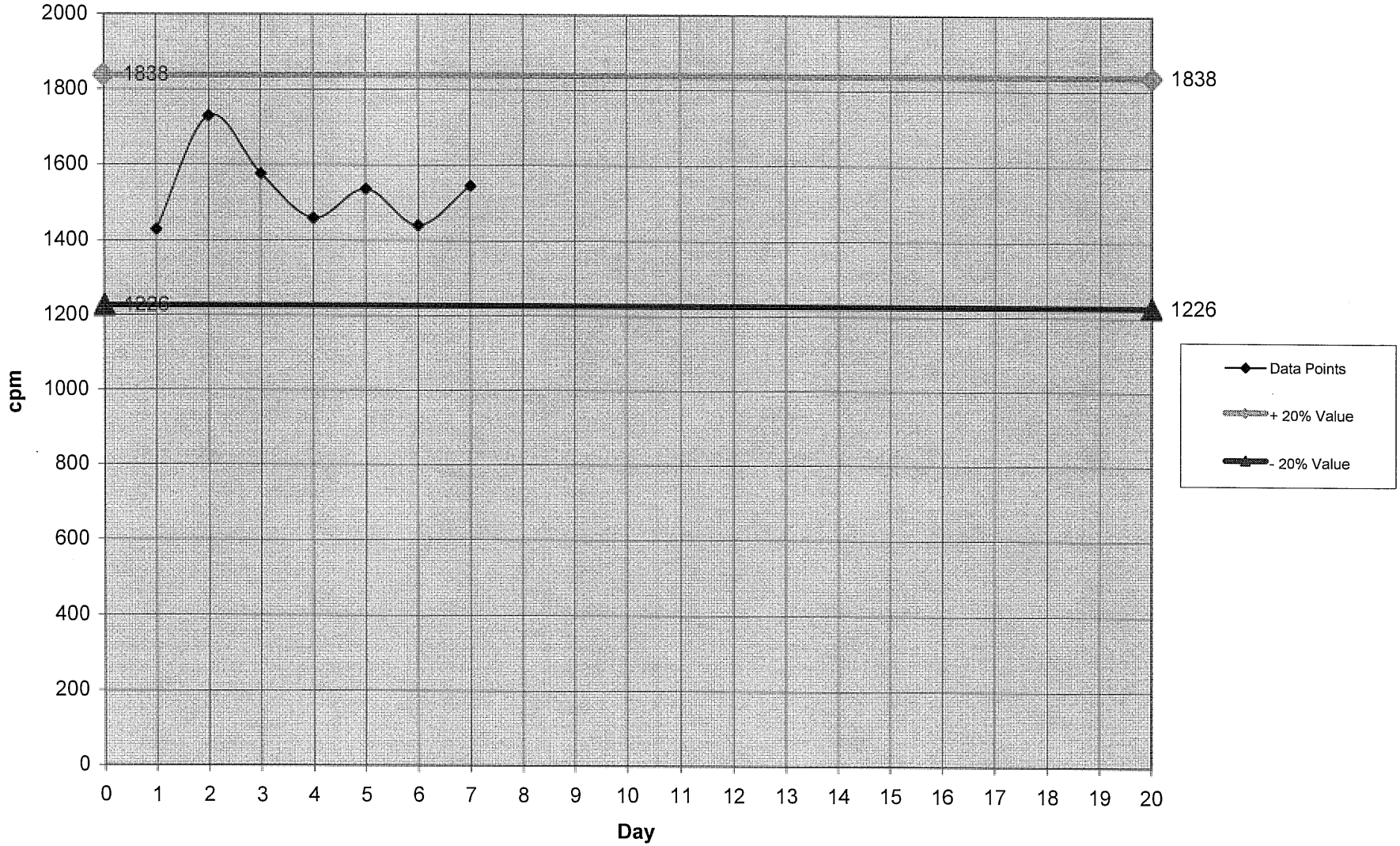

Alpha Control Chart
1200
1000
800
600
400
200
0
cpm
962
962
641
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0631	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	

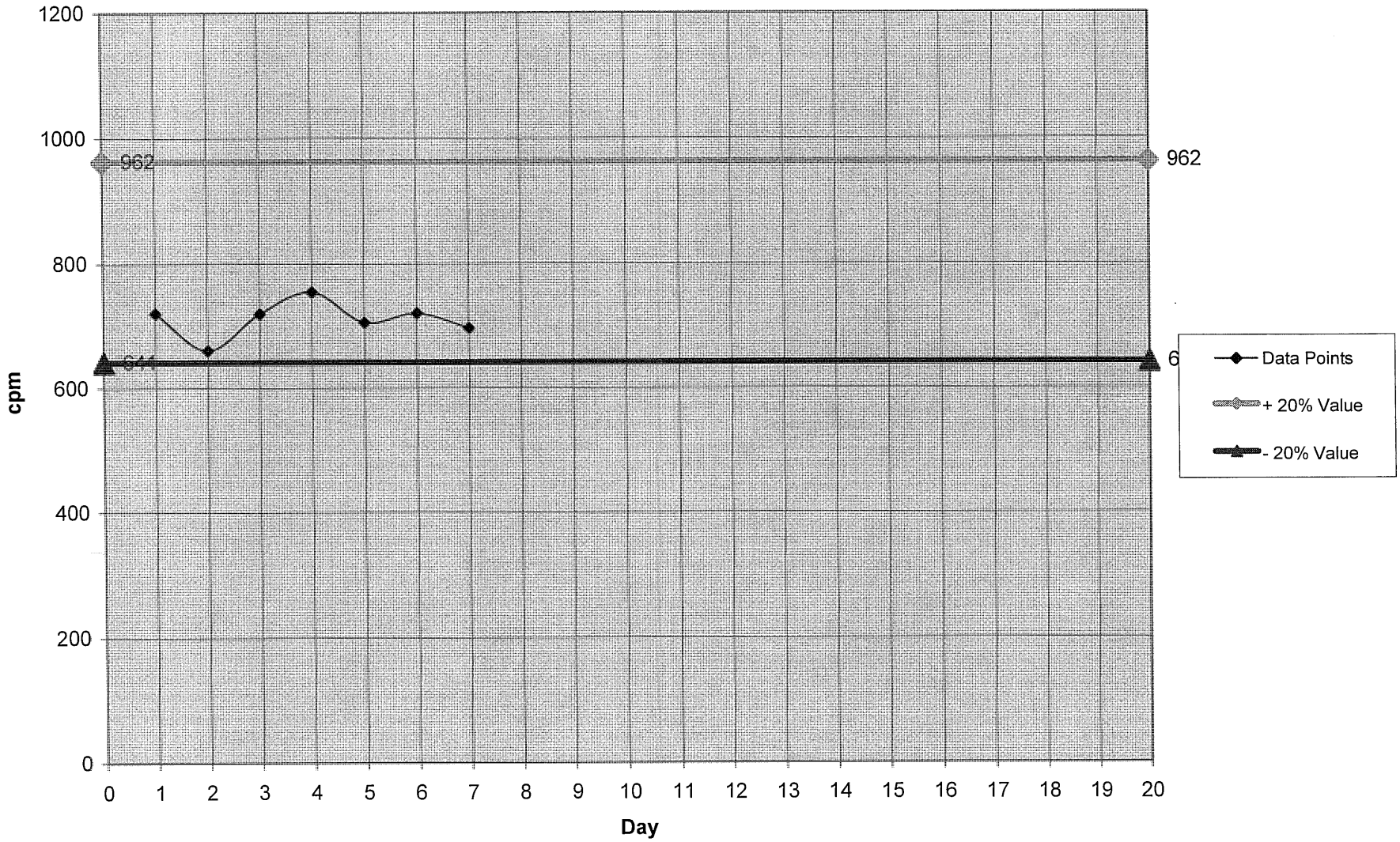
Beta Control Chart



TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	


Alpha Control Chart
1200
1000
800
600
400
200
0
cpm
962
962
6
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day
Data Points
+ 20% Value
- 20% Value

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	733	731	13.9	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	664	663	12.6	P	JY	
11/27/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	705	704	13.3	P	JY	
11/29/2007	0720	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	SR	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/2/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1897	1709	8.5	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	179	1927	1748	8.7	P	JY	
11/27/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	183	1896	1713	8.5	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1973	1781	8.9	P	JY	
11/29/2007	0718	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	210	1891	1681	8.4	P	SR	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

TtECI

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	733	731	13.9	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	664	663	12.6	P	JY	
11/27/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	705	704	13.3	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project:		Alameda Point													
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/2/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1897	1709	8.5	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	179	1927	1748	8.7	P	JY	
11/27/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	183	1896	1713	8.5	P	JY	
11/28/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1973	1781	8.9	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	733	731	13.9	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	664	663	12.6	P	JY	
11/27/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/2/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1897	1709	8.5	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	179	1927	1748	8.7	P	JY	
11/27/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	183	1896	1713	8.5	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	2	733	731	13.9	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	1	664	663	12.6	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
11/2/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	
11/21/2007	0715	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	188	1897	1709	8.5	P	JY	
11/26/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	179	1927	1748	8.7	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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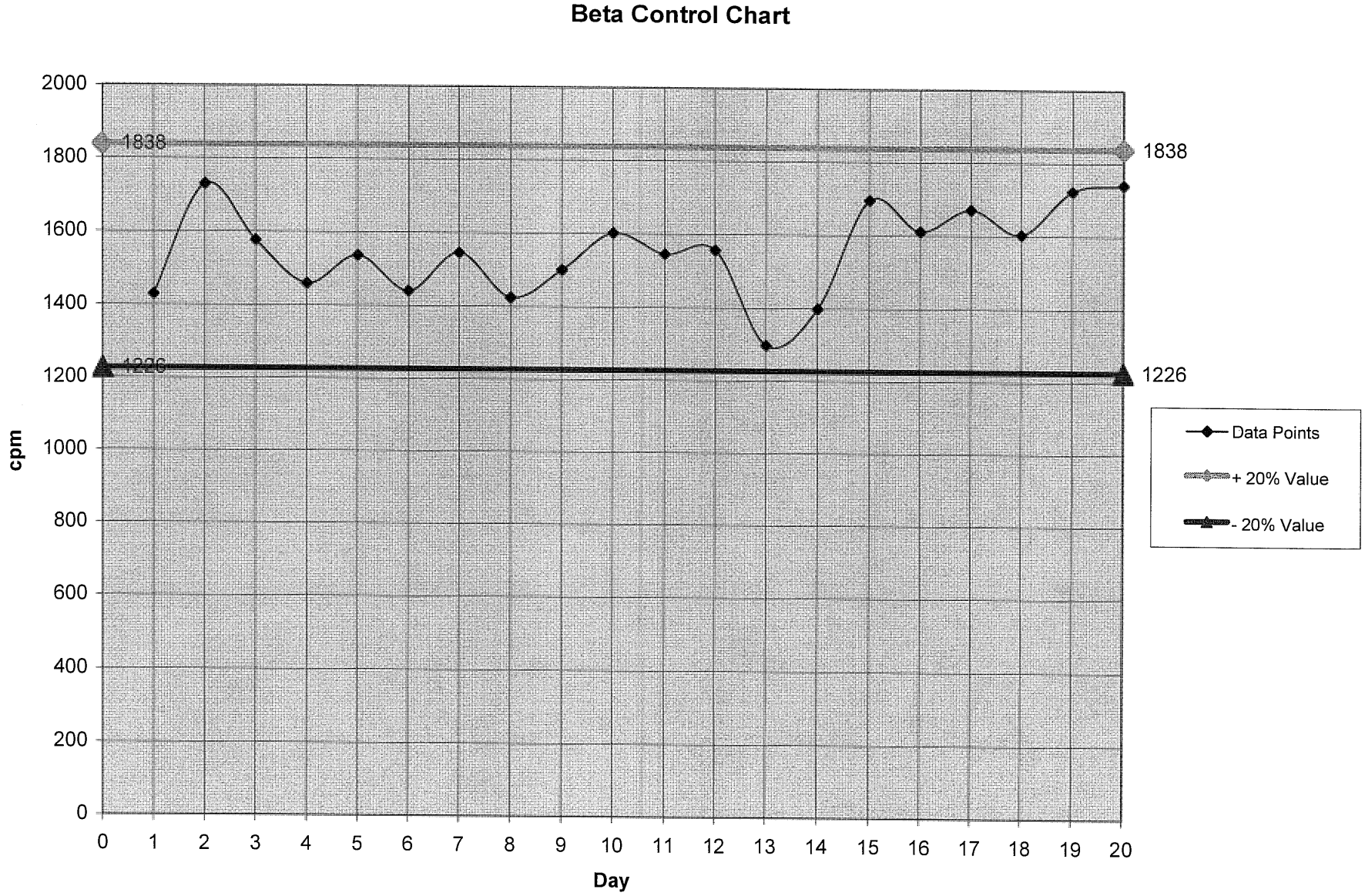
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	
11/1/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	205	1945	1740	8.7	P	JY	


Beta Control Chart
2000
1800
1600
1400
1200
1000
800
600
400
200
0
cpm
1838
1838
1226
1226
Data Points
+ 20% Value
- 20% Value
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Day

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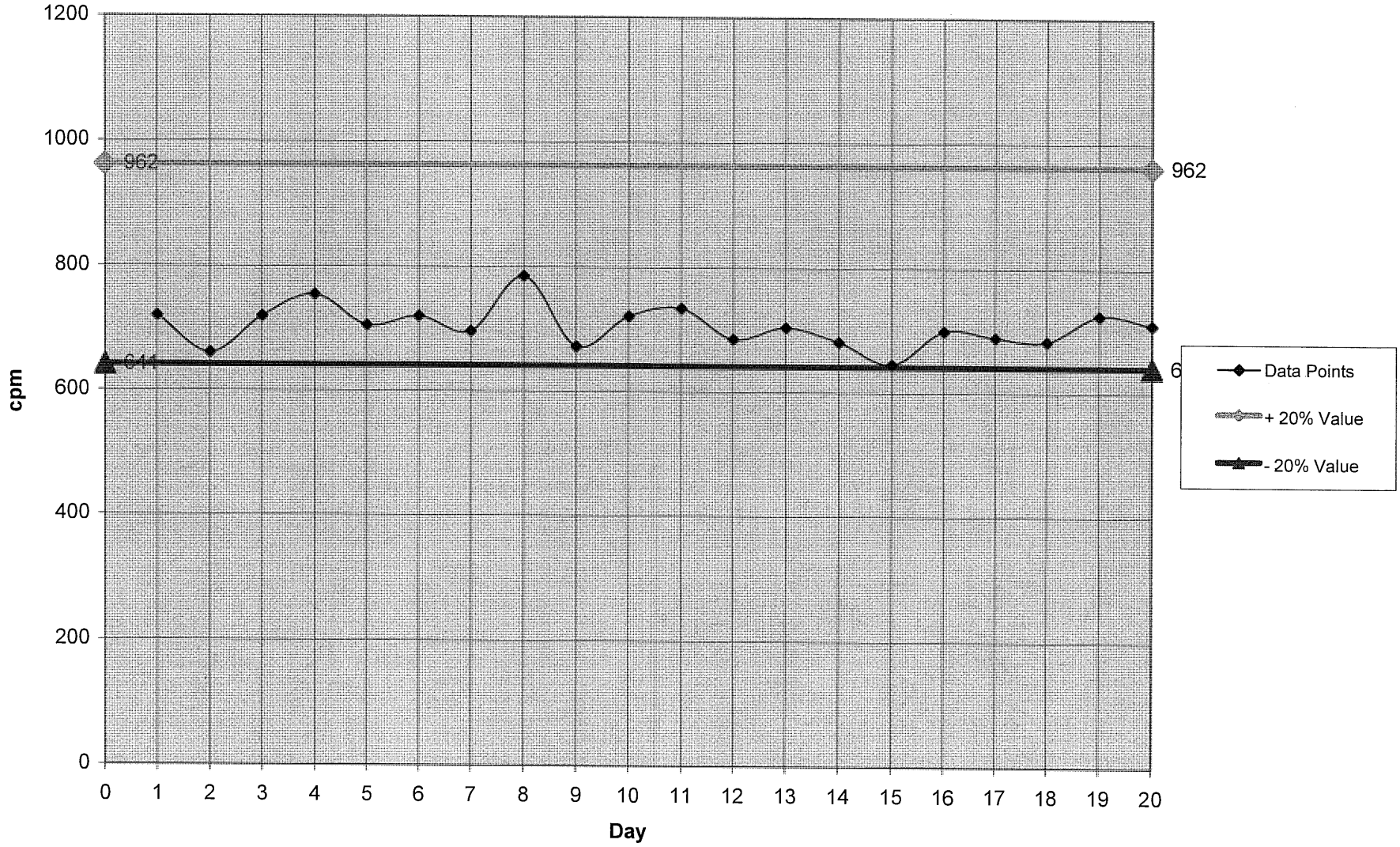
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
11/20/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	710	710	13.5	P	JY	

Alpha Control Chart



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DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
11/19/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	725	725	13.7	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

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DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	
11/1/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
11/19/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	184	1906	1722	8.6	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	
11/1/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
11/13/2007	0633	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	172	1867	1695	8.5	P	JY	
11/14/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1803	1611	8.0	P	JY	
11/15/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1833	1671	8.3	P	JY	
11/16/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	199	1802	1603	8.0	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
11/13/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	645	645	12.2	P	JY	
11/14/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	699	699	13.2	P	JY	
11/15/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	689	689	13.1	P	JY	
11/16/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	683	683	12.9	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

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10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	
11/1/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
11/2/2007	0729	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	211	1710	1499	7.5	P	JY	
11/3/2007	0724	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	162	1763	1601	8.0	P	JY	
11/5/2007	0725	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	189	1734	1545	7.7	P	JY	
11/6/2007	0639	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	173	1729	1556	7.8	P	JY	
11/7/2007	0640	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	193	1490	1297	6.5	P	JY	
11/8/2007	0634	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	174	1572	1398	7.0	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
11/2/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	672	672	12.7	P	JY	
11/3/2007	0721	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	721	721	13.7	P	JY	
11/5/2007	0719	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	734	734	13.9	P	JY	
11/6/2007	0635	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	685	685	13.0	P	JY	
11/7/2007	0636	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	704	704	13.3	P	JY	
11/8/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	681	681	12.9	P	JY	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY betas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1597	1428	7.1	P	JY	
10/25/2007	0733	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	169	1898	1729	8.6	P	SR	
10/26/2007	0732	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	167	1743	1576	7.9	P	SR	
10/27/2007	0735	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	192	1651	1459	7.3	P	SR	
10/29/2007	0632	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	165	1701	1536	7.7	P	JY	
10/30/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	213	1653	1440	7.2	P	JY	
10/31/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	181	1726	1545	7.7	P	JY	
11/1/2007	0728	2360/43-89	227399/240348	N	SAT	10/22/2008	564-13-3	16,030	209	1632	1423	7.1	P	SR	
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-13-3	16,030			0	0.0			

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DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

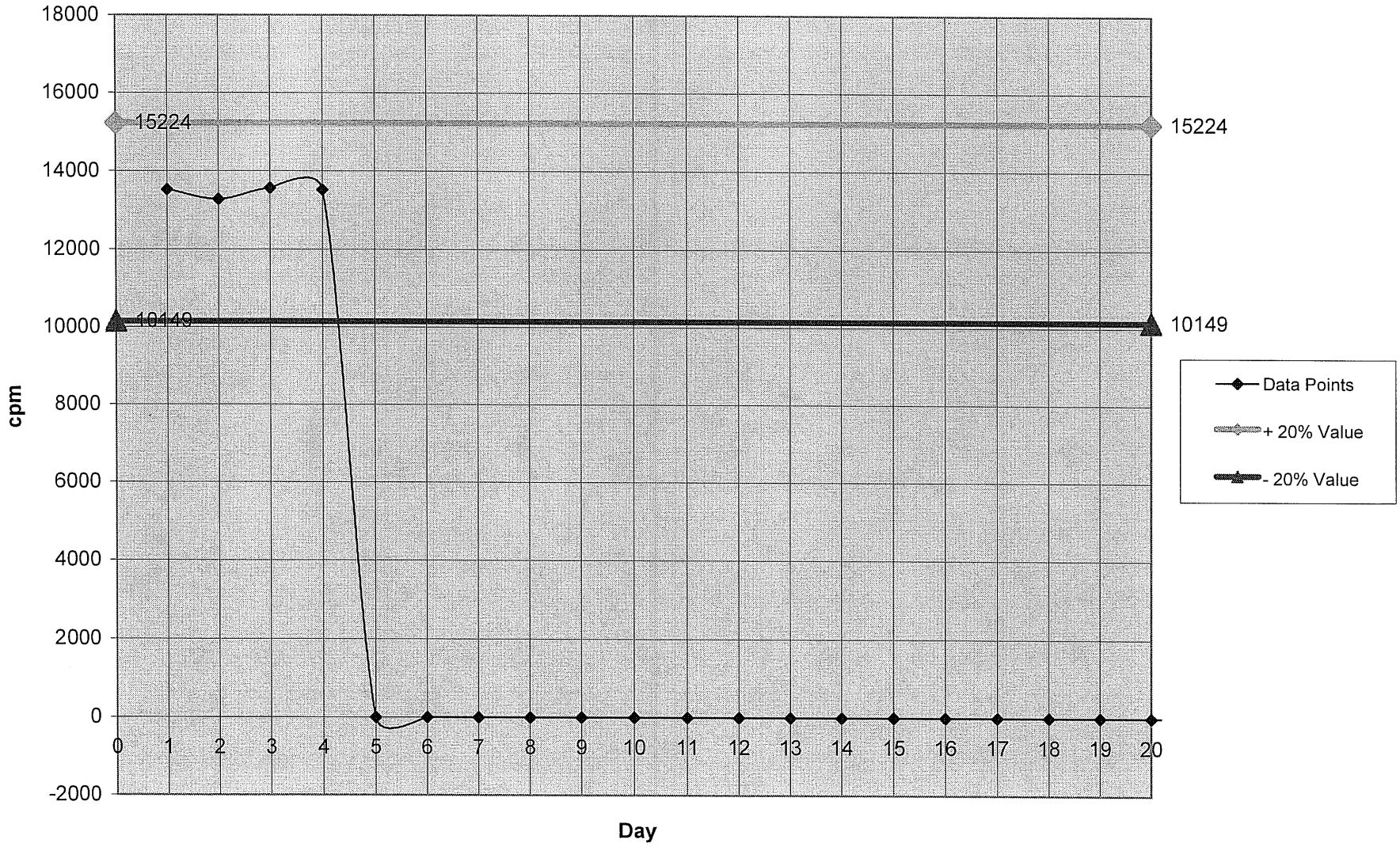
DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY alphas/min	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0740	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/25/2007	0737	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	660	660	12.5	P	SR	
10/26/2007	0736	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	719	719	13.6	P	SR	
10/27/2007	0730	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	754	754	14.3	P	JY	
10/29/2007	0630	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	705	705	13.4	P	JY	
10/30/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	720	720	13.6	P	JY	
10/31/2007	0727	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	696	696	13.2	P	JY	
11/1/2007	0726	2360/43-89	227399/240348	N	SAT	10/22/2008	564-33-1	4,222	0	785	785	14.9	P	SR	
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			
		2360/43-89	227399/240348			10/22/2008	564-33-1	4,222			0	0.0			

TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Cs-137	SOURCE ACTIVITY DPM	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
1/2/2008	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3601	17126	13525	N/A	P	JY	
1/3/2008	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3455	16734	13279	N/A	P	JY	
1/7/2008	0715	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3327	16892	13565	N/A	P	SR	
1/8/2008	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3263	16781	13518	N/A	P	JY	
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			

Gamma Control Chart



TtECI
DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Alameda Point

DATE	TIME	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	Battery Check SAT/UNSAT	CAL. DUE DATE	SOURCE I.D Cs-137	SOURCE ACTIVITY DPM	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.	Reviewer Print/Signature
10/24/2007	0800	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3791	16682	12891	N/A	P	JY	
10/25/2007	0800	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3694	16940	13246	N/A	P	SR	
10/26/2007	0845	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	2905	16662	13757	N/A	P	JY	
10/29/2007	0730	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3772	18563	14791	N/A	P	JY	
11/5/2007	0730	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	4230	18448	14218	N/A	P	JY	
11/6/2007	0645	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	4152	18853	14701	N/A	P	JY	
12/12/2007	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3457	15489	12032	N/A	P	JY	
12/13/2007	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3548	17052	13504	N/A	P	JY	
12/14/2007	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3536	16972	13436	N/A	P	JY	
12/17/2007	0630	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3211	17042	13831	N/A	P	JY	
12/18/2007	0625	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3687	17050	13363	N/A	P	JY	
12/19/2007	0625	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3334	17889	14555	N/A	P	JY	
12/20/2007	0625	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3343	16844	13501	N/A	P	JY	
12/21/2007	0625	2221/44-10	187758/240374	N	SAT	8/24/2008	A7-275	88,531	3355	17302	13947	N/A	P	JY	
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			
		2221/44-10	187758/240374			8/24/2008	A7-275	88,531			0	N/A			

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12.1.07 To:	034	C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	12.1.07	0630				7	1750	P	~~JS~~
Post	12.3.07	0646				5	1795	P	~~JS~~
Pre	12.3.07	0646				5	1795	P	
Post	12.4.07	0600				5	1745	P	JS
Pre	12.4.07	0600				5	1745	P	JS
Post	12.5.07	0700				5	1650	P	~~JS~~
Pre	12.6.07	0700				5	1750	P	~~JS~~
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post			N/A						
Pre									
Post									
Pre	N/A						N/A		
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
MARC WELDIN	12-5-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:
CTO15	From: 8-6-07 To:	034

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
C665J	Micro Rem	3-14-07	3-14-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
N/A	N/A	N/A	N/A	N/A	N/A

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
8-6-07	1500	B. Dickenson	
Alpha Background (uR/hr):	**Alpha Count Time (min):**	**Beta/Gamma Background (uR/hr):**	**Beta/Gamma Count Time (min):**
N/A	N/A	4	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net uR/hr)
1		1600
2		1600
3		1600
4		1600
5	N A	1600
6		1600
7		1600
8		1600
9		1600
10		1600

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (net uR/hr)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
1,600	1,920	1,280

Reviewed By (print and sign)	Date
Lawrence Casey	9-12-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 11.10.07 To: 12.1.07	034	C665J

Operational Checks

	Date	Time	Alpha Background ( )	Alpha Source Check (net)	Alpha P/F*	Beta/Gamma Background ( )	Beta/Gamma Source Check (net)	Beta/Gamma P/F*	RCT Initials
Pre	11.10.07	0600				5	1700	P	QJ
Post	11.12.07	0656				5	1695	P	PR
Pre	11.12.07	0656				5	1695	P	PR
Post	11.13.07	0656				5	1595	P	PR
Pre	11.13.07	0656				5	1595	P	PR
Post	11.14.07	0600				5	1400	P	QJ
Pre	11.14.07	0600				5	1400	P	QJ
Post	11.15.07	0645				5	1895	P	PR
Pre	11.15.07	0645				5	1895	P	PR
Post	11.16.07	0600				5	1650	P	QJ
Pre	11.16.07	0600		N		5	1650	P	QJ
Post	11.17.07	0600				6	1656	P	QJ
Pre	11.17.07	0600				6	1650	P	QJ
Post	11.19.07	0640		A		5	1695	P	PR
Pre	11.19.07	0640				5	1695	P	PR
Post	11.20.07	0640				5	1695	P	PR
Pre	11.26.07	0640				5	1695	P	PR
Post	11.27.07	0600				7	1700	P	QJ
Pre	11.27.07	0600				7	1700	P	QJ
Post	11.28.07	1440				7	1700	P	QJ
Pre	11.28.07	0730				7	1793	P	PR
Post	11.29.07	0730				7	1793	P	PR
Pre	11.29.07	0700				7	1700	P	QJ
Post	12.1.07	0630				7	1750	P	QJ

0630

Reviewed By (print and sign) Lawrence Coty

Date 12-4-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10-17-07 To: 11-10-07	034	C665J

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10 17 07	0630				5	1500	P	GJ
Post	10.19.07	0600				7	1600	P	GJ
Pre	10.19.07	0600				7	1600	P	GJ
Post	10.20.07	0600				7	1600	P	GJ
Pre	10.20.07	0600				7	1600	P	GJ
Post	10.22.07	0600				7	1593	P	RR
Pre	10.22.07	600				7	1593	P	RR
Post	10.23.07	0600				7	1650	P	GJ
Pre	10.23.07	0600				7	1650	P	GJ
Post	10.26.07	0715				7	1793	P	RR
Pre	10.26.07	0715				7	1793	P	RR
Post	10.29.07	0600				7	1600	P	GJ
Pre	10.29.07	0600				7	1600	P	GJ
Post	10.30.07	0635				7	1493	P	RR
Pre	10.30.07	0634				7	1493	P	RR
Post	10.31.07	0700				7	1650	P	GJ
Pre	10.31.07	0700				7	1650	P	GJ
Post	11.1.07	0640				7	1693	P	RR
Pre	11.1.07	0640				7	1693	P	RR
Post	11.2.07	0600				7	1600	P	GJ
Pre	11.2.07	0600				7	1600	P	GJ
Post	11.3.07	0640				7	1793	P	RR
Pre	11.3.07	0641				7	1793	P	RR
Post	11 5 07	0600				7	1700	P	GJ
Pre	11 5 07	0600				7	1700	P	GJ
Post	11.7.07	0600				7	1700	P	GJ
Pre	11.7.07	0600				7	1700	P	GJ
Post	11.10.07	0600				5	1700	P	GJ

Reviewed By (print and sign) Laurence Casey

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 8-30-07 To:	034	C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (net cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8/30/07	0630				7	1393	P	PR
Post	9-4-07	0610				7	1393	P	PR
Pre	9-4-07	0610				7	1393	P	PR
Post	9-5-07	0800				7	1393	P	PR
Pre	9-5-07	0806				7	1393	P	PR
Post	9.6.07	0736				7	1393	P	PR
Pre	9.6.07	0730				7	1393	P	PR
Post	9.7.07	0736				7	1393	P	PR
Pre	9.7.07	0730	N			7	1393	P	PR
Post	9.10.07	0800				7	1393	P	PR
Pre	9.10.07	0800				7	1393	P	PR
Post	9-11-07	0630				5	1395	P	SR
Pre	9-11-07	0630				5	1395	P	SR
Post	9-12-07	0630				5	1395	P	SR
Pre	9-12-07	0630				5	1395	P	SR
Post	9-13-07	0630				7	1793	P	SR
Pre	9-13-07	0630				7	1793	P	SR
Post	9.14.07	0700				7	1393	P	PR
Pre	9.14.07	0700				7	1393	P	PR
Post	9.17.07	0630			A	7	1393	P	PR
Pre	9.17.07	0630				7	1393	P	PR
Post	9.18.07	0630				7	1393	P	PR
Pre	9.18.07	0630				7	1393	P	PR
Post	9.24.07	0710	RS 9.24.07			7	1593	P	PR
Pre	9.24.07	0710				7	1593	P	PR
Post	9.25.07	0640				7	1493	P	PR
Pre	9.25.07	0640				7	1493	P	PR
Post	9-26-07	0650				7	1493	P	PR

Reviewed By (print and sign)	Date
Lawrence Cass	11-6-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT815	From: 9-27-07 To:	034	C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9.26.07	0650				7	1493	P	FD
Post	9.27.07	0650				7	1493	P	FD
Pre	9.27.07	0650				7	1493	P	FD
Post	10.1.07	0700				7	1493	P	FD
Pre	10.1.07	0700				7	1493	P	FD
Post	10.2.07	0700				7	1493	P	FD
Pre	10.2.07	0700				7	1493	P	FD
Post	10.3.07	0800				7	1493	P	FD
Pre	10.3.07	0800				7	1493	P	FD
Post	10.4.07	0700				7	1493	P	FD
Pre	10.4.07	0700				7	1493	P	FD
Post	10.5.07	0700				7	1493	P	FD
Pre	10.5.07	0700				7	1493	P	FD
Post	10.6.07	0930	N	A		7	1493	P	FD
Pre	10.6.07	0930				7	1493	P	FD
Post	10.8.07	0650				7	1493	P	FD
Pre	10.8.07	0650				7	1493	P	FD
Post	10.9.07	0630				7	1493	P	FD
Pre	10.9.07	0630				7	1493	P	FD
Post	10.10.07	0630				7	1493	P	FD
Pre	10.10.07	0630				7	1493	P	FD
Post	10.11.07	0630				7	1493	P	FD
Pre	10.11.07	0630				7	1493	P	FD
Post	10.12.07	0630				5	1493	P	FD
Pre	10.12.07	0630				5	1493	P	FD
Post	10.16.07	0630				5	1495	P	FD
Pre	10.16.07	0630				5	1495	P	FD
Post	10.17.07	0630				5	1500	P	FD

Reviewed By (print and sign) Lawrence Casey

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10.1007 To:	36	PR244506

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	11.10.07	0600	0	6037	P	203	4777	P	JJ
Post	11.12.07	0600	0	6179	P	196	4690	P	FP
Pre	11.12.07	0600	0	6179	P	196	4690	P	FP
Post	11.13.07	0600	0	5984	P	169	5085	P	FP
Pre	11.13.07	0600	0	5984	P	169	5085	P	FP
Post	11.14.07	0600	0	~~6081~~ 6273	P	182	4799	P	JJ
Pre	11.14.07	0600	0	~~6081~~ 6273	P	182	4799	P	JJ
Post	11.15.07	0600	0	6220	P	190	4850	P	FWP
Pre	11.15.07	0600	0	6220	P	190	4850	P	FP
Post	11.16.07	0600	0	6022	P	176	4825	P	JJ
Pre	11.16.07	0600	0	6022	P	176	4825	P	JJ
Post	11.17.07	0600	0	6066	P	196	4486	P	JJ
Pre	11.17.07	0600	0	6066	P	196	4486	P	JJ
Post	11.19.07	0600	0	6024	P	215	4586	P	FP
Pre	11.19.07	0600	0	6024	P	215	4586	P	FP
Post	11.20.07	0616	0	6125	P	195	4875	P	FP
Pre	11.20.07	0616	0	6125	P	195	4875	P	FP
Post	11.21.07	0600	0	6336	P	175	4784	P	JJ
Pre	11.21.07	0600	0	6336	P	175	4784	P	JJ
Post	11.26.07	0630	0	6049	P	181	4819	P	FP
Pre	11.26.07	0630	0	6049	P	181	4819	P	FP
Post	11.27.07	0600	0	5984	P	177	4731	P	JJ
Pre	11.27.07	0600	0	5984	P	177	4731	P	JJ
Post	11.28.07	1000	0	5974	P	161	4628	P	FP
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
MARC WENDELS	12-5-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 8-24-07 To:	ESID Number:
CT015		36

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
227431	L2360	8-22-07	8-22-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244506	L4393	8-22-07	8-22-08	19.65%	33.58% Sr^{90}

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th 230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999 dpm	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
8-24-07	0800	Penny Raynor / Penny Raynor	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	189	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	6255	4523
2	7512	4433
3	7443	4518
4	7428	4564
5	7452	4671
6	7464	4582
7	7367	4590
8	7283	4624
9	7428	4546
10	7319	4555

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
7295	8754	5836
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
4561	5473	3649

Reviewed By (print and sign)	Date
Laurence Casey / L Casey	9-12-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 10-24-07 To:	36	PR244506

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net)	P/F*	RCT Initials
Pre	10.24.07	0605	0	5895	P	209	4649	P	PB
Post	10/25/07	0600			F			F	QJ
Pre	10/25/07	0600			F			F	QJ
Post	10/25/07	0630	0	6110	P	183	4506	P	QJ
Pre	10/25/07	0630	0	6110	P	183	4506	P	QJ
Post	10.26.07	0610	0	6529	P	185	4692	P	PB
Pre	10.26.07	0610	0	6529	P	185	4692	P	PB
Post	10.27.07	0600	0	6145	P	191	4619	P	QJ
Pre	10.27.07	0600	0	6145	P	191	4619	P	QJ
Post	10.29.07	0600	0	6096	P	182	4366	P	QJ
Pre	10.29.07	0600	0	6096	P	182	4366	P	QJ
Post	10-30-07	0600	0	5963	P	200	4481	P	PB
Pre	10.30.07	0600	0	5963	P	200	4481	P	PB
Post	10-31-07	0600	0	6020	P	229	4719	P	QJ
Pre	10.31.07	0600	0	6020	P	229	4719	P	QJ
Post	11.1.07	0610	0	5997	P	190	4658	P	PB
Pre	11.1.07	0610	0	5997	P	190	4658	P	PB
Post	11.2.07	0600	0	6128	P	184	4567	P	QJ
Pre	11.2.07	0600	0	6128	P	184	4567	P	QJ
Post	11.3.07	0615	0	5978	P	206	4410	P	PB
Pre	11.3.07	0615	0	5978	P	206	4410	P	PB
Post	11.5.07	0600	0	6039	P	204	4933	P	QJ
Pre	11.5.07	0600	0	6039	P	204	4933	P	QJ
Post	11.6.07	0610							NA PB 11/26
Pre	11.6.07	0610							NA
Post	11.9.07	0600	0	6075	P	236	4679	P	QJ
Pre	11.9.07	0600	0	6075	P	236	4679	P	QJ
Post	11.10.07	0600	0	6037	P	203	4777	P	QJ

Reviewed By (print and sign) Laurence Cain / [signature]

Date 11-24-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 10.6.07 To:	36	PR 244506

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.6.07	0640	0	6097	P	212	4471	P	
Post	10.8.07	0630	0	5544	P	209	4507	P	
Pre	10.8.07	0630	0	5544	P	209	4507	P	
Post	10.9.07	0630	0	6063	P	173	4729	P	
Pre	10.9.07	0630	0	6063	P	173	4729	P	
Post	10.10.07	0630	0	6016	P	192	4549	P	
Pre	10.10.07	0630	0	6016	P	192	4549	P	
Post	10.11.07	0600	0	5585	P	204	4479	P	
Pre	10.11.07	0600	0	5585	P	204	4479	P	
Post	10.13.07	0600	0	5924	P	176	4543	P	
Pre	10.13.07	0600	0	5924	P	176	4543	P	
Post	10.15.07	0600	0	6274	P	201	4607	P	
Pre	10.15.07	0600	0	6274	P	201	4607	P	
Post	10.16.07	0620	0	6011	P	211	4432	P	
Pre	10.16.07	0620	0	6011	P	211	4432	P	
Post	10.17.07	0600	0	6102		201	4564	P	
Pre	10.17.07	0600	0	6102		201	4564	P	
Post	10.18.07	0630	0	6097	P	216	4785	P	
Pre	10.18.07	0630	0	6097	P	216	4785	P	
Post	10.19.07	0600	0	6058	P	196	4710	P	
Pre	10.19.07	0600	0	6058	P	196	4710	P	
Post	10.20.07	0600	0	6160	P	184	4752	P	
Pre	10.20.07	0600	0	6160	P	184	4752	P	
Post	10.22.07	0615	0	6070	P	208	4712	P	
Pre	10.22.07	0615	0	6070	P	208	4712	P	
Post	10.23.07	0600	0	6046	P	177	4404	P	
Pre	10.23.07	0600	0	6046	P	177	4404	P	
Post	10.24.07	0605	0	5895	P	209	4649	P	

Reviewed By (print and sign)	Date
Lawrence Casey	11-21-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered From:	To:	ESID Number:	Probe Serial Number:
CTO15	9-20-07		36	PR-244506

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9-20-07	0630	0	6000	P	188	4728	P	
Post	9-20-07	0630	0	6000	P	184	4728	P	
Pre	9-21-07	0600	0	5955	P	186	4615	P	
Post	9-21-07	0600	0	5955	P	186	4615	P	
Pre	9-22-07	0615	0	6082	P	187	4732	P	
Post	9-22-07	0615	0	6082	P	187	4732	P	
Pre	9-24-07	0610	0	5641	P	178	4227	P	
Post	9-24-07	0610	0	5641	P	178	4227	P	
Pre	9-25-07	0600	0	5802	P	180	4420	P	
Post	9-25-07	0600	0	5802	P	180	4420	P	
Pre	9-26-07	0600	0	5848	P	182	4630	P	
Post	9-26-07	0600	0	5848	P	182	4630	P	
Pre	9-27-07	0600	0	6073	P	167	4845	P	
Post	9-27-07	0600	0	6073	P	167	4845	P	
Pre	9-28-07	0600	0	6107	P	206	4961	P	
Post	9-28-07	0600	0	6107	P	206	4961	P	
Pre	9-29-07	0700	0	6094	P	197	4944	P	
Post	9-29-07	0700	0	6094	P	197	4944	P	
Pre	10-1-07	0610	0	5847	P	194	4676	P	
Post	10-1-07	0610	0	5847	P	194	4676	P	
Pre	10-2-07	0600	0	5973	P	215	4650	P	
Post	10-2-07	0600	0	5973	P	215	4650	P	
Pre	10-3-07	0600	0	6259	P	184	4621	P	
Post	10-3-07	0600	0	6259	P	184	4621	P	
Pre	10-4-07	0800	0	7154	P	179	4387	P	
Post	10-4-07	0800	0	7154	P	179	4387	P	
Pre	10-5-07	0600	0	6176	P	199	4707	P	
Post	10-5-07	0600	0	6176	P	199	4707	P	

Reviewed By (print and sign) Lawrence Casey

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 8-24-07 To: 9-19-07	36	PR 244506

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-24-07	1000	0	6252	P	189	4464	P	PR
Post	8-27-07	0605	0	6995	P	196	4868	P	PR
Pre	8-27-07	0605	0	6995	P	196	4868	P	PR
Post	8-28-07	0630	0	6397	P	185	4724	P	PR
Pre	8-28-07	0630	0	6397	P	185	4724	P	PR
Post	8-29-07	0845	0	~~4667~~ 6208 8-29-07	P	185	4325	P	PR
Pre	8-29-07	0845	0	~~4667~~ 6208 8-29-07	P	185	4325	P	PR
Post	8-30-07	0710	0	6292	P	177	4348	P	PR
Pre	8-30-07	0710	0	6292	P	177	4348	P	PR
Post	9-4-07	0610	0	6351	P	170	4428	P	PR
Pre	9-4-07	0610	0	6351	P	170	4428	P	PR
Post	9-5-07	0615	0	6288	P	162	4561	P	PR
Pre	9-5-07	0615	0	6288	P	162	4561	P	PR
Post	9-6-07	0620	0	6105	P	199	4510	P	PR
Pre	9-6-07	0620	0	6105	P	199	4510	P	PR
Post	9-7-07	625	0	6258	P	202	3998	P	PR
Pre	9-7-07	625	0	6258	P	202	3998	P	PR
Post	~~9-8~~ 9-8-07	0720	0	6158	P	191	5101	P	
Pre	~~9-8~~ 9-8-07	0720	0	6158	P	191	5101	P	
Post	9-10-07	0600	0	6086	P	217	4596	P	
Pre	9-10-07	0600	0	6086	P	217	4596	P	
Post	9-11-07	0600	0	6288	P	186	4786	P	
Pre	9-11-07	0600	0	6288	P	186	4786	P	
Post	9-12-07	0600	0	6012	P	201	5113	P	
Pre	9-12-07	0600	0	6012	P	201	5113	P	
Post	9-13-07	0600	0	6171	P	246	4930	P	
Pre	9-13-07	0600	0	6171	P	246	4930	P	
Post	9-19-07	0630	0	6142	P	220	5006	P	

Reviewed By (print and sign)	Date
Lawrence Casey /	9-25-07

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project:	Dates Covered From:	To:	ESID Number:
CT015	10-11-07		42

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
185278	L2929	10-9-07	10-9-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR194721	43-10-1	10-9-07	10-9-08	SEE	DAILY

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	TH 230	31,996	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	TC99	28,999	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
~~10-11-07~~ 10-11-07	1030	PHIL PEREZ	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	50	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	10438	6634
2	10581	6635
3	10697	6520
4	10568	6499
5	10709	6703
6	10591	6657
7	10590	6898
8	10485	6729
9	10542	6674
10	10522	6631

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
10566	12679	8453
Mean Beta Source Net Measurement (net)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
6658	7990	5326

Reviewed By (print and sign)	Date
	10-11-07

ALPHA

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	185278	CALIBRATION DUE DATE	10-9-08

CHI – SQUARED FORM

	$X - X_b = X_n$	$\_ = X_n - \_$	$(X_n - \_)^2$
1	10438	-122	14884
2	10581	21	441
3	10697	137	18769
4	10508	-52	2704
5	10709	149	22201
6	10591	31	961
7	10590	30	900
8	10485	-75	5625
9	10542	-18	324
10	10522	-38	1444
11	10459	-101	10201
12	10582	22	484
13	10773	213	45369
14	10439	-121	14641
15	10626	66	4356
16	10460	-100	10000
17	10564	4	16
18	10478	-82	6724
19	10564	4	16
20	10601	41	1681
SUM	211209		161741

X_b =

$\Sigma(X_n-\_)^2$ =

ΣX_n =

Chi-Squared = $\Sigma(X_n-\_)^2$

ΣX_n

Chi-Squared = .7658

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

_.....AVERAGE OF 20 COUNTS

$(X_n-\_)$.....NET COUNT - AVERAGE

$(X_n-\_)^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n-\_)^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

BETA

MODEL NUMBER	L2929	INSTRUMENT SERIAL NUMBER	185278	CALIBRATION DUE DATE	10-9-08

CHI – SQUARED FORM

	$X - X_b$ X_n	$\_ = X_n - \_$	$(X_n - \_)^2$
1	6634	-2	4
2	6635	-1	1
3	6520	-116	13,456
4	6499	-137	18769
5	6703	67	4489
6	6657	21	441
7	6898	262	68644
8	6729	93	8649
9	6674	38	1444
10	6631	-5	25
11	6581	-55	3025
12	6533	-103	10609
13	6674	38	1444
14	6677	41	1681
15	6640	4	16
16	6477	-159	25281
17	6628	-8	64
18	6549	-87	7569
19	6774	138	19044
20	6604	-32	1024
SUM	132717		185679

X_b =

$\Sigma(X_n-\_)^2$ =

ΣX_n =

Chi-Squared = $\Sigma(X_n-\_)^2$

ΣX_n

Chi-Squared = 1.399

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

_.....AVERAGE OF 20 COUNTS

$(X_n-\_)$.....NET COUNT - AVERAGE

$(X_n-\_)^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n-\_)^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10.11.07 To:	42	PR194721

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	101207	0730							
Post	101507	0700	15	10104	P	60	6603	P	
Pre	10/5 07	0700	15	10104	P	60	6603	P	
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
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Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
	10/5/07

DAILY SCALER LOG

MODEL: 2929 SERIAL NUMBER: 185278 CAL. DUE: 10-9-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: TH230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93TC470 ISOTOPE: TC99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG BACKGROUND COUNTS SCT SAMPLE COUNT TIME EFF EFFICIENCY	Rb BACKGROUND CPM Tb BACKGROUND COUNT TIME Ts+b SAMPLE COUNT TIME	CTO 15 & 28 PROJECTS MDA LIMIT < 20 DPM ALPHA < 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
10/12/07			(DR) 6		
10/15/07	64/54	10108/6603	.316/.228	68/211	JJ
10/16/07	.15/44	10320/6628	.323/.229	15/199	
10/16/07	.05/	OUT	N/A	N/A	N/A
10/18/07	0/33	OUT			
N/A	N/A	N/A			

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 11-26-07 To:	006	PR252080

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11-26-07	0730	NA	NA	NA	4050	250950	P	
Post	11-28-07	0730				3980	264020	P	
Pre	11-28-07	0730				3980	264020	P	
Post	11-29-07	0730				4000	266000	P	
Pre	11-29-07	0730				4000	266000	P	
Post	11-30-07	0730				~~4078~~ 3640	~~32~~ 247360	P	
Pre	11-30-07	0730				4078 3640	247360	P	
Post	12-1-07	0800				3800	253200	P	
Pre	12-1-07	0800				3800	253200	P	
Post	12-3-07	0800				3740	257260	P	
Pre	12-3-07	0800				3740	257260	P	
Post	12-5-07	0730				254580	252500	P	
Pre	12-5-07	0730				4500	252500	P	
Post	12-6-07	0800				3630	257370	P	
Pre	12-6-07	0800				3630	257370	P	
Post	12-7-07	0800				3980	264020	P	
Pre	12-7-07	0800				3980	264020	P	
Post	12-10-07	0800				3550	255450	P	
Pre	12-10-07	0800				3550	255450	P	
Post	12-12-07	0830				5630	NA	F	
Pre	12-12-07	0830				5630	NA	F	
Post									
Pre									
Post				005					
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Mark Weidman

Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project: TCRA CD-15	Dates Covered From:3-20-07 To:	ESID Number: 006

Instrument/Probe Information

Instrument Serial Number: 2028	Instrument Type: ASP2e	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08		
Probe Serial Number: PR252080	Probe Type/Model: L44-10	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.65%

Alpha Source Information

Source Number: N/A	Source Isotope: N/A	Source Activity: N/A	Assay Date: N/A

Beta/Gamma Source Information

Source Number: 51592	Source Isotope: Co60	Source Activity: 947.4 nCi	Assay Date: 6-1-04

Instrument Response Check

Date: 3-20-07	Time: 0930	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): N/A	Alpha Count Time (min): N/A	Beta/Gamma Background (cpm): 4290	Beta/Gamma Count Time (min): 1

4/9/07

Count Number	Alpha Source Count Rate (net cpm)	~~Beta~~ Sources Count Rate (net cpm)
1	N/A	258,710
2	N/A	260,710
3	N/A	260,710
4	N/A	262.710
5	N/A	260,710
6	N/A	261,710
7	N/A	261,710
8	N/A	261,710
9	N/A	260,710
10	N/A	260,710

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
261,010	313,212	208,808

Reviewed By (print and sign)	Date
	4-1-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 10.31.07 To:	006	PR 252080

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10.31.07	0800				3990	270010	P	FWD
Post	11.1.07	0730				3806	239200	P	FWD
Pre	11.1.07	0730				3800	239200	P	FWD
Post	11.2.07	0800				4040	250960	P	FWD
Pre	11.2.07	0800				4040	250960	P	FWD
Post	11.5.07	0900				4150	247850	P	FWD
Pre	11.5.07	0900				4150	247850	P	FWD
Post	11.6.07	0730				3850	222150	P	FWD
Pre	11.6.07	0730				3850	222150	P	FWD
Post	11.7.07	1300				4100	251900	P	FWD
Pre	11.7.07	1300				4100	251900	P	FWD
Post	11.8.07	0800				3970	260030	P	FWD
Pre	11.8.07	0800				3970	260030	P	FWD
Post	11.9.07	1300				4750	271250	P	FWD
Pre	11.9.07	1300				4750	271250	P	FWD
Post	11.13.07	0800				4030	252970	P	FWD
Pre	11.13.07	0800				4030	252970	P	FWD
Post	11.14.07	0730				4056	262950	P	FWD
Pre	11.14.07	0730				4050	262950	P	FWD
Post	11.15.07	0730				4010	255990	P	FWD
Pre	11.15.07	0730				4010	255990	P	FWD
Post	11.16.07	0805				4100	259900	P	FWD
Pre	11.16.07	0805				4100	259900	P	FWD
Post	11.19.07	0800				3510	264490	P	FWD
Pre	11.19.07	0800				3510	264496	P	FWD
Post	11.20.07	0700				4340	253660	P	FWD
Pre	11.20.07	0700				4348	253660	P	FWD
Post	11.21.07					3820	264120	P	FWD

Reviewed By (print and sign) Lawrence Cass

Date 12-6-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 8-29-07 To:	006	PR252080

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	
Pre	8-29-07	0730				4150	271,850	P	PWP
Post	8-30-07	0705				4150	283,850	P	PR
Pre	8-30-07	0705				4150	283,850	P	PR
Post	9-4-07	0805				4080	261,920	P	FWP
Pre	9-4-07	0805				4080	261,920	P	FWP
Post	9-5-07	0730				4680	260,320	P	FWP
Pre	9-5-07	0730				4680	260,320	P	FWP
Post	9-6-07	0800				4320	260,680	P	FWP
Pre	9-6-07	0800				4320	260,680	P	FWP
Post	9-7-07	0800				4130	281,870	P	LSD
Pre	9-7-07	0800				4130	281,870	P	LSD
Post	9-8-07	0730				4350	260,650	P	FWP
Pre	9-8-07	0730				4350	260650	P	FWP
Post	9.10.07	0806				4110	266890	P	FWP
Pre	9.10.07	0806				4110	266890	P	FWP
Post	9.11.07	0805				4090	272,910	P	FWP
Pre	9.11.07	0805				4090	272,910	P	FWP
Post	9-12-07	1000				4180	284820	P	GMW
Pre	9-12-07	1000				4180	284820	P	GMW
Post	9.15.07	0730				4140	251860	P	FWP
Pre	9.15.07	0730				4140	251860	P	FWP
Post	9.17.07	0830				4100	260410	P	FWP
Pre	9.17.07	0830				4100	260410	P	FWP
Post	9.18.07	0730				4260	254,770	P	FWP
Pre	9.18.07	0730				4260	254,770	P	FWP
Post	9.19.07	0645				4320	251680	P	FWP
Pre	9.19.07	0645				4320	251680	P	FWP
Post	9.20.07	0630				4640	267960	P	FWP

Reviewed By (print and sign)	Date
Lawrence Casey / L Casey	9-25-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 9.26.07 To:	006	PR 252080

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (CPM)	Source Check (net)	P/F*	RCT Initials
Pre	9.20.07	0620				4040	267960	P	FP
Post	9.21.07	0630				4810	305490	P	FP
Pre	9.21.07	0630				4810	305490	P	FP
Post	9.22.07	1000				4830	301570	P	FP
Pre	9.22.07	1000				4830	301570	P	FP
Post	9.24.07	0640				4610	235350	P	FP
Pre	9.24.07	0640				4610	235350	P	FP
Post	9.25.07	0640				5230	257770	P	FP
Pre	9.25.07	0640				5230	257770	P	FP
Post	9.26.07	0700				4530	260470	P	FP
Pre	9.26.07	0700				4586	260470	P	FP
Post	9.27.07	0700				3186	256814	P	FP
Pre	9.27.07	0700				3186	256814	P	FP
Post	9.28.07	0710		NA		4300	260706	P	FP
Pre	9.28.07	0710				4300	260700	P	FP
Post	9.29.07	0730				4520	266080	P	FP
Pre	9.29.07	0730				4920	266080	P	FP
Post	10.1.07	0700				4300	267700	P	FP
Pre	10.1.07	0700				4300	267700	P	FP
Post	10.2.07	0700				3940	249060	P	FP
Pre	10.2.07	0900				3940	249060	P	FP
Post	10.3.07	0730				4250	240750 / 245060	P	FP
Pre	10.3.07	0730				4250	240750	P	FP
Post	10.4.07	0835				3920	260080	P	FP
Pre	10.4.07	0835				3920	260086	P	FP
Post	10.8.07	0800				3890	247110	P	FP
Pre	10.8.07	0800				3890	247110	P	FP
Post	10.11.07	1300				3880	260120	P	FP

Reviewed By (print and sign) Laurence Casey Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 10-11-07 To:	006	PR 252080

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (CPM)	Source Check (net)	P/F*	Background (CPM)	Source Check (net)	P/F*	
Pre	10-11-07	1300				3880	260120	P	
Post	10-13-07	0730				3700	261300	P	
Pre	10-13-07	0730				3700	261300	P	
Post	10-15-07	0800				3720	261280	P	
Pre	10-15-07	0800				3720	261280	P	
Post	10-16-07	0700				3750	260250	P	
Pre	10-16-07	0700				3750	260250	P	
Post	10-17-07	0700				4150	261850	P	
Pre	10-17-07	0700				4150	261850	P	
Post	10-19-07	0700				3610	272390	P	
Pre	10-19-07	0700				3610	272390	P	
Post	10-22-07	0830				3750	254250	P	
Pre	10-22-07	0830				3750	254250	P	
Post	10-23-07	0730				3900	254100	P	
Pre	10-23-07	0730				3900	254100	P	
Post	10-24-07	0730				4120	250880	P	
Pre	10-24-07	0730				4120	250880	P	
Post	10-25-07	0800		NA		3680	246320	P	
Pre	10-25-07	0800				3680	246320	P	
Post	10-26-07	0730				3758	257050	P	
Pre	10-26-07	0730				3758	257050	P	
Post	10-27-07	0740				4380	232600	P	
Pre	10-27-07	0740				4380	232620	P	
Post	10-29-07	0740				4400	249600	P	
Pre	10-29-07	0740				4400	249600	P	
Post	10-30-07	0746				3640	263360	P	
Pre	10-30-07	0746				3646	263360	P	
Post	10-31-07	0800				3990	276010	P	

Reviewed By (print and sign)	Date
Lawrence Casey	11-6-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 1-14-08 To:	41	PR239356

Operational Checks

	Date	Time	Alpha Background ( )	Alpha Source Check (net)	Alpha P/F*	Beta/Gamma Background ( )	Beta/Gamma Source Check (net)	Beta/Gamma P/F*	RCT Initials
Pre	1.14.08	0715	0	~~10179~~ 10383	P	53	8034	P	
Post	~~1.14.08~~ 1.15.08	0930	0	10040	P	35	7987	P	
Pre	1.15.08	0930	0	10040	P	35	7987	P	
Post	1.17.08	0700	0	10210	P	36	7816	P	
Pre	1.17.08	0700	0	10210	P	36	7816	P	
Post	~~1.21.08~~ 1.21.08	~~0700~~ 0630	0	10150	P	39	7897	P	
Pre	1.21.08	~~0700~~ 0630	0	10150	P	39	7897	P	
Post	1.22.08	0600	0	10096	P	45	7900	P	
Pre	1.22.08	0600	0	10096	P	45	7900	P	
Post	1.23.08	0430	0	10369	P	43	7567	P	
Pre	1.23.08	0530	0	10369	P	43	7567	P	
Post	1.24.08	0400	0	10020	P	44	7719	P	
Pre	1.24.08	0400	0	10020	P	44	7719	P	
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre					NA B				
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
	2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From:	To:	ESID Number:
CTO 15	10-3-07		041

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
236399	L2929	10-2-07	10-2-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR 239356	43-10-1	10-2-07	10-2-08	SEE	DAILY

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	TH 230	31,996 DPM	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999 DPM	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
10-3-07	1630	PHIL PEREZ	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	53	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	10314	8017
2	10551	7961
3	10495	7882
4	10341	8166
5	10271	7927
6	10447	8043
7	10432	8050
8	10460	7981
9	10335	8028
10	10411	8056

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
10406	12487	8325
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
8011	9613	6409

Reviewed By (print and sign)	Date
Laurence	11-6-07

ALPHA

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	236399	CALIBRATION DUE DATE	10-2-08

CHI – SQUARED

(Example)

	$X - X_b = X_n$	$\bar{X}_n - \bar{} =$	$(X_n - \bar{})^2$
1	10314	-76	5776
2	10551	161	25921
3	10495	105	11025
4	10341	-49	2401
5	10271	-119	14161
6	10447	57	3249
7	10432	42	1764
8	10460	70	4900
9	10335	-55	3025
10	10411	21	441
11	10309	-81	6561
12	10435	45	2025
13	10494	104	10816
14	10440	50	2500
15	10268	-122	14884
16	10325	-65	4225
17	10338	-52	2704
18	10464	74	5476
19	10427	37	1369
20	10239	-151	22801
SUM	207796		146024

X_b =

$\Sigma(X_n - \bar{})^2$ =

ΣX_n =

Chi-Squared = $\Sigma(X_n - \bar{})^2$

ΣX_n

Chi-Squared = .7027

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{})$.....NET COUNT - AVERAGE

$(X_n - \bar{})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

DETA

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	236399	CALIBRATION DUE DATE	10-2-08

CHI – SQUARED

(Example)

	$X - X_b = X_n$	$\_ = X_n - \_$	$(X_n - \_)^2$
1	8017	-4	16
2	7961	-60	3600
3	7882	-139	19321
4	8166	145	21025
5	7927	-94	8836
6	8043	22	484
7	8050	29	841
8	7981	-40	1600
9	8028	7	49
10	8056	35	1225
11	8049	28	784
12	7934	-87	7569
13	7897	-124	15,376
14	8139	118	13924
15	7931	-90	8100
16	8032	11	121
17	8041	20	400
18	8229	208	43264
19	7972	-49	2401
20	8076	55	3025
SUM	160411		151961

X_b =

$\Sigma(X_n-\_)^2$ =

ΣX_n =

Chi-Squared = $\Sigma(X_n-\_)^2$

ΣX_n

Chi-Squared = .9473

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

_.....AVERAGE OF 20 COUNTS

$(X_n-\_)$.....NET COUNT - AVERAGE

$(X_n-\_)^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n-\_)^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12.14.07 To:	041	PR 239356

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.14.07	0700	0	10205	P	44	8058	P	JJ
Post	12.15.07	0730	0	10159	P	45	7821	P	JJ
Pre	12.15.07	0730	0	10159	P	45	7821	P	JJ
Post	12.17.07	0730	0	10183	P	51	7832	P	JJ
Pre	12.17.07	0730	0	10183	P	51	7832	P	JJ
Post	12.18.07	0730	0	10330	P	47	7962	P	BD
Pre	12.18.07	0730	0	10330	P	47	7962	P	BD
Post	12.19.07	0700	0	10348	P	40	8017	P	JJ
Pre	12.19.07	0700	0	10348	P	40	8017	P	JJ
Post	12.20.07	0700	1	10131	P	41	7958	P	RD
Pre	12.20.07	0700	1	10131	P	41	7958	P	RD
Post	12.21.07	0630	0	10161	P	30	7895	P	JJ
Pre	12.21.07	0630	0	10161	P	30	7895	P	JJ
Post	1.2.08	1315	0	9969	P	50	7440	P	JJ
Pre	1.2.08	1315	0	9969	P	50	7440	P	JJ
Post	1.3.08	0745	0	10229	P	42	7881	P	JJ
Pre	1.3.08	0745	0	10229	P	42	7881	P	JJ
Post	1.7.08	0715	0	10099	P	37	7741	P	JJ
Pre	1.7.08	0715	0	10099	P	37	7741	P	JJ
Post	1.8.08	0745	0	10035	P	37	7842	P	JJ
Pre	1.8.08	0745	0	10035	P	37	7842	P	JJ
Post	1.9.08	0700	0	9919	P	42	7803	P	JJ
Pre	1.9.08	0700	0	9919	P	42	7803	P	JJ
Post	1.10.08	0630	1	10026	P	41	8037	P	JJ
Pre	1.10.08	0630	1	10026	P	41	8037	P	JJ
Post	1.11.08	0700	1	10252	P	51	7667	P	JJ
Pre	1.11.08	0700	1	10252	P	51	7667	P	JJ
Post	1.14.08	0730	0	10383	P	53	8034	P	RD

Reviewed By (print and sign) Mark Weldon

Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 11.27.07 To: 12.14.07	041	PR239356

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	
Pre	11.27.07	0715	0	10174	P	42	7767	P	JJ
Post	11.28.07	0710	0	10283	P	42	8296	P	JJ
Pre	11.28.07	0710	0	10283	P	42	8296	P	JJ
Post	11.29.07	0730	0	10110	P	52	7881	P	JJ
Pre	11.29.07	0730	0	10110	P	52	7881	P	JJ
Post	11.30.07	0715	0	10207	P	51	8115	P	JJ
Pre	11.30.07	0715	0	10207	P	51	8115	P	JJ
Post	12.1.07	0730	0	10153	P	51	8045	P	JJ
Pre	12.1.07	0730	0	10153	P	51	8045	P	JJ
Post	12.3.07	0710	0	10121	P	48	7972	P	JJ
Pre	12.3.07	0710	0	10121	P	48	7972	P	JJ
Post	12.4.07	0745	0	10143	P	60	7866	P	JJ
Pre	12.4.07	0745	0	10143	P	60	7866	P	JJ
Post	12.5.07	0800	0	10103	P	48	7894	P	JJ
Pre	12.5.07	0800	0	10103	P	48	7894	P	JJ
Post	12.6.07	0730	0	10074	P	38	7769	P	JJ
Pre	12.6.07	0730	0	10074	P	38	7769	P	JJ
Post	12.7.07	0800	0	10169	P	47	7802	P	JJ
Pre	12.7.07	0800	0	10169	P	47	7802	P	JJ
Post	12.10.07	0745	0	10193	P	49	7771	P	JJ
Pre	12.10.07	0745	0	10193	P	49	7771	P	JJ
Post	12.11.07	0800	0	10051	P	44	7809	P	JJ
Pre	12.11.07	0800	0	10051	P	44	7809	P	JJ
Post	12.12.07	0730	1	10114	P	47	7699	P	JJ
Pre	12.12.07	0730	1	10114	P	47	7699	P	JJ
Post	12.13.07	0730	1	10105	P	48	7690	P	JJ
Pre	12.13.07	0730	1	10105	P	48	7690	P	JJ
Post	12.14.07	0730	0	10205	P	44	8058	P	JJ

Reviewed By (print and sign)	Date
Lauren Casey / JJ	12-15-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 11.7.07 To: 11.27.07	041	PR 239356

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	
Pre	11-7-07	0900	0	10302	P	46	8014	P	JJ
Post	11.8.07	0700	0	10325	P	48	8107	P	PD
Pre	11.8.07	0700	0	10325	P	48	8107	P	PD
Post	11.9.07	0730	0	10176	P	52	7868	P	JJ
Pre	11.9.07	0730	0	10176	P	52	7868	P	JJ
Post	11.10.07	0700	0	10149	P	56	7999	P	JJ
Pre	11.10.07	0700	0	10149	P	56	7999	P	JJ
Post	11.12.07	0700	0	10130	P	52	8010	P	PD
Pre	11.12.07	0700	0	10130	P	52	8010	P	PD
Post	11.13.07	0700	0	10248	P	48	8112	P	PD
Pre	11.13.07	0700	0	10248	P	48	8112	P	PD
Post	11.14.07	0830	0	10172	P	41	7914	P	JJ
Pre	11.14.07	0830	0	10172	P	41	7914	P	JJ
Post	11.15.07	0700	0	10096	P	53	8151	P	PD
Pre	11.15.07	0700	0	10096	P	53	8151	P	PD
Post	11.16.07	0715	0	10511	P	49	7830	P	JJ
Pre	11.16.07	0715	0	10511	P	49	7830	P	JJ
Post	11.17.07	0715	0	10493	P	31	7944	P	JJ
Pre	11.17.07	0715	0	10493	P	31	7944	P	JJ
Post	11.19.07	0700	0	10255	P	39	8015	P	PD
Pre	11.19.07	0700	0	10255	P	39	8015	P	PD
Post	11.20.07	0700	0	10240	P	41	7995	P	PD
Pre	11.20.07	0700	0	10240	P	41	7995	P	PD
Post	11.21.07	0800	0	10154	P	47	7966	P	JJ
Pre	11.21.07	0800	0	10154	P	47	7966	P	JJ
Post	11.26.07	0655	0	10233	P	49	8055	P	PD
Pre	11.26.07	0655	0	10233	P	49	8055	P	PD
Post	11.27.07	0715	0	10174	P	42	7764	P	JJ

Reviewed By (print and sign) Laurence Cadez

Date 12-6-07

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 9-4-07 To:	041	PR239356

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9-4-07	0700	10233	10233 0	P	46	8077	P	
Post	9-4-07	0700	10233	0	P	46	8077	P	
Pre	9-5-07	0700	10034	0	P	42	8093	P	
Post	9-5-07	0700	10034	0	P	42	8093	P	
Pre	10.6.07	0730	~~10100~~ 0	~~0~~ 10,100	P	40	8081	P	
Post	10-8-07	0750	0	10206	P	49	7983	P	
Pre	10-8-07	0750	0	10206	P	49	7983	P	
Post	10 9 07	0725	0	10235	P	46	7831	P	
Pre	10 9 07	0725	0	10235	P	46	7831	P	
Post	10 10 07	0730	0	10118	P	41	7942	P	
Pre	10 10 07	0730	0	10118	P	41	7942	P	
Post	10 11 07	0700	0	10048	P	40	7940	P	
Pre	10 11 07	0700	0	10048	P	40	7940	P	
Post	10.12.07	0645	0	10050	P	46	7704	P	
Pre	10.12.07	0645	0	10050	P	46	7704	P	
Post	10 13 07	0645	0	10094	P	51	8052	P	
Pre	10 13 07	0645	0	10094	P	51	8052	P	
Post	10 15 07	0700	0	10052	P	54	7961	P	
Pre	10 15 07	0700	0	10052	P	54	7961	P	
Post	10.16.07	0700	0	10041	P	49	8003	P	
Pre	10.16.07	0700	0	10041	P	49	8003	P	
Post	10 17 07	0645	0	10045	P	44	8061	P	
Pre	10 17 07	0645	0	10045	P	44	8061	P	
Post	10.18.07	0710	0	10033	P	51	8028	P	
Pre	10.18.07	0710	0	10030	P	51	8028	P	
Post	10.19.07	0700	0	10056	P	39	7925	P	
Pre	10.19.07	0700	0	10056	P	39	7925	P	
Post	10.20.07	0730	0	9974	P	41	8074	P	

Reviewed By (print and sign) Laurence Cary

Date 11-6-07

1 MINUTE

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 9/13/07 To:	ESID Number:	Probe Serial Number:
CTO 15		041	PR239356

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10.20.07	0730	0	9974	P	41	8074	P	JJ
Post	10.22.07	0700	0	10363	P	44	7999	P	PR
Pre	10.22.07	0700	0	10363	P	44	7999	P	PR
Post	10.23.07	0715	1	10122	P	42	7922	P	JJ
Pre	10.23.07	0715	1	10122	P	42	7922	P	JJ
Post	10.24.07	0655	0	10599	P	40	7955	P	PR
Pre	10.24.07	0655	0	10599	P	40	7955	P	PR
Post	10.26.07	0700	0	9913	P	42	7753	P	JJ
Pre	10.25.07	0700	0	9913	P	42	7753	P	JJ
Post	10.26.07	0700	0	10176	P	46	7676	P	JJ
Pre	10.26.07	0700	0	10176	P	46	7676	P	JJ
Post	10.27.07	0645	0	9911	P	51	7949	P	JJ
Pre	10.27.07	0645	0	9911	P	51	7949	P	JJ
Post	10.29.07	0700	0	10149	P	43	7931	P	JJ
Pre	10.29.07	0700	0	10149	P	43	7931	P	JJ
Post	10.30.07	0700	0	10058	P	46	8009	P	PR
Pre	10.30.07	0700	0	10058	P	46	8009	P	PR
Post	10.31.07	0730	0	10312	P	43	7841	P	JJ
Pre	10.31.07	0730	0	10312	P	43	7841	P	JJ
Post	11.1.07	0705	0	10289	P	47	7735	P	PR
Pre	11.1.07	0705	0	10289	P	47	7735	P	PR
Post	11.2.07	0800	0	10174	P	51	8271	P	JJ
Pre	11.2.07	0800	0	10178	P	51	8271	P	JJ
Post	11.5.07	0400	0	10093	P	42	8226	P	JJ
Pre	11.5.07	0400	0	10093	P	42	8226	P	JJ
Post	11.6.07	0700	0	10123	P	43	8109	P	PR
Pre	11.6.07	0700	0	10123	P	43	8109	P	PR
Post	11.7.07	0400	0	10302	P	46	8014	P	JJ

Reviewed By (print and sign) Lawrence Cary

Date 11-21-07

DAILY SCALER LOG

...ODEL: 2929 SERIAL NUMBER: 236399 CAL. DUE: 10·2·08

SOURCE INFORMATION:

ALPHA SOURCE #: 193694 ISOTOPE: Th230 SOURCE ACTIVITY: 32000 DPM

BETA SOURCE #: 93TC470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 29000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1.15.08	0/45	10040 / 7987	.314/.275	8/169	JS
1.16.08	.1/44	10311 / 8021	.322/.277	14/166	JS
1.17.08	.1/44	10210 / 7816	.319/.270	10/165	JS
1.21.08	.1/43	10302 / ~~8734~~ 7846	Blank to 1 .322/.270	14/169	FW
1.22.08	.1/44	10096 / 7900	.316/.272	14/170	JS
1.23.08	0/45	10369 / 7567	.324/.261	7/174	JS
1.24.08	.1/44	10020 / 7719	.313/.266	14/173	JS

N/A TC

DAILY SCALER LOG

ODEL: 2929 SERIAL NUMBER: 236399 CAL. DUE: 10·2·08

SOURCE INFORMATION:

ALPHA SOURCE #: 183694 ISOTOPE: Th230 SOURCE ACTIVITY: 32000 DPM

BETA SOURCE #: 93TC470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 29000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVIFY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG BACKGROUND COUNTS SCT SAMPLE COUNT TIME EFF EFFICIENCY	Rb BACKGROUND CPM Tb BACKGROUND COUNT TIME Ts+b SAMPLE COUNT TIME	CTO 15 & 28 PROJECTS MDA LIMIT < 20 DPM ALPHA < 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
12.11.07	.2/45	10051/7809	.314/.269	17/173	JJ
12.12.07	.15/45	10114/7699	.316/.265	16/175	JJ
12.13.07	0.1/45	10256/8080	.321/.279	14/167	FP
12.14.07	.1/44	10205/8058	.319/.274	14/167	JJ
12.15.07	.05/44	10101/8069	.316/.278	13/165	FP
12.17.07	.05/43	10143/7832	.318/.270	12/169	JJ
12.18.07	.05/44	10330/7962	.322/.274	12/168	FP
12.19.07	.1/44	10348/8017	.325/.276	14/168	JJ
12.20.07	0.1/41	10228/7908	.320/.273	17/163	FP
12.21.07	.1/43	10181/7895	.318/.272	14/166	JJ
1.2.08	0/44	9969/7740	.312/.257	16/181	JJ
1.3.08	.1/42	10229/7881	.320/.272	14/165	JJ
1.7.08	0/43	10099/7741	.316/.267	15/168	JJ
1.8.08	.1/42	10035/7842	.314/.270	14/166	JJ
1.9.08	.2/47	9919/7803	.310/.269	17/176	JJ
1.10.08	0/43	10026/8037	.313/.277	15/165	JJ
1.11.08	.1/45	10252/7667	.320/.264	15/176	JJ
1.14.08	.1/55	10383/8034	.324/.277	14/185	FP

DAILY SCALER LOG

MODEL: 2929 SERIAL NUMBER: 236399 CAL. DUE: 10.2.08

SOURCE INFORMATION:

ALPHA SOURCE #: 183694 ISOTOPE: Th230 SOURCE ACTIVITY: 32000 DPM

BETA SOURCE #: 93TC470 ISOTOPE: Tc99 SOURCE ACTIVITY: 29000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
11-15-07	0.1/.44	10432/8144	.326/.281	14/164	FP
11-16-07	0/44	10511/7830	.328/.270	7/172	JJ
11.17.07	.05/43	10493/7948	.328/.274	12/166	JJ
11.19.07	0.1 ~~.05~~ 11.19.07 /46	10153/8111	.317/.279	16/169	FP
11.20.07	0/43	10234/7910	.319/.273	8/167	FP
11.21 07	0/46	10154/7966	.317/.275	8/172	JJ
11.26.07	0/46	10160/8059	.318/.278	8/169	FP
11.27.07	0/46	10174/7767	318./.268	8/176	JJ
11.28.07	0.1/41	10162/8078	.318/.279	14/160	FP
11.29.07	0/49	10110/7881	.316/.272	8/179	JJ
11.30.07	0.1/45	10226/7916	.320/.273	14/171	FP
12.1.07	0/44	10153/8045	.317/.277	8/168	JJ
12.3.07	0/~~45~~ 11.30.07 43	10112/7911	.316/.273	8/167	FP
12.4.07	.1/42	10143/7866	.317/.271	14/165	JJ
12.5.07	.1/44	10103/7894	.315/.272	14/170	JJ
12.6.07	.1/46	10074/7769	.315/.268	14/176	JJ
12.7.07	.1/44	10169/7807	.318/.269	14/173	JJ
12.10.07	.1/43	10193/7771	.318/.268	14/170	JJ

DAILY SCALER LOG

MODEL: 2929 SERIAL NUMBER: 236391 CAL. DUE: 10-2-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th-230 SOURCE ACTIVITY: 32,000 DPM

BETA SOURCE #: 937C470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 29,000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
10-25-07	.1 / 44	9913 / 7763	.309 / .267	15 / 150	QJ
10-26-07	.15 / 49	10176 / 7676	.318 / .265	15 / 181	QJ
10-27-07	.1 / 45	9911 / 7949	.310 / .274	14 / 187	QJ
10-29-07	0 / 44	10149 / 7931	.317 / .273	9 / 170	QJ
10-30-07	0.1 / 44	10572 / 7872	.339 / .271	13 / 170	PD
10-31-07	.2 / 45	10312 / 7841	.322 / .270	16 / 172	QJ
11-1-07	0 / 42	10279 / 8008	.321 / .276	8 / 163	PD
11-2-07	.05 / 46	10178 / 8271	.318 / .285	12 / 166	QJ
11-3-07	0 / 48	10260 / 8229	.321 / .284	8 / 169	PD
11-5-07	.2 / 49	10093 / 8226	.315 / .283	17 / 172	QJ
11-6-07	0 / 46	10398 / 8076	.325 / .278	8 / 170	PD
11-7-07	.1 / 45	10302 / 8014	.322 / .276	14 / 168	QJ
11-8-07	0 / 42	10249 / 8118	.320 / .279	8 / 161	PD
11-9-07	.1 / 44	10176 / 7868	.318 / .271	14 / 171	QJ
11-10-07	0 / 48	10149 / 7999	.312 / .276	8 / 173	QJ
11-12-07	.05 / 45	10215 / 8253	.319 / .285	13 / 164	PD
11-13-07	.05 / 44	10532 / 8082	.329 / .279	12 / 165	PD
11-14-07	0 / 40	10172 / 7914	.318 / .273	8 / 161	QJ

DAILY SCALER LOG

...ODEL: 2929 SERIAL NUMBER: 236399 CAL. DUE: 10-2-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: TH230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93TC470 ISOTOPE: TC99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
10-4-07	.1 / 43	10407 / 8271	.325/.285	15 / 160	
10-5-07	.05 / 45	10460 / 8658	.327/.299	12 / 155	
10.6.07	0.1 / 42	10155 / 8010	.317/.276	14 / 163	
10-8-07	0.2 / 43	10206 / 7983	.319/.275	17 / 166	
10-9-07	.3 / 45	10235 / 7831	.320/.270	17 / 177	
10-10-07	.3 / 46	10116 / 7942	.316/.274	17 / 171	
10-11-04	.2 / 46	10048 / 7960	.314/.275	17 / 172	
10.12.07	.2 / 45	10060 / 7704	.315/.266	17 / 174	
10.13.07	.3 / 44	10094 / 8052	.315/.278	19 / 167	
10.15.07	.2 / 49	10052 / 7961	.314/.275	17 / 177	
10.16.07	0.1 / 41	10047 / 7953	.314/.274	15 / 163	
10.17.07	.1 / 45	10045 / 8061	.314/.274	14 / 167	
10.18.07	0 / 33	10160 / 8090	.318/.278	8 / 145	
10.19.07	.1 / 45	10054 / 7925	.314/.273	12 / 170	
10.20.07	.05 / 42	9974 / 8074	.312/.278	12 / 161	
10.22.07	.15 / 45	10274 / 8096	.312/.279	18 / 167	
10.23.07	.1 / 46	10122 / 7922	.316/.273	14 / 173	
10-24-07	.2 / 45	10144 / 7996	.317/.276	17 / 169	

20 MIN.

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15/28	From: 1·23·08 To:	39	PR 12 6405

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	1·23·08	0638	0	10034	P	59	5027	P	JJ
Post									
Pre									
Post									
Pre									
Post									
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Reviewed By (print and sign)	Date
MARC WALDERS	2-5-08

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered From: To:	ESID Number:
CTO 15/28	01.22.08	39

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
121870	2929	10.24.07	10.24.08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR 126405	43-10-1	10.24.07	10.24.08		

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th 230	32,000 dpm	05.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC4700530	Tc99	29,000 dpm	01.19.00

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
01.22.08	0900	WREHBERG	
Alpha Background (dpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
1(,05 ccpm	20	807 (40 ccpm)	20

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net)
1	9722	4731
2	9741	4765
3	9743	4680
4	9707	4713
5	9823	4741
6	9819	4621
7	9823	4730
8	9851	4894
9	9804	4775
10	9658	4724

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
9769	11723	7815
Mean Beta Source Net Measurement (net)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
4737	5684	3790

Reviewed By (print and sign)	Date
WREHBERG MARC WEBSTER	01.22.08

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	121870	CALIBRATION DUE DATE	10-24-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{X}_n - \bar{}$	$(X_n - \bar{})^2$
1	4797	161	25921
2	4661	25	625
3	4701	65	4225
4	4622	-14	196
5	4634	-2	4
6	4703	67	4489
7	4619	-17	289
8	4672	36	1296
9	4613	-23	529
10	4580	-56	3136
11	4610	-26	676
12	4670	34	1156
13	4570	-66	4356
14	4664	28	784
15	4665	29	841
16	4454	-182	33124
17	4653	17	289
18	4621	-15	225
19	4465	-171	29241
20	4739	103	10609
SUM	92713		122011

X_b = 40 cpm

$\Sigma(X_n - \bar{})^2$ = 122011

ΣX_n = 92713

Chi-Squared = $\dfrac{\Sigma(X_n - \bar{})^2}{\Sigma X_n}$

Chi-Squared = 1.3160

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

Source

Tc_{99} B

$\bar{} = 4636$

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{})$.....NET COUNT - AVERAGE

$(X_n - \bar{})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	121870	CALIBRATION DUE DATE	10-24-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{\ } = X_n - \bar{\ }$	$(X_n - \bar{\ })^2$
1	9838	23.55	464.40
2	9937	120.55	1453.30
3	9808	- 8.45	71.40
4	9761	- 55.45	3074.70
5	9766	- 50.45	2545.20
6	9927	110.55	12221.30
7	9874	57.55	3312.00
8	9721	- 95.45	9110.70
9	9754	- 62.45	3900
10	9762	- 54.45	2964.8
11	9843	26.55	704.9
12	9815	- 1.45	2.1
13	9657	- 159.45	25424.3
14	9943	126.55	16014.9
15	9737	-99.45	6312.3
16	9723	- 93.45	8732.9
17	9767	- 49.45	2445.3
18	10027	210.55	44331.3
19	9859	42.55	1810.5
20	9810	-6.45	41.6
SUM	~~186592~~ SMB		144937.9

196329

X_b = 0.05 = 0 BKGD

$\Sigma(X_n - \bar{\ })^2$ = 144937.9

ΣX_n = ~~186592~~ SMB
196329

Chi-Squared = $\frac{\Sigma(X_n - \bar{\ })^2}{\Sigma X_n}$

Chi-Squared = 0.7382

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

SOURCE Th 230 ∝

~~9329.6~~ SMB

$\bar{\ }$ = 9816.45

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{\ }$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{\ })$.....NET COUNT - AVERAGE

$(X_n - \bar{\ })^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{\ })^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

DAILY SCALER LOG

MODEL: L2929 SERIAL NUMBER: 121870 CAL. DUE: 10.24.08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th230 SOURCE ACTIVITY: 32,000 DPM

BETA SOURCE #: 93Tc47005 ISOTOPE: Tc99 SOURCE ACTIVITY: 29,000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1.23.08	1/~~48~~2	10034 / 5027	.34/.173	14/260	QS

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 1.17.08 To:	ESID Number:	Probe Serial Number:
CTO 15/24		39	PR242833

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	1.17.08		N/A	N/A	N/A	3140	266409	P	JS
Post	1.21.08	0715	↓	↓	↓	3030	270540	P	PB
Pre	1.21.08	0715	↓	↓	↓	3030	270540	P	PB
Post									
Pre									
Post									
Pre									
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Pre									
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Pre									
Post									

N/A

Reviewed By (print and sign)	Date
MARC WEDDLE	2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:
CTO15	From: 9-10-07 To:	039

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
172018	L2221	9-7-07	9-8-07		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR242833	L4410	9-7-07	9-8-07	N/A	0.70%

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
9-10-07	1600	Bob Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
NA	NA	4892	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net cpm)
1		270048
2		271018
3		270684
4		271061
5	N/A	270397
6		269356
7		270012
8		268437
9		267947
10		267402

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
269,636	323,563	215709

Reviewed By (print and sign)	Date
Lawrence Casey	9-12-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12.15.07 To: 1.17.08	39	PR242833

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.15.07	0830		~~9852~~	-	5302	274578	P	
Post	12.17.07	0600				5230	263141	P	
Pre	12.17.07	0600				5230	263141	P	
Post	12.18.07	0600				5965	272578	P	
Pre	12.18.07	0600				5965	272578	P	
Post	12.19.07	0600				4406	268460	P	
Pre	12.19.07	0600				4406	268460	P	
Post	12.20.07					4808	277105	P	
Pre	12.20.07					4808	277105	P	
Post	12.21.07					4896	274863	P	
Pre	12.21.07					4896	274863	P	
Post	1.2.08					5528	266087	P	
Pre	1.2.08					5528	266087	P	
Post	1.3.08					4731	271905	P	
Pre	1.3.08					4731	271905	P	
Post	1.7.08					4782	271409	P	
Pre	1.7.08					4782	271409	P	
Post	1.8.08					5466	272950	P	
Pre	1.8.08					5466	272950	P	
Post	1.9.08					4841	269457	P	
Pre	1.9.08					4841	269457	P	
Post	1.11.08					5035	269422	P	
Pre	1.11.08					5035	269422	P	
Post	1.15.08					3661	266307	P	
Pre	1.15.08					3664	266307	P	
Post	1.16.08					3522	269313	P	
Pre	1.16.08					3522	269313	P	
Post	1.17.08					3140	266409	P	

Reviewed By (print and sign)

Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 11-19-07 To: 12.15.07	039	PR242833

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net)	P/F*	
Pre	11.19.07	0630	NA	NA	NA	5011	268926	P	FD
Post	11.20.07	0636				5657	271882	P	RP
Pre	11.20.07	0600				5212	270100	P	QJ
Post	11.26.07	0630				5759	268337	P	FD
Pre	11.26.07	0630				5759	268337	P	RD
Post	11.27.07	0600				5344	259552	P	QJ
Pre	11.27.07	0600				5344	259552	P	QJ
Post	11.28.07	0730				5946	262093	P	FD
Pre	11.28.07	0730				5946	262093	P	FD
Post	11.30.07	0655				5324	261551	P	FD
Pre	11.30.07	0655				5324	261551	P	FD
Post	12.4.07	0600				5160	268009	P	QJ
Pre	12.4.07	0600				5160	268009	P	QJ
Post	12.5.07	0700				5562	264186	P	BD
Pre	12.5.07	0700				5562	264186	P	FD
Post	12.6.07	0700				5054	266816	P	QJ
Pre	12.6.07	0700				5054	266816	P	QJ
Post	12.7.07	0720				5571	267593	P	FD
Pre	12.7.07	0720				5571	267593	P	RD
Post	12.10.07	0600				5069	265287	P	QJ
Pre	12.10.07	0600				5069	265287	P	QJ
Post	12.12.07	0600				5358	264472	P	QJ
Pre	12.12.07	0600				5358	264472	P	QJ
Post	12.13.07	0600				5507	263357	P	BD
Pre	12.13.07	0600				5507	263357	P	BD
Post	12.14.07	0600				5316	271417	P	QJ
Pre	12.14.07	0600				5316	271417	P	QJ
Post	12.15.07	0630				5362	274578	P	QJ

Reviewed By (print and sign) Laurence Casey

Date 12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 10-31-07 To:	ESID Number:	Probe Serial Number:
CT015		039	PR242833

Operational Checks

	Date	Time	Alpha Background ( )	Alpha Source Check (net)	Alpha P/F*	Beta/Gamma Background ( )	Beta/Gamma Source Check (net)	Beta/Gamma P/F*	RCT Initials
Pre	10.31.07	0600				4996	271804	P	JJ
Post	11.1.07	0626				5360	266444	P	RD
Pre	11.1.07	0620				5360	266444	P	RD
Post	11.2.07	0600				5212	270652	P	JJ
Pre	11.2.07	0600				5212	270652	P	JJ
Post	11.5.07	0600				5597	272411	P	JJ
Pre	11.5.07	0600				5597	272411	P	JJ
Post	11.6.07	0640				5455	281034	P	RD
Pre	11.6.07	0640				5455	281034	P	RD
Post	11.7.07	0600				5711	269804	P	JJ
Pre	11.7.07	0600				5711	269804	P	JJ
Post	11.8.07	0630				5677	266734	P	RD
Pre	11.8.07	0630				5677	266734	P	RD
Post	11.9.07	0600				5586	257014	P	JJ
Pre	11.9.07	0600				5586	257014	P	JJ
Post	11.10.07	0600				5461	268430	P	JJ
Pre	11.10.07	0600				5461	268430	P	JJ
Post	11.12.07	0630				5714	260268	P	RD
Pre	11.12.07	0630				5714	260268	P	RD
Post	11.13.07	0630				5615	261038	P	RD
Pre	11.13.07	0630				5615	261038	P	RD
Post	11.14.07	0600				5657	272485	P	JJ
Pre	11.14.07	0600				5657	272485	P	JJ
Post	11.15.07	0630				5352	263638	P	RD
Pre	11.15.07	0630				5352	263638	P	RD
Post	11.16.07	0600				4940	272963	P	JJ
Pre	11.16.07	0600				4940	272963	P	JJ
Post	11.19.07	0630				5011	268926	P	RD

Reviewed By (print and sign) Lawrence Casey

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 9-11-07 To:	039	PR242833

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	9-11-07	0715				5167	253074	P	PR
Post									
Pre									
Post	10.11.07	0600				6432	264015	P	PR
Pre	10.11.07	0600				6432	264015	P	PR
Post	101507	0600				5350	255103	P	QJ
Pre	101507	0600				5350	255183	P	QJ
Post	10/16/07	1230				5276	252130	P	QJ
Pre	10/16/07	1230				5276	252130	P	QJ
Post	101707	0630				5637	264601	P	QJ
Pre	101707	0630	NA			5637	264601	P	QJ
Post	10.19.07	0600				5705	268539	P	QJ
Pre	10.19.07	0600				5705	268539	P	QJ
Post	102007	0600				5280	254917	P	QJ
Pre	102007	0600				5280	254917	P	QJ
Post	10.22.07	0740				5762	270551	P	PR
Pre	10.22.07	0740				5762	270551	P	PR
Post	102307	0600				5594	248531	P	QJ
Pre	102307	0600				5590	248531	P	QJ
Post	10.25.07	0645				5426	265987	P	QJ
Pre	10.25.07	0645				5426	265987	P	QJ
Post	10.26.07	0730				5375	257625	P	PR
Pre	10.26.07	0730				5375	257625	P	PR
Post	10.29.07	0600				6912	277916	P	QJ
Pre	10.29.07	0600				6912	277916	P	QJ
Post	10.30.07	0640				5426	246709	P	PR
Pre	10.30.07	0640				5426	246809	P	PR
Post	10.31.07	0600				4996	271404	P	QJ

Reviewed By (print and sign) Laurie Cary

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 01.22.07 To:	ESID Number:
CTO 15/28		38

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
185277	2929	10.24.07	10.24.08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR 194726	43.10.1	10.24.07	10.24.08		

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th 230	32,000 dpm	05.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC4700530	Tc 99	29,000 dpm	01.19.00

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
01.22.08	0900	WREHBERG	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
1 (.05 ccpm)	20	647 (32 ccpm)	20

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net)
1	9860	4682
2	9753	4723
3	9720	4655
4	9880	4769
5	9733	4730
6	9577	4791
7	10002	4752
8	9741	4758
9	9764	4813
10	9751	4757

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
9778	11734	7822
Mean Beta Source Net Measurement (net)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
4743	5692	3794

Reviewed By (print and sign)	Date
WREHBERG Brian Bahr MARC WEHRLE	01.22.08

2-3-08

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	185277	CALIBRATION DUE DATE	10-24-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{X}_n - \bar{}$ =	$(X_n - \bar{})^2$
1	9915	99.5	9900.25
2	9819	3.5	12.25
3	9726	-89.5	8010.25
4	9876	60.5	3660.25
5	9816	0.5	0.25
6	9931	115.5	13340.25
7	9860	44.5	1980.25
8	9745	-70.5	4970.25
9	9709	-108.5	11772.25
10	9859	43.5	1892.25
11	9618	-197.5	39006.25
12	9829	13.5	182.25
13	9640	-175.5	30800.25
14	9877	61.5	3782.25
15	9817	1.5	2.25
16	9887	71.5	5112.25
17	9861	45.5	2070.25
18	9965	149.5	22350.25
19	9744	-71.5	5112.25
20	9816	0.5	0.25
SUM	196310		163957

X_b = 0.05 cpm = 0 BKGD

$\Sigma(X_n - \bar{})^2$ = 163957

ΣX_n = 196310

Chi-Squared = $\frac{\Sigma(X_n - \bar{})^2}{\Sigma X_n}$

Chi-Squared = 0.8352

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

SOURCE Th230

α

$\bar{} = 9815.5$

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{})$.....NET COUNT - AVERAGE

$(X_n - \bar{})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

MODEL NUMBER	2929	INSTRUMENT SERIAL NUMBER	185277	CALIBRATION DUE DATE	10-24-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{X}_n - \bar{X}$	$(X_n - \bar{X})^2$
1	4709	29.45	867.3
2	4705	25.45	647.7
3	4708	28.45	809.4
4	4603	-76.55	5859.9
5	4624	-55.55	3085.8
6	4621	-58.55	3428.1
7	4670	-9.55	91.2
8	4672	-7.55	57
9	4689	9.45	89.3
10	4792	112.45	12645
11	4742	62.45	3900
12	4686	6.45	41.6
13	4714	34.45	1186.8
14	4600	-79.55	6328.2
15	4660	-19.55	382.2
16	4722	42.45	1802
17	4553	-126.55	16014.9
18	4684	4.45	19.8
19	4759	79.45	6312.3
20	4678	-1.55	2.4
SUM	93591		63570.9

X_b = 32 cpm

$\Sigma(X_n - \bar{X})^2$ = 63570.9

ΣX_n = 93591

Chi-Squared = $\dfrac{\Sigma(X_n - \bar{X})^2}{\Sigma X_n}$

Chi-Squared = 0.6792

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

Source Tc^{99} β^-

$\bar{X}$ = 4679.55

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{X}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{X})$.....NET COUNT - AVERAGE

$(X_n - \bar{X})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{X})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 1.23.08 To:	ESID Number:	Probe Serial Number:
CTO 15/28		38	PR 194726

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	1.23.08	0430	0	9798	P	35	4795	P	JJ
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

N/A

Reviewed By (print and sign)	Date

DAILY SCALER LOG

MODEL: L 2929 SERIAL NUMBER: 185277 CAL. DUE: 10.29.08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th 230 SOURCE ACTIVITY: 32000 DPM

BETA SOURCE #: 93T4700530 ISOTOPE: Tc 99 SOURCE ACTIVITY: 29,000 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVIFY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
1.23.08	1/34	9798 / 4795	.306 / .165	15 / 247	JJ

N/A BB

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 1.22.09 To:	ESID Number:	Probe Serial Number:
CTO 15/28		038	PR240325

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (/)	Source Check (net /)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	1.22.09	0600	N/A	N/A	N/A	3806	25521	P	JJ
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post					N/A				
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
	2-5-09

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:
CT015	From: 9-10-07 To:	038

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
149961	L2221	9-7-07	9-7-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR240325	L4410	9-7-07	9-7-08	N/A	0.71%

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
9-10-07	1600	Bob Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
NA	NA	5113	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net cpm)
1		279952
2		280731
3		280136
4		280701
5	N/A	280186
6		280201
7		280482
8		279222
9		279611
10		278575

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
279,980	335,976	223,984

Reviewed By (print and sign)	Date
Lawrence Casey / L Casey	9-12-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12.17.07 To: 1.22.08	038	PR240325

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.17.07	0600				5367	256932	P	JJ
Post	12.18.07	0600			5509	~~5509~~ 5832	264486	P	BD
Pre	12.18.07	0600			5509	~~5832~~	264486	P	BD
Post	12.19.07	0600			~~5260~~	5260	254927	P	JJ
Pre	12.19.07	0600			~~5260~~	5260	254927	P	JJ
Post	12.20.07	0630				5073	257500	P	PP
Pre	12.20.07	0630				5073	257500	P	PP
Post	12.21.07	0600				5367	259410	P	JJ
Pre	12.21.07	0600				5367	259410	P	JJ
Post	1.2.08	0700				5665	256481	P	JJ
Pre	1.2.08	0700				5665	256481	P	JJ
Post	1.3.08	0700				4665	255450	P	JJ
Pre	1.3.08	0700				4665	255450	P	JJ
Post	1.7.08	0600	NA			4727	253083	P	JJ
Pre	1.7.08	0600				4727	253083	P	JJ
Post	1.8.08	0630				5139	251928	P	PP
Pre	1.8.08	0630				5139	251928	P	PP
Post	1.9.08	0600				4640	257246	P	JJ
Pre	1.9.08	0600				4640	257246	P	JJ
Post	1.11.08	0600				5361	244499	P	JJ
Pre	1.11.08	0600				5361	244499	P	JJ
Post	1.15.08	0600				3615	253699	P	JJ
Pre	1.15.08	0600				3615	253699	P	JJ
Post	1.17.08	0600				4261	256122	P	JJ
Pre	1.17.08	0600				4261	256122	P	JJ
Post	1.21.08	0630				3731	255924	P	PP
Pre	1.21.08	0630				3731	255924	P	PP
Post	1.22.08	0600				3606	255212	P	JJ

Reviewed By (print and sign) [signature] [signature]

Date 2.5.08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 11.20.07 To: 12.17.07	038	PR 240325

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	11.20.07	0630				5868	239948	P	FD
Post	11.26.07	0630				5750	238907	P	FD
Pre	11.26.07	0630				5750	238907	P	FD
Post	11.27.07	0600				5827	752250	P	GJ
Pre	11.27.07	0610				5827	752250	P	GJ
Post	11.28.07	0730				5850	278303	P	PB
Pre	11.28.07	0730				5850	278303	P	PB
Post	11.30.07	0655				5709	245711	P	PR
Pre	11.30.07	0655		N		5709	245711	P	PR
Post	12.4.07	0600				5354	518098	P	GJ
Pre	12.4.07	0600				5354	518098	P	RT
Post	12.5.07	0700		A		5552	246863	P	FD
Pre	12.5.07	0700				5552	246863	P	PR
Post	12.6.07	0700				5338	247288	P	GJ
Pre	12.6.07	0700				5334	247288	P	GJ
Post	12.7.07	0700				5126	251140	P	BD
Pre	12.7.07	0700				5126	251140	P	BD
Post	12.10.07	0600				5148	230784	P	GJ
Pre	12.10.07	0600				5148	230784	P	GJ
Post	12.12.07	0600				5269	249887	P	GJ
Pre	12.12.07	0600				5269	249887	P	GJ
Post	12.13.07	0600				5612	255435	P	BD
Pre	12.13.07	0600				5612	255435	P	BD
Post	12.14.07	0600				5490	253697	P	GJ
Pre	12.14.07	0600				5490	253697	P	GJ
Post	12.15.07	0600				6379	285607	P	GJ
Pre	12.15.07	0600				6379	285607	P	GJ
Post	N/A								

Reviewed By (print and sign)	Date
Lawrence Casey LC	12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10-31-07 To: 11-20-07	038	PR240323

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.31.07	0600			-	5158	256181	P	JJ
Post	11.1.07	0620				5144	251337	P	RD
Pre	11.1.07	0620				5144	251337	P	RD
Post	11.2.07	0600				5008	252173	P	JJ
Pre	11.2.07	0600				5008	252173	P	JJ
Post	11.5.07	0640				5363	260339	P	JJ
Pre	11.5.07	0600				5363	260339	P	JJ
Post	11.6.07	0640				5485	268231	P	RD
Pre	11.6.07	0640				5485	268231	P	RD
Post	11.7.07	0600				5356	257241	P	JJ
Pre	11.7.07	0600				5356	257241	P	JJ
Post	11.8.07	0636				5125	259875	P	RD
Pre	11.8.07	0630				5125	259875	P	RD
Post	11.9.07	0600				5190	~~259014~~	P	JJ 276357
Pre	11.9.07	0600				5190	~~259014~~	P	JJ 276357
Post	11.12.07	0630				5350	253050	P	RD
Pre	11.12.07	0636				5350	253050	P	RD
Post	11.13.07	0630				4990	259311	P	RD
Pre	11.13.07	0636				4990	259311	P	RD
Post	11.14.07	0600				5485	252716	P	JJ
Pre	11.14.07	0600				5485	252716	P	JJ
Post	11.15.07	0630				5150	253451	P	RD
Pre	11.15.07	0630				5150	253451	P	RD
Post	11.16.07	0600				5253	257434	P	JJ
Pre	11.16.07	0600				5253	257434	P	JJ
Post	11.19.07	0630				4779	268711	P	RD
Pre	11.19.07	0636				4779	268711	P	RD
Post	11.20.07	0636				5868	239948	P	RD

Reviewed By (print and sign)	Date
Lawrence Casey	11-21-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 9-11-07 To:	038	PR240325

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	9-11-07	0730				5192	246731	P	FR
Post	9-13-07	0415				5038	241210	P	JJ
Pre	10.13.07	0815				5538	241210	P	JJ
Post	10.15.07	0600				5713	249433	P	JJ
Pre	10.15.07	0600				5713	249433	P	JJ
Post	10.17.07	0600				5306	250429	P	JJ
Pre	10.17.07	0600				5306	250429	P	JJ
Post	10.19.07	0600				5402	246255	P	JJ
Pre	10.19.07	0600				5402	246255	P	JJ
Post	10.20.07	0600				5149	247330	P	JJ
Pre	10.20.07	0600	N	A		5149	247330	P	JJ
Post	10.22.07	0730				5277	257703	P	FR
Pre	10.22.07	0730				5227	257703	P	FR
Post	10.23.07	0600				5859	266183	P	JJ
Pre	10.23.07	0600				5859	266183	P	JJ
Post	10.24.07	0638				5725	257820	P	FR
Pre	10.24.07	0630				5725	257820	P	FR
Post	10.25.07	0645				5199	253150	P	JJ
Pre	10.25.07	0645				5199	253150	P	JJ
Post	10.26.07	0706				5155	255896	P	FR
Pre	10.26.07	0706				5155	255896	P	FR
Post	10.27.07	0600				5089	255558	P	JJ
Pre	10.27.07	0600				5089	255558	P	JJ
Post	10.29.07	0600				5122	252900	P	JJ
Pre	10.29.07	0600				5122	252900	P	JJ
Post	10.30.07	0640				5024	258326	P	FR
Pre	10.30.07	0640				5024	258326	P	FR
Post	10.31.07	0600				5154	256461	P	JJ

Reviewed By (print and sign) Lawrence Casey

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From:	To:	ESID Number:	Probe Serial Number:
CTO-15/28	12.12.07		637	244501

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.13.07	0600	0	6396	P	251	5839	P	BD
Post	12.14.07	0600	0	6361	P	237	5943	P	JJ
Pre	12.14.07	0600	0	6301	P	237	5943	P	JJ
Post	12.15.07	0600	0	5410	P	253	6019	P	FB
Pre	12.15.07	0600	0	5410	P	253	6019	P	FB
Post	12.17.07	0600	0	~~5655~~ 6499	P	256	5855	P	JJ
Pre	12.17.07	0600	0	~~5655~~ 6499	P	256	5855	P	JJ
Post	12.19.07	0600	0	6096	P	216	5810	P	JJ
Pre	12.19.07	0600	6	6096	P	216	5810	P	JJ
Post	12.20.07	0600	0	6023	P	231	5857	P	
Pre	12.20.07	0600	0	6023	P	231	5857	P	
Post	12.21.07	0600	0	6230	P	226	5822	P	JJ
Pre	12.21.07	0600	0	6230	P	226	5822	P	JJ
Post	1-10-08	1430	0	5976	P	236	5767	P	FB
Pre	1-10-08	1430	0	5976	P	236	5767	P	FB
Post	1.11.08	0600	0	5994	P	242	6315	P	JJ
Pre	1.11.08	0600	0	5994	P	242	6315	P	JJ
Post	1.22.08	0700	0	6549	P	229	5370	P	JJ
Pre	1.22.08	0700	0	6549	P	229	5370	P	JJ
Post									
Pre									
Post									
Pre									
Post					N/A				
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
Mark Weidle	2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:
TCRA CTO 15	From: 11.5.07 To:	

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
193637	Ludlum 2360	10.25.07	10.25.08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244601	Ludlum 43-93	10.25.07	10.25.08	.204	.351

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
SN 1836-94	Th 230	32000 dpm	5.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC4700530	Tc 99	29000 dpm	1.19.00

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
11.5.07	0830	Josh Tillou / Josh Tillou	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
10 (1 cpm)	10	1131 (113.1 cpm)	10

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net)
1	5198	5416
2	5319	5479
3	5249	5518
4	5293	5424
5	5147	5440
6	5405	5420
7	5254	5508
8	5243	5587
9	5273	5452
10	5204	5457

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
5259	6311	4207
Mean Beta Source Net Measurement (net)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
5470	6564	4376

Reviewed By (print and sign)	Date
Laurence Gay	11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA-CTO15	From: 11-26-07 To:	637	PR-244 501

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.26.07	0615	0	6409	P	233	5962	P	RR
Post	11-27-07	0600	0	6309	P	236	6197	P	JJ
Pre	11-27-07	0600	0	6309	P	236	6197	P	JJ
Post	11.28.07	0630	0	6307	P	229	6464	P	RR
Pre	11.28.07	0630	0	6307	P	229	6464	P	RR
Post	11.29.07	0600	0	6210	P	238	5887	P	JJ
Pre	11.29.07	0600	0	6210	P	238	5887	P	JJ
Post	11.29.07	0600	0	6249	P	236	6239	P	RR
Pre	11.30.07	0600	0	6249	P	236	6239	P	RR
Post	12.1.07	0630	0	5924	P	260	6170	P	JJ
Pre	12.1.07	0630	0	5924	P	260	6170	P	JJ
Post	12.3.07	0600	0	6238	P	251	6272	P	RR
Pre	12.3.07	0600	0	6238	P	251	6272	P	RR
Post	12.4.07	0600	0	6115	P	238	5901	P	JJ
Pre	12.4.07	0600	0	6115	P	238	5901	P	JJ
Post	12.5.07	0600	0	6305	P	241	6378	P	RR
Pre	12-5-07	0600	0	6305	P	241	6378	P	RR
Post	12.6.07	0600	0	6028	P	241	5865	P	JJ
Pre	12.6.07	0600	0	6028	P	241	5865	P	JJ
Post	12.7.07	0600	0	5959	P	252	5820	P	RR
Pre	12.7.07	0600	0	5959	P	252	5820	P	RR
Post	12.10.07	0600	0	6136	P	244	6091	P	JJ
Pre	12.10.07	0600	0	6136	P	244	6091	P	JJ
Post	12.11.07	0700	0	6262	P	259	5848	P	JJ
Pre	12.11.07	0700	0	6262	P	259	5848	P	JJ
Post	12.12.07	0600	0	6291	P	202	6043	P	JJ
Pre	12.12.07	0600	0	6291	P	202	6043	P	JJ
Post	12.13.07	0600	0	6396	P	PR-26251	5839	P	RR

Reviewed By (print and sign) Lawrence Gay / LG

Date 12-14-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA-CTO 15	From: 11.5.07 To: 11.21.07	637	PR 244501

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.5.07	0530	0	5259	P	193	5470	P	QJ
Post	11.6.07	0610	0	6218	P	211	6009	P	RR
Pre	11.6.07	0610	0	6218	P	211	6009	P	RR
Post	11.7.07	0600	0	6139	P	234	4744	P	QJ
Pre	11.7.07	0600	0	6139	P	234	4744	P	QJ
Post	11.8.07	0640	0	5399	P	222	5526	P	RR
Pre	11.8.07	0640	0	5399	P	222	5526	P	RR
Post	11.9.07	0600	0	6210	P	285	5994	P	QJ
Pre	11.9.07	0600	0	6210	P	285	5994	P	QJ
Post	11.10.07	0600	0	5410	P	222	5935	P	QJ
Pre	11.10.07	0600	0	5410	P	222	5935	P	QJ
Post	11.12.07	0600	0	6277	P	212	6006	P	RR
Pre	11.12.07	0600	0	6277	P	212	6006	P	RR
Post	11.13.07	0600	0	5944	P	190	5950	P	RR
Pre	11.13.07	0600	0	5944	P	190	5950	P	RR
Post	11.14.07	0600	0	5990	P	226	6024	P	QJ
Pre	11.14.07	0600	0	5990	P	226	6024	P	QJ
Post	11.15.07	0600	0	5950	P	252	6308	P	RR
Pre	11.15.07	0600	0	5950	P	252	6308	P	RR
Post	11.16.07	0600	0	6236	P	236	5737	P	QJ
Pre	11.16.07	0600	0	6236	P	236	5737	P	QJ
Post	11.19.07	0630	0	6007	P	192	5698	P	RR
Pre	11.19.07	0630	0	6007	P	192	5698	P	RR
Post	11.20.07	0610	0	6170	P	250	5956	P	RR
Pre	11.20.07	0610	0	6170	P	250	5956	P	RR
Post	11.21.07	0600	0	6441	P	250	6108	P	QJ
Pre	11.21.07	0600	0	6441	P	250	6108	P	QJ
Post				N/A					

Reviewed By (print and sign) Lawrence Cate

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15/28	From: 1-9-08 To:	0211	PR 244489

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	1-9-08	0600	0	5322	P	120	3012	P	JJ
Post	1-10-08	0620	0	5448	P	110	3433	P	FR
Pre	1-10-08	0620	0	5448	P	110	3433	P	FR
Post	1-11-08	0600	0	5700	P	111	3217	P	JJ
Pre	1-11-08	0620	0	5700	P	111	3217	P	JJ
Post	11-14-08	0615	0	5648	P	115	2966	P	FR
Pre	11-14-08	0615	0	5648	P	1150 FR 115	2966	P	FR
Post	1-15-08	0730	0	5481	P	84	3278	P	P
Pre	1-15-08	0730	0	5481	P	84	3278	P	P
Post	1-16-08	0700	0	5914	P	108	3398	P	FR
Pre	1-16-08	0700	0	5914	P	108	3398	P	FR
Post	1-17-08	0600	0	5503	P	107	2944	P	JJ
Pre	1-17-08	0600	0	5503	P	102	2944	P	JJ
Post	1-21-08	0610	0	5771	P	99	3010	P	FR
Pre	1-21-08	0610	0	5771	P	99	3010	P	FR
Post	1-22-08	0700	0	5839	P	80	3083	P	JJ
Pre	1-22-08	0700	0	5839	P	80	3083	P	JJ
Post	1-23-08	0900	0	5847	P	115	3078	P	JJ
Pre	1-23-08	0600	0	5847	P	115	3078	P	JJ
Post	1-24-08	0740	0	5735	P	101	3009	P	FR
Pre	1-24-08	0740	0	5735	P	101	3009	P	FR
Post									
Pre									
Post									
Pre					NA	NA			
Post									
Pre									
Post									

Reviewed By (print and sign) Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project:	Dates Covered	ESID Number:
CTO 15	From: 5-12-07 To:	024

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
237298	L2360	4-23-07	4-23-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244489	L4393	4-23-07	4-23-08	18.9%	28.2% SR90

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc99	28,999 dpm	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
5-12-07	0820	Bob Dickenson	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	150	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	6138	3672
2	6178	3564
3	6069	3598
4	6091	3582
5	5884	3573
6	6044	3609
7	6130	3654
8	5947	3731
9	6033	3610
10	6038	3702

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
6,055	7,266	4,844
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3,630	4,356	2,904

Reviewed By (print and sign)	Date
MARC WENDELL	5-23-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTGLS	From: 11-30-07 To: 12-15-07	24	PR244489

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net)	P/F*	Background (cpm)	Source Check (net)	P/F*	
Pre	11.30.07	0600	0		-	116			
Post	12.1.07	0630	0	6437	P	111	5072	P	JT
Pre	12.1.07	0630	0	6437	P	111	5072	P	JT
Post	12.3.07	0600	0	5118	P	138	3240	P	RD
Pre	12.3.07	0600	0	5118	P	138	3246	P	RD
Post	12.4.07	0600	0	5634	P	137	3150	P	JT
Pre	12.4.07	0600	0	5639	P	137	3156	P	JT
Post	12.5.07	0600	0	5605	P	141	3450	P	RD
Pre	12.5.07	0600	0	5605	P	141	3450	P	RD
Post	12.6.07	0700	0	5157	P	122	3224	P	JT
Pre	12.6.07	0700	0	5157	P	122	3224	P	JT
Post	12.7.07	0600	0	5350	P	139	3140	P	RD
Pre	12.7.07	0600	0	5220	P	135	3170	P	RD
Post	12.10.07	0600	0	4994	P	89	3151	P	JT
Pre	12.10.07	0600	0	4994	P	89	3151	P	JT
Post	12.11.07	0630	0	5464	P	124	3020	P	RD
Pre	12.11.07	0630	0	5464	P	124	3020	P	JT
Post	12.12.07	0600	0	5609	P	123	3079	P	JT
Pre	12.12.07	0600	0	5609	P	123	3079	P	JT
Post	12.13.07	0600	0	4890	P	112	2924	P	RD
Pre	12.13.07	0600	0	4890	P	112	2924	P	RD
Post	12.14.07	0600	0	~~4747~~ 5539	P	118	2919	P	JT
Pre	12.14.07	0600	0	~~4747~~ 5539	P	118	2919	P	JT
Post	12.15.07	0600	0	4847	P	124	~~3049~~ 2903	F	RD
Pre	12.15.07	0600	0	4849	P	124	~~3049~~ 2903	F	RD
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
Lawrence Cass /	12-15-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 11.10.07 To: 11.30.07	24	PR 244489

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	11.10.07	0600	0	4953	P	119	2958	P	JJ
Post	11.12.07	0600	0	5171	P	124	3030	P	PP
Pre	11.12.07	0600	0	5171	P	124	3030	P	PP
Post	11.13.07	0600	0	5191	P	97	3155	P	PP
Pre	11.13.07	0600	0	5191	P	97	3155	P	PP
Post	11.14.07	0600	0	5125	P	124	3010	P	JJ
Pre	11.14.07	0600	0	5125	P	124	3010	P	JJ
Post	11.15.07	0600	0	5470	P	123	3110	P	PP
Pre	11.15.07	0600	0	5476	P	123	3110	P	PP
Post	11.16.07	0600	0	5551	P	102	2918	P	JJ
Pre	11.16.07	0600	0	5551	P	102	2918	P	JJ
Post	11.17.07	0600	0	5402	P	102	2992	P	JJ
Pre	11.17.07	0600	0	5402	P	102	2992	P	JJ
Post	11.19.07	0620	0	5652	P	111	2949	P	PP
Pre	11.19.07	0620	0	5652	P	111	2945	P	PP
Post	11.20.07	0616	0	5137	P	104	3161	P	PP
Pre	11.20.07	0616	0	5137	P	104	3161	P	PP
Post	11.21.07	0600	0	5609	P	112	3037	P	JJ
Pre	11.21.07	0600	0	5609	P	112	3037	P	JJ
Post	11.26.07	0630	0	5775	P	139	2995	P	PP
Pre	11.26.07	0630	0	5775	P	139	2995	P	PP
Post	11.27.07	0600	0	5519	P	109	3138	P	JJ
Pre	11.27.07	0600	0	5519	P	109	3134	P	JJ
Post	11.28.07	0630	0	5775	P	123	3709	P	PP
Pre	11.28.07	0630	0	5775	P	123	3709	P	PP
Post	11.29.07	0600	0	5590	P	101	3248	P	JJ
Pre	11.29.07	0600	0	5590	P	101	3248	P	JJ
Post	11.30.07	0600	0	5520	P	110	3640	P	PP

Reviewed By (print and sign) Lawrence Cacy / [signature]

Date 12-6-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 10-26-07 To: 11.10.07	024	PR-244483

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10.26.07	0606	0	5125	P	97	3251	P	PR
Post	10.27.07	0600	0	5107	P	107	2942	P	JJ
Pre	10.27.07	0600	0	5107	P	107	2942	P	JJ
Post	10.29.07	0600	0	5041	P	181	~~3351~~	P	
Pre	10.29.07	0600	0	5041	P	181	~~3351~~	P	
Post	10.30.07	0606	0	5195	P	120	2955	P	PR
Pre	10.30.07	0600	0	5195	P	120	2955	P	DM
Post	10.31.07	0600	0	4999	P	124	3104	P	JJ
Pre	10.31.07	0600	0	4999	P	124	3104	P	JJ
Post	11.1.07	0610	0	5144	P	132	3059	P	PR
Pre	11.1.07	0610	0	5144	P	132	3059	P	PR
Post	11.2.07	0600	0	3283	P	122	3243	P	JJ
Pre	11.2.07	0600	0	3283	P	122	3243	P	JJ
Post	~~11.3.07~~	~~0615~~	~~0~~	~~5460~~	~~P~~	~~178~~	~~3228~~	~~P~~	PR 11-3-07
Pre	~~11.3.07~~	~~0615~~	~~0~~	~~5460~~	~~P~~	~~178~~	~~3228~~	~~P~~	PR 11-3-07
Post	11-3-07	0730	0	5460	P	128	3228	P	JMW
Pre	11-3-07	0730	0	5460	P	128	3228	P	JMW
Post	11-5-07	0600	0	4944	P	122	3039	P	JJ
Pre	11-5-07	0600	0	4944	P	122	3039	P	JJ
Post	11-6-07	0610	0	5668	P	123	3162	P	PR
Pre	11.6.07	0610	0	5668	P	123	3162	P	PR
Post	11.7.07	0600	0	4949	P	116	3092	P	JJ
Pre	11.7.07	0600	0	4949	P	116	3092	P	JJ
Post	11.8.07	0620	0	5043	P	120	3168	P	PR
Pre	11.8.07	0620	0	5043	P	120	3168	P	PR
Post	11.9.07	0600	0	5420	P	134	3142	P	JJ
Pre	11.9.07	0600	0	5420	P	134	3142	P	JJ
Post	11.10.07	0600	0	4983	P	114	2954	P	JJ

B 3295
B 3295

Reviewed By (print and sign): Laurence Casey

Date: 11-21-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 8-30-07 To: 9-20-07	024	PR244489

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-30-07	0645	0	6259	P	142	3683	P	PR
Post	9-4-07	0615	0	5332	P	140	3649	P	PR
Pre	9-4-07	0615	0	5332	P	140	3649	P	PR
Post	9-5-07	0615	0	5907	P	134	4122	P	PR
Pre	9-5-07	0615	0	5907	P	134	4122	P	PR
Post	9-6-07	0620	0	5833	P	104	4207	P	PR
Pre	9-6-07	0620	0	5833	P	104	4207	P	PR
Post	9-7-07	0625	0	6253	P	121	3872	P	BD
Pre	9-7-07	0625	0	6253	P	121	3872	P	BD
Post	9-8-07	0730	0	5962	P	120	3810	P	
Pre	9-8-07	0730	0	5962	P	120	3810	P	
Post	9-10-07	0600	0	5968	P	112	3863	P	
Pre	9-10-07	0600	0	5968	P	112	3863	P	
Post	9-11-07	0600	0	5959	P	148	4004	P	
Pre	9-11-07	0600	0	5959	P	148	4004	P	
Post	9-12-07	0600	0	5879	P	138	3597	P	
Pre	9-12-07	0600	0	5879	P	138	3597	P	
Post	9-13-07	0600	0	6040	P	148	3674	P	
Pre	9-13-07	0600	0	6040	P	148	3674	P	
Post	9-14-07	0620	0	5689	P	144	3788	P	PR
Pre	9-14-07	0620	0	5689	P	144	3788	P	PR
Post	9-17-07	0610	0	5982	P	148	3835	P	
Pre	9-17-07	0610	0	5982	P	148	3835	P	
Post	9-18-07	0600	0	5841	P	139	3899	P	
Pre	9-18-07	0600	0	5841	P	139	3899	P	
Post	9-19-07	0610	0	5858	P	149	3832	P	
Pre	9-19-07	0610	0	5858	P	149	3832	P	
Post	9-20-07	0610	0	5878	P	149	3910	P	

Reviewed By (print and sign)	Date
Lawrence Casey / LCasey	9-25-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered From: 9-20-07 To:	ESID Number:	Probe Serial Number:
CT015		024	PR244489

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	9-20-07	0600	0	5878	P	149	3910	P	
Post	9-21-07	0600	0	5824	P	151	3962	P	
Pre	9-21-07	0600	0	5824	P	151	3962	P	
Post	9-22-07	0600	0	5328	P	142	3890	P	
Pre	9-22-07	0600	0	5328	P	142	3890	P	
Post	9-24-07	0600	0	5717	P	137	3949	P	
Pre	9-24-07	0600	0	5717	P	137	3949	P	
Post	9-25-07	0600	0	5443	P	146	3825	P	
Pre	9-25-07	0600	0	5443	P	140	3825	P	
Post	9-26-07	0600	0	5018	P	148	3804	P	
Pre	9-26-07	0600	0	5018	P	148	3804	P	
Post	9-2707	0600	0	5063	P	176	3829	P	
Pre	~~9-26-07~~ 9-27-07	0600	0	5063	P	176	3829	P	
Post	10-1-07	0610	0	4853	P	142	3905	P	
Pre	10-1-07	0610	0	4853	P	142	3905	P	
Post	10-2-07	0610	0	5203	P	130	3951	P	
Pre	10-2-07	0610	0	5203	P	130	3951	P	
Post	10-3-07	0600	0	5232	P	101	2999	P	
Pre	10-3-07	0600	0	5232	P	101	2999	P	
Post	10-4-07	0600	0	5250	P	136	3085	P	
Pre	10-4-07	0600	0	5250	P	136	3085	P	
Post	10-5-07	0600	0	5419	P	198	3605	P	
Pre	10-5-07	0600	0	5419	P	198	3605	P	
Post	10-6-07	0630	0	4943	P	101	3139	P	RP
Pre	10-6-07	0630	6	4943	P	101	3139	P	RP
Post	10-8-07	0630	0	5007	P	132	3419	P	RP
Pre	10-8-07	0630	0	5007	P	132	3419	P	RP
Post	10-9-07	0630	0	4494	P	122	3152	P	

Reviewed By (print and sign) Lawrence Coy

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10.9.07 To:	024	PR244489

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10 9 07	0630	0	4884	P	122	3152	P	
Post	10.10.07	0700	0	5583	P	99	3467	P	
Pre	10/10 07	0700	0	5583	P	99	3497	P	
Post	10.11.07	0600	0	4999	P	124	3130	P	
Pre	10.11.07	0600	0	4999	P	124	3130	P	
Post	10.12.07	0600	0	5024	P	121	3115	P	
Pre	10.12.07	0600	0	5024	P	121	3115	P	
Post	10.13.07	0600	0	5267	P	115	3263	P	
Pre	10.13.07	0600	0	5267	P	115	3263	P	
Post	10.14.07	0600	0	5251	P	124	2972	P	
Pre	10.15.07	0600	0	525	P	124	2972	P	
Post	10.16.07	0620	0	5479	P	106	2597	P	
Pre	10.16.07	0620	0	5479	P	106	2597	P	
Post	10.17.07	0600	0	5147	P	89	2961	P	
Pre	10.17.07	0600	0	5147	P	89	2961	P	
Post	10.19.07	0600	0	5497	P	124	2846	P	
Pre	10.19.07	0600	0	5497	P	124	2846	P	
Post	10/20/07	0600	0	4984	P	124	~~2414~~	P	
Pre	10/20/07	0600	0	4984	P	124	~~2414~~	P	
Post	10/21/07	0600	0	5009	P	128	3018	P	
Pre	10/22	0600	0	5009	P	128	3018	P	
Post	10.23.07	0600	0	5010	P	112	2928	P	
Pre	10.23.07	0600	0	5010	P	112	2928	P	
Post	10.24.07	0605	0	5010	P	128	3316	P	
Pre	10.24.07	0605	0	5010	P	128	3316	P	
Post	10/25/07	0600	0	4931	P	94	3084	P	
Pre	10/25/07	0600	0	4931	P	94	3084	P	
Post	10.26.07	0600	0	5125	P	97	3251	P	

Reviewed By (print and sign)

Date 10-29-08

PR 2958
PR 2958

RTS
Environmental Survey Instrument Data Sheet

Page 1 of 1

Project:	Dates Covered From: 11.29.07 To:	ESID Number:
CTO-15/28		393

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
227393	2360	4.9.07	4.9.08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
Pr 244541	43.93	4.9.07	4.9.08	Pa 21.29 TH 17.96	Ta 10.63 Sy 28.12

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	TH 230	32000	5.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	29000	01.19.00

Instrument Response Check

Date:	Time:	RCT Name/Signature:
11.29.07	1700	WB REHBERG Brian Rehberg

Alpha Background (cpm):	Alpha Count Time (min):	Beta/Gamma Background (cpm):	Beta/Gamma Count Time (min):
0	1	162	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5469	~~35~~ 3158
2	5644	3115
3	5620	3255
4	5651	3070
5	5732	3116
6	5481	3160
7	5685	3083
8	5454	3069
9	5678	3179
10	5516	3203

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
5593	6711	4474
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3140	3768	2512

Reviewed By (print and sign)	Date
Lawrence Casey	12-6-07

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RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15/24	From: 1.3.08 To:	393	244541

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	1.3.08	0600	0	5772	P	174	3518	P	JS
Post	1.7.08	0600	0	5155	P	135	3528	P	JJ
Pre	1.7.08	0600	0	5155	P	135	3528	P	JJ
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post					N/A bc				
Pre									
Post									
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Pre									
Post									

Reviewed By (print and sign) Marc Wendzel Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15/29	From: 11.29.07 To: 13.08	393	244541

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net)	P/F*	
Pre	12.5.07	0730	0	5514	P	164	3271	P	BQ
Post	12.6.07	0600	0	5961	P	155	3409	P	JJ
Pre	12.6.07	0600	0	5961	P	155	3409	P	JJ
Post	12.10.07	0600	0	5706	P	131	3295	P	JJ
Pre	12.10.07	0600	0	5706	P	131	3295	P	JJ
Post	12.11.07	0630	0	5734	P	116	3564	P	BQ
Pre	12.11.07	0630	0	5734	P	116	3564	P	BQ
Post	12.12.07	0600	0	5716	P	112	3174	P	JJ
Pre	12.12.07	0600	0	5716	P	112	3174	P	JJ
Post	12.13.07	0600	0	5612	P	145	3362	P	BQ
Pre	12.13.07	0600	0	5612	P	145	3362	P	BQ
Post	12.14.07	0600	0	5480	P	142	3330	P	JJ
Pre	12.14.07	0600	0	5480	P	142	3330	P	JJ
Post	12.15.07	0600	0	5649	P	134	3407	P	RR
Pre	12.15.07	0600	0	5649	P	134	3407	P	RR
Post	12.17.07	0600	0	5669	P	143	3520	P	JJ
Pre	12.17.07	0600	0	5669	P	143	3520	P	JJ
Post	12.18.07	0600	0	5772	P	162	3378	P	RR
Pre	12.18.07	0600	0	5772	P	162	3378	P	RR
Post	12.19.07	0600	0	5763	P	119	3419	P	JJ
Pre	12.19.07	0600	0	5763	P	119	3419	P	JJ
Post	12.20.07	0600	0	5493	P	123	3255	P	RR
Pre	12.20.07	0600	0	5493	P	123	3255	P	RR
Post	12.21.07	0600	0	5810	P	146	3467	P	JJ
Pre	12.21.07	0600	0	5810	P	146	3467	P	JJ
Post	1.2.08	0600	0	5834	P	156	3456	P	JJ
Pre	1.2.08	0600	0	5834	P	156	3456	P	JJ
Post	1.3.08	0600	0	5772	P	128	3318	P	JJ

Reviewed By (print and sign) Mark Weidner

Date 1-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From:	To:	ESID Number:	Probe Serial Number:
CTO 15	1.16.08		663	PR-244488

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	1.16.08	0700	0	6060	P	163	5011	P	AP
Post	1.17.08	0600	0	5950	P	205	5066	P	QJ
Pre	1.17.08	0600	0	5950	P	205	5066	P	QJ
Post	1-21-08	0600	0	5788	P	219	4757	P	AP
Pre	1.21.08	0600	0	5788	P	219	4757	P	AP
Post	1.22.08	0700	0	6029	P	174	4819	P	QJ
Pre	1.22.08	0700	0	6029	P	174	4819	P	QJ
Post	1.23.08	0730	0	5904	P	185	5092	P	QJ
Pre	1.23.08	0730	0	5904	P	185	5092	P	QJ
Post	1.24.08	0735	0	5955	P	208	4950	P	AP
Pre	1.24.08	0735	0	5955	P	208	4950	P	AP
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
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Pre									
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Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
MARK WEIDNER	2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 11.28.07 To:	ESID Number:
CTO-15/28		663

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:	
133633	2360	10.25.07	10.25.08	
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff: / Beta/Gamma Eff:**
PR 244488	43.93	10.25.07	10.25.08	PU 22.45 / TE 16.73 / TH 19.64 / Sr 33.88

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	TH 230	32,000	5.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	TE 99	29000	01 19 00

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
11.28.07	1130	WB REHBERG Brian Rehberg	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	216	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	6823	4647
2	6852	4759
3	6860	4830
4	6769	4801
5	6749	~~4508~~ 4692
6	6821	4747
7	6844	4735
8	6857	4781
9	6824	4728
10	6747	4696

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
6815	8178	5452
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
4742	5690	3794

Reviewed By (print and sign)	Date
B REHBERG Brian Rehberg	11.28.07

Laurence Casey 12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12.17.07 To:	663	PR244488

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.17.07	0600	0	5923	P	197	4911	P	
Post	12.18.07	0600	0	5895	P	210	4700	P	
Pre	12.18.07	0600	0	5895	P	210	4700	P	
Post	12.19.07	0600	0	6010	P	231	5166	P	
Pre	12.19.07	0600	0	6010	P	231	5166	P	
Post	12.20.07	0600	0	5861	P	223	4931	P	
Pre	12.20.07	0600	0	5861	P	223	4931	P	
Post	12.21.07	0600	0	6097	P	199	4677	P	
Pre	12.21.07	0600	0	6097	P	199	4677	P	
Post	12.22.07	0600	0	5456	P	240	5225	P	
Pre	12.22.07	0600	0	5456	P	240	5225	P	
Post	1.3.08	0600	0	6005	P	236	5071	P	
Pre	1.3.08	0600	0	6005	P	236	5071	P	
Post	1.7.08	0600	0	5470	P	201	5266	P	
Pre	1.7.08	0600	0	5470	P	201	5266	P	
Post	1.8.08	0605	0	5874	P	212	5075	P	
Pre	1.8.08	0605	0	5874	P	212	5075	P	
Post	1.9.08	0600	0	5922	P	196	5204	P	
Pre	1.9.08	0600	0	5922	P	196	5204	P	
Post	1.10.08	0625	0	5877	P	205	4906	P	
Pre	1.10.08	0625	0	5877	P	205	4906	P	
Post	1.11.08	0600	0	5920	P	233	5022	P	
Pre	1.11.08	0600	0	5920	P	233	5022	P	
Post	1.14.08	0620	0	5977	P	195	5092	P	
Pre	1.14.08	0620	0	5977	P	195	5092	P	
Post	1.15.08	0600	0	5928	P	167	4924	P	
Pre	1.15.08	0600	0	5928	P	167	4924	P	
Post	1.16.08	0700	0	6066	P	163	5011	P	

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RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15/28	From: 11.28.03 To: 12.17.07	663	PR 244488

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net cpm)	P/F*	Background (216)	Source Check (net cpm)	P/F*	
Pre	11.28.07	1440	0	6823	P	216	4650	P	BC
Post	11.29.07	0600	0	5873	P	211	5095	P	JJ
Pre	11.29.07	0600	0	5873	P	211	5095	P	JJ
Post	11.30.07	0610	0	5859	P	215	5908	P	PR
Pre	11.30.07	0610	0	5859	P	215	5908	P	PR
Post	12.3.07	0630	0	6128	P	186	5950	P	PR
Pre	12.3.07	630	0	6128	P	186	5950	P	PR
Post	12.4.07	0600	0	5691	P	222	5088	P	JJ
Pre	12.4.07	0600	0	5691	P	222	5088	P	JJ
Post	12.5.07	0600	0	5822	P	231	5310	P	PR
Pre	12.5.07	0600	0	5822	P	231	5310	P	PR
Post	12.6.07	0600	0	6315	P	216	5041	P	JJ
Pre	12.6.07	0600	0	6315	P	216	5041	P	JJ
Post	12.7.07	0600	0	5966	P	215	4743	P	PR
Pre	12.7.07	0600	0	5966	P	215	4743	P	PR
Post	12.10.07	0600	0	6044	P	219	5267	P	JJ
Pre	12.10.07	0600	0	6044	P	219	5267	P	JJ
Post	12.11.07	0630	0	6060	P	218	4756	P	BC
Pre	12.11.07	0630	0	6060	P	218	4756	P	BC
Post	12.12.07	0600	0	6033	P	246	4983	P	JJ
Pre	12.12.07	0600	0	6033	P	246	4983	P	JJ
Post	12.13.07	0600	0	5776	P	209	4959	P	BC
Pre	12.13.07	0600	0	5776	P	209	4959	P	BC
Post	12.14.07		0	5962	P	215	5032	P	JJ
Pre	12.14.07		0	5962	P	215	5032	P	JJ
Post	12.15.07	0600	0	6108	P	224	4943	P	PR
Pre	12.15.07	0600	0	6108	P	224	4943	P	PR
Post	N/A								

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Date 12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTD15	From: 11.30.07 To:	010	PR252083

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	11.30.07	0650				5350	270650	P	
Post	12.3.07	0630				4930	257670	P	
Pre	12.3.07	0630				4930	257070	P	
Post	12.4.07	0600				5500	288000	P	
Pre	12.4.07	0600				5500	288000	P	
Post	12.5.07	0710				5600	241400	P	
Pre	12.6.07	0700				4820	~~256400~~ 256140	P	
Post	12.7.07	0706				4640	266360	P	
Pre	12.7.07	0700				4640	260360	P	
Post	12.7.07					~~5126~~	~~243978~~	P	
Pre	12.7.07	0700				5126	243978	P	
Post	12.12.07	0700				5390	288610	P	
Pre	12.12.07	0700				5390	238610	P	
Post	12.13.07	0700				4430	268576	P	
Pre	12.13.07	0700				4430	268570	P	
Post	12.14.07	0700				5000	285000	P	
Pre	12.14.07	0700				5000	285000	P	
Post	12.19.07	0700				4400	244800	P	
Pre	12.19.07	0700				4400	244800	P	
Post	12.20.07	0700				3950	268000	P	
Pre	12.20.07	0700				3950	268000	P	
Post	1.14.08	0700				5220	261780	P	
Pre	1.14.08	0700				5220	261780	P	
Post	1.17.08	0700				3180	266820	P	
Pre	1.17.08	0700				3180	266820	P	
Post	1.21.08	0700				3180	269820	P	
Pre	1.21.08	0700				3180	269820	P	
Post	N/A								

12-12-07

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Date 1-25-08

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTD-15	Dates Covered From:3-20-07 To:	ESID Number: 010

Instrument/Probe Information

Instrument Serial Number: 2026	Instrument Type: ASP2e	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08		
Probe Serial Number: PR252083	Probe Type/Model: L44-10	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.68%

Alpha Source Information

Source Number: N/A	Source Isotope: N/A	Source Activity: N/A	Assay Date: N/A

Beta/Gamma Source Information

Source Number: 51592	Source Isotope: Co60	Source Activity: 947.4 nCi	Assay Date: 6-1-04

Instrument Response Check

Date: 3-20-07	Time: 1100	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): N/A	Alpha Count Time (min): N/A	Beta/Gamma Background (cpm): 4,600	Beta/Gamma Count Time (min): 1

4-9-07

Count Number	Alpha Source Count Rate (net cpm)	~~Beta~~ Sources Count Rate (net cpm)
1	N/A	287,400
2	N/A	286,400
3	N/A	287,400
4	N/A	286,400
5	N/A	287,400
6	N/A	284,400
7	N/A	285,400
8	N/A	284,400
9	N/A	284,400
10	N/A	283,400

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
285,700	342,840	228,560

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	4-11-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 11.6.07 To:	010	PR 252083

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.6.07	0636				5850	258150	P	RR
Post	11.7.07	0630				5050	273350	P	RR
Pre	11.7.07	0630				5050	273350	P	RR
Post	11.9.07	0600				6340	27100	P	RT
Pre	11.9.07	0600				6340	27100	P	RT
Post	11.12.07	0615				4830	259170	P	RR
Pre	11.12.07	0615				4830	259170	P	RR
Post	11.13.07	0615				4700	281300	P	RR
Pre	11.13.07	0615				4700	281300	P	RR
Post	11.15.07	0615				5760	265360	P	RR
Pre	11.15.07	0615				5700	265300	P	RR
Post	11.16.07	0600				5250	264000	P	RT
Pre	11.16.07	0600				5250	264000	P	RT
Post	11.17.07	0730		NA					
Pre	11.17.07	0730		NA					
Post	11.19.07	1530				5240	265860	P	RR
Pre	11.19.07	1530				5240	265860	P	RR
Post	11.20.07	0630				5320	262580	P	RR
Pre	11.20.07	0630				5320	262580	P	RR
Post	11.26.07	0645				5570	262430	P	RR
Pre	11.26.07	0645				5570	262430	P	RR
Post	11.27.07	0600				5470	265130	P	RT
Pre	11.27.07	0600				5470	265130	P	RT
Post	11.28.07	0745				5260	251740	P	RR
Pre	11.28.07	0745				5260	251740	P	RR
Post	11.29.07	0700				5260	257740	P	RT
Pre	11.29.07	0700				5260	257740	P	RT
Post	11.30.07	0650				5350	251760	P	RR

Reviewed By (print and sign)	Date
Laurence Casey	12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 8-16-07 To: 9-11-07	010	PR252083

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net)	P/F*	RCT Initials
Pre	8.16.07	0945 1090	8.16.07			3090	251910	P	PR
Post	8-20-07	0755				3100	294,900	P	PR
Pre	8-20-07	0755				3100	294,900	P	PR
Post	8-21-07	0630				3140	289,860	P	BD
Pre	8-21-07	0630				3140	289,860	P	BD
Post	8-22-07	0620				4970	288,000	P	PR
Pre	8-22-07	0620				4970	288,000	P	PR
Post	8-23-07	0630				3020	300,980	P	BD
Pre	8-23-07	0630				3020	300,980	P	BD
Post	8-24-07	0615				5040	240960	P	PR
Pre	8-24-07	0615				5040	240960	P	PR
Post	8.27.07	0810				3190	283810	P	PR
Pre	8.27.07	0810				3190	283810	P	PR
Post	8-28-07	0610				4930	287070	P	PR
Pre	8-28-07	0610				4930	287070	P	PR
Post	~~8.29.07~~ 8-29-07	0620				~~4910~~ 3730	~~283070~~	P	~~PR~~
Pre	8.29.07	0620				~~4910~~ 3730	~~283070~~	P	~~PR~~
Post	8-30-07	0630				4910	287090	P	PR
Pre	8-30-07	0630				4910	287090	P	PR
Post	9-4-07	0810				5100	286,900	P	PR
Pre	9-4-07	0810				5100	286,900	P	PR
Post	9.5.07	0620				5050	288,350	P	PR
Pre	9.5.07	0620				5050	288,350	P	PR
Post	9.6.07	0900				5100	281,300	P	PR
Pre	9.6.07	0900				5100	281,300	P	PR
Post	9.7.07	0730				5320	275,680	P	PR
Pre	9.7.07	0730				5320	275,680	P	PR
Post	9.10.07	0820				4830	261,170	P	PR

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Date 9-17-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 9-11-07 To:	010	PR252083

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9-10-07	0800				4830	261,170	P	
Post	9.11.07	0730				4900	285,100	P	
Pre	9.11.07	0730				4900	285,100	P	
Post	9-13-07	0645				5300	278,700	P	
Pre	9-13-07	0645				5300	278,700	P	
Post	9.14.07	0640				5080	289,920	P	
Pre	9.14.07	0640				5080	289,920	P	
Post	9.15.07	0736				4790	259210	P	
Pre	9.15.07	0736				4790	259210	P	
Post	9.17.07	0630				5380	254260	P	
Pre	9.17.07	0636				5380	254260	P	
Post	9.18.07	0736				5650	291350	P	
Pre	9.18.07	0730				5650	291350	P	
Post	9-19-07	0645				4810	276190	P	
Pre	9.19.07	0645				4810	276190	P	
Post	9.20.07	0630				4980	250020	P	
Pre	9.20.07	0630				4980	250020	P	
Post	9.21.07	0645				4480	254520	P	
Pre	9.21.07	0615				4480	254520	P	
Post	9.22.07	1230				4310	253790	P	
Pre	9.22.07	1230				4310	253790	P	
Post	9.24.07	0650				5490	263510	P	
Pre	9.24.07	0650				5490	263510	P	
Post	9.25.07	0626				4900	264100	P	
Pre	9.25.07	0620				4900	264100	P	
Post	9.26.07	0706				5076	262930	P	
Pre	9.26.07	0700				5070	262930	P	
Post	9.27.07	0900				4100	255900	P	

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Laurence Casey	10-3-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 9-26-07 To:	ESID Number:	Probe Serial Number:
CTO 15		010	PR 252, 083

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9-27-07	0900	NA	NA	NA	4100	255900	P	
Post	9-28-07	0700				4200	265,800	P	
Pre	9-28-07	0700				4200	265,800	P	
Post	9-29-07	0730				3478	255530	P	
Pre	9-29-07	0730				3478	255530	P	
Post	10-1-07	0720				3916	283090	P	
Pre	10-1-07	0720				3910	283050	P	
Post	10-2-07	0700				4390	265610	P	
Pre	10-2-07	0700				4390	265610	P	
Post	10-3-07	0800				5150	291850	P	
Pre	10-3-07	0800				5150	291850	P	
Post	10-4-07	0700				4100	292900	P	
Pre	10-4-07	0700				4100	292900	P	
Post	10-8-07	0800				4330	275670	P	
Pre	10-8-07	0800				4330	275670	P	
Post	10-11-07	1300				3990	266510	P	
Pre	10-11-07	1300				3990	266510	P	
Post	10-22-07	0730				4350	265550	P	
Pre	10-22-07	0730				4350	265550	P	
Post	10-26-07	0730				5250	256750	P	
Pre	10-26-07	0730				5250	256750	P	
Post	10-30-07	0640				5970	278030	P	
Pre	10-30-07	0640				5970	279030	P	
Post	11-1-07	0605				5880	270120	P	
Pre	11-1-07	0615				5880	270120	P	
Post	11-3-07	0630				5770	255230	P	
Pre	11-3-07	0630				5770	255230	P	
Post	11-6-07	0630				5850	258150	P	

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Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
GTO-15	From: 121407 To:	474	PR244487

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	12.14.07	0600	0	5399	P	216	5098	P	JJ
Post	12.15.07	0600	0	5792	P	234	5035	P	
Pre	12.15.07	0600	0	5792	P	234	5035	P	
Post	12.17.07	0600	0	5669	P	192	5335	P	JJ
Pre	12.17.07	0600	0	5669	P	192	5335	P	JJ
Post	12.18.07	0600	0	5516	P	236	4863	P	
Pre	12.18.07	0600	0	5516	P	236	4863	P	
Post	12.19.07	600	0	5445	P	217	5029	P	JJ
Pre	12.19.07	0600	0	5445	P	217	5029	P	JJ
Post	12.20.07	0600	0	5185	P	196	4748	P	
Pre	12.20.07	0600	0	5185	P	190	4748	P	
Post	12.21.07	0600	0	5467	P	230	4800	P	JJ
Pre	12.21.07	0600	0	5467	P	230	4800	P	JJ
Post	1.2.08	0600	0	5415	P	208	5125	P	JJ
Pre	1.2.08	0600	0	5415	P	208	5125	P	JJ
Post	1.3.08	0600	0	5467	P	234	5162	P	JJ
Pre	1.3.08	0600	0	5467	P	234	5162	P	JJ
Post	1.7.08	0600	0	6020	P	206	4459	P	JJ
Pre	1.7.08	0600	0	6020	P	206	4459	P	JJ
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 11.13.07 To:	ESID Number:
CTO-15/28		478

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
145478	2360	10.25.07	10.25.08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff.**	**Beta/Gamma Eff:**
PR244487	43.93	10.25.07	10.25.08	.228 Pu .200 TH	.169 Tc99 .354 Sr90

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
SN 1836-94	TH 230	32,000 Dpm	05.24.94

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC4700530	Tc 99	29000	01.19.00

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
11.13.07	1630	BREHBERG Brian Brehberg	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	226	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net)
1	6103	4720
2	6156	4803
3	6154	4843
4	6042	4785
5	6217	4791
6	6093	4798
7	6123	4788
8	6193	4703
9	6259	4846
10	6071	4598

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
6141	7369	4913
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
~~4467~~ 4768	~~5360~~ 5942	~~3573~~ 3810

Reviewed By (print and sign)	Date
BREHBERG Brian Brehberg MARC WEISSMAN 2508	11.13.07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 11-17-07 To: 12-14-07	478	PR244487

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	11.17.07	0600	0	6002	P	212	5063	P	
Post	11.19.07	0610	0	6010	P	215	5015	P	
Pre	11.19.07	0610	0	6016	P	215	5015	P	
Post	11.26.07	0610	0	5941	P	217	5368	P	
Pre	11.26.07	0610	0	5941	P	217	5368	P	
Post	11.21.07	0600	0	6116	P	217	5130	P	
Pre	11.21.07	0600	0	6116	P	217	5130	P	
Post	11.26.07	0615	0	6109	P	204	5299	P	
Pre	11.26.07	0615	0	6109	P	204	5295	P	
Post	11.27.07	0600	0	6114	P	191	5271	P	
Pre	11.27.07	0600	0	6114	P	191	5277	P	
Post	11.28.07	0630	0	6061	P	195	5150	P	
Pre	11.28.07	0630	0	6061	P	195	5150	P	
Post	11.30.07		NA						
Pre	12.4.07	0600	0	5965	P	220	5153	P	
Post	12.5.07	0705	0	6038	P	244	4558	P	
Pre	12.6.07	0600	0	5975	P	203	5114	P	
Post	12.7.07	0600	0	6042	P	139	5241	P	
Pre	12.7.07	0600	0	6042	P	139	5241	P	
Post	12.10.07	0600	0	6214	P	233	5106	P	
Pre	12.10.07	0600	0	6214	P	233	5106	P	
Post	12.11.07	0630	0	5816	P	224	5193	P	
Pre	12.11.07	0630	0	5816	P	224	5193	P	
Post	12.12.07	0600	0	6159	P	203	5202	P	
Pre	12.12.07	0600	0	6159	P	203	5202	P	
Post	12.13.07	0600	0	5062	P	211	5065	P	
Pre	12.13.07	0600	0	5062	P	211	5065	P	
Post	12.14.07	0600	0	5399	P	246	5094	P	

Reviewed By (print and sign) Laurence Craig

Date 12-15-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTO-15	Dates Covered From:3-20-07 To:	ESID Number: 008

Instrument/Probe Information

Instrument Serial Number: 2025	Instrument Type: ASP2e	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08		
Probe Serial Number: PR252066	Probe Type/Model: L44-10	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.70 %

Alpha Source Information

Source Number: N/A	Source Isotope: N/A	Source Activity: N/A	Assay Date: N/A

Beta/Gamma Source Information

Source Number: 51592	Source Isotope: Co60	Source Activity: 947.4 nCi	Assay Date: 6-1-04

Instrument Response Check

Date: 3-20-07	Time: 1030	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): N/A	Alpha Count Time (min): N/A	Beta/Gamma Background (cpm): 4,240	Beta/Gamma Count Time (min): 1

Count Number	Alpha Source Count Rate (net cpm)	~~Beta~~ Sources Count Rate (net cpm)
1	N/A	302,760
2	N/A	302,760
3	N/A	302,760
4	N/A	303,760
5	N/A	302,760
6	N/A	302,760
7	N/A	301,760
8	N/A	303,760
9	N/A	303,760
10	N/A	301,760

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
302,860	363,432	242,288

Reviewed By (print and sign)	Date
	4-1-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10.26.07 To: 11.15.07	008	PR2S2066

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10.26.07	0710				5150	263850	P	
Post	10.27.07	0745				4260	275740	P	
Pre	10.27.07	0740				4260	275740	P	
Post	10.29.07	0745				4150	276050	P	
Pre	10.29.07	0745				4150	276050	P	
Post	10.30.07	0745				3920	273080	P	
Pre	10.30.07	0745				3920	273080	P	
Post	10.31.07	0800				4330	266670	P	
Pre	10.31.07	0800				4330	266670	P	
Post	11.1.07	0730				4270	274730	P	
Pre	11.1.07	0730		U		4270	274730	P	
Post	11.2.07	0806				4410	250570	P	
Pre	11.2.07	0800				4430	250570	P	
Post	11.5.07	0900	A			4100	261900	P	
Pre	11.5.07	0900				4100	261900	P	
Post	11.6.07	0730				4250	273750	P	
Pre	11.6.07	0736				4250	273750	P	
Post	11.7.07	1300				4300	253700	P	
Pre	11.7.07	1300				4300	253700	P	
Post	11.8.07	0800				4300	263700	P	
Pre	11.8.07	0800				4300	263700	P	
Post	11.9.07	1300				4810	265190	P	
Pre	11.9.07	1300				4810	265190	P	
Post	11.13.07	0800				4480	255520	P	
Pre	11.13.07	0800				4480	255520	P	
Post	11.14.07	0730				4500	271500	P	
Pre	11.14.07	0730				4500	271500	P	
Post	11.15.07	~~0730~~ 0736	11.15.07		11.15.07	~~5270~~ 4500	271500	P	

Reviewed By (print and sign) Lawrence Casey

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 8-21-07 To: 9-12-07	008	PR252066

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-21-07	0630				4560	321,440	P	BD
Post	8-22-07	0630				4350	314,650	P	BD
Pre	8-22-07	0630				4350	314,650	P	BD
Post	8-23-07	0630				4270	316,730	P	BD
Pre	8-23-07	0630				4270	316,730	P	BD
Post	8-24-07 ~~8-23-07~~	0700				4420	307580	P	BD
Pre	8-24-07	0700				4420	307580	P	BD
Post	8-27-07	0810				4360	304,640	P	PW
Pre	8-27-07	0810				4360	304,640	P	PW
Post	8-28-07	0645				4220	308,780	P	BD
Pre	8-28-07	0645				4220	308,780	P	BD
Post	8-29-07	0730				4440	279,560	P	PwP
Pre	8-29-07	0730				4440	279,560	P	PwP
Post	8-30-07	0705		N/A		4240	320760	P	PR
Pre	8-30-07	0705				4240	320760	P	PR
Post	9-4-07	0805				4570	282,430	P	PW
Pre	9-4-07	0805				4570	282,430	P	PW
Post	9-5-07	0700				4150	281,350	P	PW
Pre	9-5-07	0700				4150	281,350	P	PW
Post	9-6-07	1620				5210	277,790	P	PW
Pre	9-6-07	1620				5210	277,790	P	PW
Post	9-7-07	0740				5520	302,490	P	PW
Pre	9-7-07	0740				5520	302,490	P	PW
Post	9-10-07	0800				5300	290,700	P	PW
Pre	9-10-07	0800				5300	290,700	P	PW
Post	9-11-07	0630				5350	302,650	P	PW
Pre	9-11-07	0630				5350	302,650	P	PW
Post	9-12-07	1030				4370	280300	P	PMW

Reviewed By (print and sign) Lawrence Casey / L Casey

Date 9-17-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 9-12-07 To:	008	PR252066

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9-12-07	1030				4370	280300	P	GMW
Post	9.15.07	0740				4810	285190	P	FTP
Pre	9.15.07	0746				4810	285190	P	FTP
Post	9.17.07	0830				4410	291590	P	FTP
Pre	9.17.07	0830				4410	291590	P	FTP
Post	9.18.07	0730				3850	284156	P	FTP
Pre	9.18.07	0730				3850	284156	P	FTP
Post	9.19.07	0645				3920	308080	P	FTP
Pre	9.19.07	0645				3920	308080	P	FTP
Post	9.20.07	0630				4610	285390	P	FTP
Pre	9.20.07	0630				4610	285350	P	FTP
Post	9.21.07	0615				4800	288200	P	FTP
Pre	9.21.07	0615				4800	288200	P	FTP
Post	9.24.07	640				5160	308840	P	FTP
Pre	9.24.07	640				5160	308840	P	FTP
Post	9.25.07	0645				5250	274750	P	FTP
Pre	9.25.07	0645				5258	274756	P	FTP
Post	9.26.07	0700				3530	301470	P	FTP
Pre	9.26.07	0700				3530	301478	P	FTP
Post	9.27.07	0900				4670	307330	P	FTP
Pre	9.27.07	0500				4670	307330	P	FTP
Post	9.28.07	0715				4300	299700	P	FTP
Pre	9.28.07	0715				4300	299700	P	FTP
Post	9.29.07	0736				4780	281220	P	FTP
Pre	9.29.07	0730				4780	281220	P	FTP
Post	10.1.07	0700				4500	280500	P	FTP
Pre	10.1.07	0700				4500	280500	P	FTP
Post	10.2.07	0700				4400	274280	P	FTP

Reviewed By (print and sign) Lawrence Casey LC

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTOLS	From: 10.2.07 To: 10.26.07	008	PR252066

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.2.07	0700	NA	NA	NA	4400	288600	P	
Post	10.3.07	0730				4350	301650	P	
Pre	10.3.07	0730				4350	301650	P	
Post	10.4.07	0830				4390	263610	P	
Pre	10.4.07	0830				4390	263610	P	
Post	10.8.07	0930				4490	273516	P	
Pre	10.8.07	0930				4498	273516	P	
Post	10.11.07	1300				4330	260670	P	
Pre	10.11.07	1300				4330	260670	P	
Post	10.13.07	0730				4290	259710	P	
Pre	10.13.07	0730				4290	259710	P	
Post	10.15.07	0800				4340	246660	P	
Pre	10.15.07	0800				4340	246660	P	
Post	10.16.07	0700				4070	254930	P	
Pre	10.16.07	0700				4070	254930	P	
Post	10.17.07	0700				4200	253800	P	
Pre	10.17.07	0700				4200	253800	P	
Post	10.19.07	0700				4100	294900	P	
Pre	10.19.07	0700				4100	294900	P	
Post	10.22.07	0800				4370	267630	P	
Pre	10.22.07	0800				4370	267630	P	
Post	10.23.07	0730				4430	271570	P	
Pre	10.23.07	0730				4430	271570	P	
Post	10.24.07	0730				4790	279210	P	
Pre	10.24.07	0730				4790	279210	P	
Post	10.25.07	0800				4170	284830	P	
Pre	10.25.07	0800				4170	284830	P	
Post	10.26.07	0710				5150	263850	P	

Reviewed By (print and sign) Lawrence Casey

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 12.10.07 To:	ESID Number:	Probe Serial Number:
CTDLS		008	PR252066

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	12.10.07	0800	NA	NA	NA	3960	337040	P	PR
Post	12.12.07	0836				5070	269930	P	PR
Pre	12.12.07	0830				5070	269930	P	PR
Post	12.13.07	0830				4520	261480	P	PR
Pre	12.13.07	0830				4520	261480	P	PR
Post	12.14.07	0836				4450 PR 12/14	~~2756~~ 271150	P	PR
Pre	12.14.07	0830				4450	~~2756~~ 271150	P	PR
Post	12.19.07	0830				4120	271880	P	PR
Pre	12.19.07	0830				4120	271880	P	PR
Post	12.20.07	0800				4100	249006	P	PR
Pre	12.20.07	0800				4100	249000	P	PR
Post	1-9-08	0800				4870	265130	P	PR
Pre	1-9-08	0800				4870	265130	P	PR
Post	1/14/08	0700				5170	26130	J	JMB
Pre	~~1/14/88~~	0700							
Post	1.15.08	1500				4680	256320	P	PR
Pre	1.15.08	1500				4680	256320	P	PR
Post	1.16.08	0630				4890	264110	P	PR
Pre	1.16.08	0630				4890	264110	P	PR
Post	1.17.08	0600				4170	269430	P	QJ
Pre	1.17.08	0600				4170	269430	P	QJ
Post	1.21.08	0615				4450	263550	P	PR
Pre	1.21.08	0615				4450	263550	P	PR
Post	1.22.08	0600				3620	271340	P	QJ
Pre	1.22.08	0600				3620	271340	P	QJ
Post	NA					NA	NA	NA	NA
Pre									
Post									

Reviewed By (print and sign) Mark Weselius

Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 11-15-07 To:	008	PR252066

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.15.07	0730				4500	271500	P	
Post	11.16.07	0800				4160	266840	P	
Pre	11.16.07	0800				4160	266840	P	
Post	11.19.07	0801				3976	283030	P	
Pre	11.19.07	0804				3978	283038	P	
Post	11.20.07	0700				4720	253280	P	
Pre	11.20.07	0700				4720	253280	P	
Post	11.21.07	0736				4470	267530	P	
Pre	11.21.07	0730				4470	267530	P	
Post	11.26.07	0736				4800	278200	P	
Pre	11.26.07	0730				4800	278200	P	
Post	11.28.07	0736				4480	273500	P	
Pre	11.28.07	0730				4480	273520	P	
Post	11.29.07	0730				4470	279530	P	
Pre	11.29.07	0730				4470	279530	P	
Post	11.30.07	0730				4330	277670	P	
Pre	11.30.07	0730				4330	277670	P	
Post	12.1.07	0800				4150	269856	P	
Pre	12.1.07	0800				4150	269856	P	
Post	12.3.07	0800				4320	234686	P	
Pre	12.3.07	0800				4320	234680	P	
Post	12.5.07	0730				4900	278100	P	
Pre	12.5.07	0730				4900	278100	P	
Post	12.6.07	0800				4350	272650	P	
Pre	12.6.07	0800				4350	272650	P	
Post	12.7.07	0800				4450	271550	P	
Pre	12.7.07	0800				4450	271550	P	
Post	12.10.07	0800				3960	337040	P	

Reviewed By (print and sign)	Date
Lawrence Cass	12-15-07

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project: TCRA CD-15	Dates Covered From: 3-20-07 To:	ESID Number: 007

Instrument/Probe Information

Instrument Serial Number: 2023	Instrument Type: ASP2e	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08		
Probe Serial Number: PR249927	Probe Type/Model: L44-10	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.75%

Alpha Source Information

Source Number: N/A	Source Isotope: N/A	Source Activity: N/A	Assay Date: N/A

Beta/Gamma Source Information

Source Number: 51592	Source Isotope: Co60	Source Activity: 947.4 nCi	Assay Date: 6-1-04

Instrument Response Check

Date: 3-20-07	Time: 1000	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): N/A	Alpha Count Time (min): N/A	Beta/Gamma Background (cpm): 4,150	Beta/Gamma Count Time (min): 1

4-9-07

Count Number	Alpha Source Count Rate (net cpm)	~~Beta~~ Sources Count Rate (net cpm)
1	N/A	369,850
2	N/A	371,850
3	N/A	369,850
4	N/A	370,850
5	N/A	368,850
6	N/A	369,850
7	N/A	368,850
8	N/A	369,850
9	N/A	369,850
10	N/A	370,850

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
370,050	444,060	296,040

Reviewed By (print and sign)	Date
MARK WELDON	4-11-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 11.15.07 To:	007	PR 249927

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.15.07	0730				4340	334660	P	
Post	11.16.07	0800				4020	310980	P	
Pre	11.16.07	0804				4020	310980	P	
Post	11.19.07	0800				3960	344040	P	
Pre	11.19.07	0700				3960	344040	P	
Post	11.20.07	0700				4790	333240	P	
Pre	11.20.07	0701				4796	333240	P	
Post	11.21.07	0736				4290	336710	P	
Pre	11.21.07	0730				4290	336710	P	
Post	11.26.07	0730				4710	351290	P	
Pre	11.26.07	0730				4710	351250	P	
Post	11.28.07	0736				4360	348640	P	
Pre	11.28.07	0736				4360	348640	P	
Post	11.29.07	0736				4030	333070	P	
Pre	11.29.07	0730				4030	333070	P	
Post	11.30.07	0736				4020	347980	P	
Pre	11.30.07	0730				4020	347980	P	
Post	12.1.07	0800				4358	342650	P	
Pre	12.1.07	0800				4350	342650	P	
Post	12.3.07	0800				4156	346856	P	
Pre	12.3.07	0800				4150	346850	P	
Post	12.5.07	0736				4656	325358	P	
Pre	12.5.07	0736				4650	325350	P	
Post	12.6.07	0805				4120	322880	P	
Pre	12.6.07	0800				4120	322880	P	
Post	12.7.07	0805				4360	321640	P	
Pre	12.7.07	0800				4360	321640	P	
Post	12.10.07	0800				3986	329020	P	

Reviewed By (print and sign) Lawrence Cross

Date 12-15-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 10.26.07 To:	007	PR249927

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10.26.07	0710				4420	327780	P	
Post	10.27.07	0740				4430	321570	P	
Pre	10.27.07	0740				4430	321570	P	
Post	10.29.07	0745				4500	320,500	P	
Pre	10.29.07	0745				4500	320,500	P	
Post	10.30.07	0740				3880	332170	P	
Pre	10.30.07	0746				3880	332170	P	
Post	10.31.07	0800				4100	351900	P	
Pre	10.31.07	0800				4100	351900	P	
Post	11.1.07	0736				4100	298180	P	
Pre	11.1.07	0730		N		4100	298900	P	
Post	11.2.07	0760				4240	333760	P	
Pre	11.2.07	0700				4240	333760	P	
Post	11.5.07	0900				4300	299,700	P	
Pre	11.5.07	0900		A		4300	299,700	P	
Post	11.6.07	0730				4210	358790	P	
Pre	11.6.07	0730				4210	358790	P	
Post	11.7.07	1300				4450	323550	P	
Pre	11.7.07	1300				4450	323550	P	
Post	11.8.07	0800				4440	351560	P	
Pre	11.8.07	0800				4440	351560	P	
Post	11.9.07	1300				5110	365890	P	
Pre	11.9.07	1300				5110	360890	P	
Post	11.13.07	0800				4350	340650	P	
Pre	11.13.07	0800				4350	340650	P	
Post	11.14.07	0730				4410	373590	P	
Pre	11.14.07	0730				4410	373590	P	
Post	11.15.07	0730				4340	334660	P	

Reviewed By (print and sign)	Date
Lawrence Casey	11-21-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
QTO15	From: 8-22-07 To: 9-12-07	007	PR249927

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (Cpm)	Source Check (net Cpm)	P/F*	
Pre	8-22-07	0630				4340	371,660	P	BD
Post	8-23-07	0630				4120	376,880	P	BD
Pre	8-23-07	0630				4120	376,880	P	BD
Post	8-24-07	0700				4460	363540	P	BD
Pre	8-24-07	0700				4460	363540	P	BD
Post	8-27-07	0810				4420	346,850	P	FP
Pre	8-27-07	0810				4420	346,850	P	FP
Post	8-28-07	0655				4080	368920	P	BD
Pre	8-28-07	0655				4080	368,920	P	BD
Post	8-29-07	0730				4460	361,540	P	PWP
Pre	8-29-07	0730				4460	361,540	P	PWP
Post	8-30-07	0705				4310	389690	P	PR
Pre	8-30-07	0705				4310	389690	P	PR
Post	9-4-07	0825				4340	349690	P	FP
Pre	9-4-07	0825				4340	349,690	P	FP
Post	9-5-07	~~4770~~ 0805				4970	372,030	P	FWP
Pre	9-5-07	~~4770~~ 0805				4970	372,030	P	FWP
Post	9-6-07	~~4460~~ 0900				4460	329,540	P	PP
Pre	9-6-07	0900				4460	329,540	P	PP
Post	9-7-07	0800				4530	375,470	P	BD
Pre	9-7-07	0800				4530	375,470	P	BD
Post	9-8-07	0730				4650	295,570	P	PP
Pre	9-8-07	0730				4650	295,570	P	PP
Post	9.10.07	0800				5700	343,300	P	FP
Pre	9.10.07	0800				5700	343,300	P	FP
Post	9.11.07	0805				4250	347,750	P	FP
Pre	9.11.07	0805				4250	347,750	P	FP
Post	9-12-07	1015				4500	369500	P	fmw

Reviewed By (print and sign)	Date
Lawrence Casey / LCasey	9-17-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 9-12-07 To:	007	PR249927

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (CPM)	Source Check (net CPM)	P/F*	RCT Initials
Pre	9-12-07	1015				4500	369500	P	GMW
Post	9.15.07					4610	337390	P	[illegible]
Pre	9.15.07					4610	337390	P	[illegible]
Post	9.17.07	0900				4430	354470	P	[illegible]
Pre	9.17.07	0900				4430	354470	P	[illegible]
Post	9.18.07	0730				4690	350310	P	[illegible]
Pre	9.18.07	0730				4690	350310	P	[illegible]
Post	9.19.07	0645				4740	324260	P	[illegible]
Pre	9.19.07	0645				4740	324260	P	[illegible]
Post	9.20.07	0630				4610	304510	P	[illegible]
Pre	9.20.07	0630				4610	304510	P	[illegible]
Post	9.21.07	0615				4780	314220	P	[illegible]
Pre	9.21.07	0615				4780	314220	P	[illegible]
Post	9.24.07	0640		N		5160	336840	P	[illegible]
Pre	9.24.07	0640				5160	336840	P	[illegible]
Post	9.25.07	0640		A		5170	342830	P	[illegible]
Pre	9.25.07	0640				5170	342830	P	[illegible]
Post	9.26.07	0730				4510	351450	P	[illegible]
Pre	9.26.07	0730				4510	351450	P	[illegible]
Post	9.27.07	0900				4770	353230	P	[illegible]
Pre	9.27.07	0900				4770	353230	P	[illegible]
Post	9.28.07	0710				4260	318240	P	[illegible]
Pre	9.28.07	0710				4260	318240	P	[illegible]
Post	9.29.07	0730				4850	351150	P	[illegible]
Pre	9.29.07	0730				4850	351150	P	[illegible]
Post	10.1.07	0705				4750	338250	P	[illegible]
Pre	10.1.07	0705				4750	338250	P	[illegible]
Post	10.2.07	0700				4290	356710	P	[illegible]

Reviewed By (print and sign) Lawrence Casey

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

10.26.07

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 10-2-07 To:	007	PR249947 ~~PA 249947~~

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.2.07	0700	NA	NA	NA	4290	356720	P	
Post	10.3.07	0730				4370	343630	P	
Pre	10.3.07	0730				4370	343630	P	
Post	10.4.07	0700				4350	343650	P	
Pre	10.4.07	0700				4350	343650	P	
Post	10.8.07	0730				4490	345510	P	
Pre	10.8.07	0730				4490	345510	P	
Post	10.11.07	0715				4190	337810	P	
Pre	10.11.07	0715				4190	337810	P	
Post	10.13.07	0710				4300	327760	P	
Pre	10.13.07	0710				4300	327760	P	
Post	10.15.07	0720				4240	324760	P	
Pre	10.15.07	0720				4240	324760	P	
Post	10.16.07	0715				4020	328980	P	
Pre	10.16.07	0715				4020	328980	P	
Post	10.17.07	0720				4358	324650	P	
Pre	10.17.07	0720				4350	324650	P	
Post	10.19.07	0715				10.19.07 ~~3610~~ 4120	~~272370~~ 341880	P	
Pre	10.19.07	0715				10.19.07 ~~3610~~ 4120	~~272370~~ 341880	P	
Post	10.22.07	0730				4330	321670	P	
Pre	10.22.07	0730				4330	321670	P	
Post	10.23.07	0630				4480	331520	P	
Pre	10.23.07	0630				4480	331520	P	
Post	10.24.07	0705				4710	347290	P	
Pre	10.24.07	0705				4710	347290	P	
Post	10.25.07	0700				4110	339850	P	
Pre	10.25.07	0700				4110	339896	P	
Post	10.26.07	0710				4220	327780	P	

Reviewed By (print and sign)

Date 10.26.07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered From: 12.10.07 To:	ESID Number: 007	Probe Serial Number: PR 249927
CTO15			

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	12.10.07	0800	NA	NA	NA	3986	329020	P	
Post	12.12.07	0830	↓	↓	↓	5390	329610	P	
~~Pre~~	~~12.12.07~~	~~0830~~				~~5390~~	~~329610~~	~~P~~	~~RR~~
Post	WA	WA	NA	NA	NA	NA	NA	NA	NA
Pre	12.12.07	0830				5390	329610	P	
Post	12.13.07	0830				4440	351560	P	
Pre	12.13.07	0830				4440	351560	P	
Post	12.14.07	0830				4750	347250	P	
Pre	12.14.07	0830				4750	347250	P	
Post	12.19.07	0900				4120	342800	P	
Pre	12.19.07	0800				4120	342800	P	
Post	12.20.07	0800				3900	353000	P	
Pre	12.20.07	0800				3900	353000	P	
Post	1-9-08	0800				4730	348520	P	
Pre	1-9-08	0800				4730	348520	P	
Post	1.17.08	0700				3160	341840	P	
Pre	1.17.08	0700				3160	341840	P	
Post	1.21.08	0715				3040	345960	P	
Pre	1.21.08	0715				3040	345966	P	
Post	NA	NA				NA	NA	NA	NA
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)

Date 2-5-08

12.12.07

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project: TCRA CD-15	Dates Covered From:3-20-07 To:	ESID Number: 005

Instrument/Probe Information

Instrument Serial Number: 2027	Instrument Type: ASP2e	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08		
Probe Serial Number: PR249946	Probe Type/Model: L44-10	Calibration Date: 3-14-07	Calibration Due Date: 3-14-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.74 %

Alpha Source Information

Source Number: N/A	Source Isotope: N/A	Source Activity: N/A	Assay Date: N/A

Beta/Gamma Source Information

Source Number: 51592	Source Isotope: Co60	Source Activity: 947.4 nCi	Assay Date: 6-1-04

Instrument Response Check

Date: 3-20-07	Time: 0900	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): N/A	Alpha Count Time (min): N/A	Beta/Gamma Background (cpm): 4270	Beta/Gamma Count Time (min): 1

MW 4/3/07

Count Number	Alpha Source Count Rate (net cpm)	Y ~~Beta~~ Sources Count Rate (net cpm)
1	N/A	362,730
2	N/A	362,730
3	N/A	357,730
4	N/A	355,730
5	N/A	346,730
6	N/A	344,730
7	N/A	383,730
8	N/A	382,730
9	N/A	381,730
10	N/A	383,730

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
N/A	N/A	N/A
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
366,230	439,476	292,984

Reviewed By (print and sign) Mark Weidlich	Date 4-11-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 10-25-07 To:	005	PR249946

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.25.07	0800				4150	320850	P	PD
Post	10.26.07	0715				3720	309280	P	PD
Pre	10.26.07	0715				3720	309280	P	PD
Post	10.27.07	0740				3910	345096	P	PD
Pre	10.27.07	0740				3810	345096	P	PD
Post	10.29.07	0750				4010	308590	P	PD
Pre	10.29.07	0750				4010	308590	P	PD
Post	10.30.07	0740				3840	353160	P	PD
Pre	10.30.07	0740				3840	353160	P	PD
Post	10.31.07	0815				4240	320760	P	PD
Pre	10.31.07	0815				4240	320760	P	PD
Post	11.1.07	0740				3450	340750	P	PD
Pre	11.1.07	0740				3450	340750	P	PD
Post	11.2.07	0800				4360	333640	P	PD
Pre	11.2.07	0800				4360	333640	P	PD
Post	11.5.07	0900				4370	350630	P	PD
Pre	11.5.07	0900				4370	350630	P	PD
Post	11.6.07	0730				4340	336660	P	PD
Pre	11.6.07	0730				4340	336660	P	PD
Post	11.7.07	1300				4450	338550	P	PD
Pre	11.7.07	1300				4450	338550	P	PD
Post	11.8.07	0830				4410	331590	P	PD
Pre	11.8.07	0830				4410	331590	P	PD
Post	11.9.07	1300				3990	354010	P	PD
Pre	11.9.07	1300				3990	354010	P	PD
Post	11.12.07	0800				4850	356650	P	PD
Pre	11.12.07	0800				4850	356650	P	PD
Post	11.13.07	0800				4130			

Reviewed By (print and sign)	Date
Lawrence Casey	11-20-07

RTS
Environmental Survey Instrument Data Sheet

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Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 10-1-07 To:	05	PR249946

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	10-1-07	0700	NA	NA	NA	4750	352250	P	PB
Post	10-2-07	0700				4460	343540	P	PB
Pre	10-2-07	0700				4460	343540	P	PB
Post	10-3-07	0730				4020	341980	P	PB
Pre	10-3-07	0730				4020	341980	P	PB
Post	10-4-07	0830				4370	336630	P	PB
Pre	10-4-07	0830				4370	336630	P	PB
Post	10-8-07	0800				4450	330550	P	PB
Pre	10-8-07	0800				4450	330550	P	PB
Post	10-11-07	0630				4370	350630	P	PB
Pre	10-11-07	0630				4370	350630	P	PB
Post	10-13-07	0730				4380	321620	P	PB
Pre	10-13-07	0730				4380	321620	P	PB
Post	10-15-07	0800				4270	311730	P	PB
Pre	10-15-07	0800				4270	311730	P	PB
Post	10-16-07	0700				4140	338860	P	PB
Pre	10-16-07	0700				4140	338860	P	PB
Post	10-17-07	0700				4240	336760	P	PB
Pre	10-17-07	0700				4240	336760	P	PB
Post	10-19-07	0700				4200	343800	P	PB
Pre	10-19-07	0700				4200	343800	P	PB
Post	10-22-07	0830				4330	337,670	P	PB
Pre	10-22-07	0830				4330	337,670	P	PB
Post	10-23-07	0730				4506	323500	P	PB
Pre	10-23-07	0730				4500	323500	P	PB
Post	10-24-07	0730				4830	346170	P	PB
Pre	10-24-07	0730				4830	346170	P	PB
Post	10-25-07	0800				4150	320850	P	PB

Reviewed By (print and sign) Lawrence Casey

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 9-11-07 To:	005	PR249946

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	9.11.07	0806				4460	338,540	P	
Post	~~9.12.07~~	~~0630~~				~~5010~~	~~301 990~~	~~P~~	~~[illegible]~~
Pre	~~9.13.07~~	~~0630~~				~~5010~~	~~301 990~~	~~P~~	~~[illegible]~~
Post	9-13-07	01630				4410	391890	P	
Pre	9-12.07	0630				4410	391890	P	
Post	9.15.07	0730				4790	323240	P	
Pre	9.15.07	0730				4790	323240	P	
Post	9.17.07	0845				4520	320180	P	
Pre	9.17.07	0845				4520	320180	P	
Post	9.18.07	0730				4730	325270	P	
Pre	9.18.07	0730				4730	325270	P	
Post	9.19.07	0645				4840	319960	P	
Pre	9.19.07	0645				4840	319960	P	
Post	9.20.07	0630				4640	334360	P	
Pre	9.20.07	0630				4640	334360	P	
Post	9.21.07	0615				4810	349190	P	
Pre	9.21.07	0615				4810	349190	P	
Post	9.25.07	0640				4960	331040	P	
Pre	9.25.07	0640				4960	331040	P	
Post	9.26.07	0706				4020	327980	P	
Pre	9.26.07	0700				4020	327980	P	
Post	9.27.07	0900				4760	314240	P	
Pre	9.27.07	0800				4760	314240	P	
Post	9.08.07	0715				3660	356340	P	
Pre	9.28.07	0715				3660	356340	P	
Post	9.29.07	0730				4520	360480	P	
Pre	9.29.07	0730				4520	360480	P	
Post	10.1.07	0700				4750	352250	P	

N A

9-12-07

9-12-07

Reviewed By (print and sign)	Date
Lawrence Casey L Casey	11-6-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 8-21-07 To: 9-11-07	005	PR249946

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-21-07	0630				4630	326,370	P	BD
Post	8-22-07	0630				4410	381590	P	BD
Pre	8-22-07	0630				4410	381590	P	BD
Post	8-23-07	0630				4360	379,640	P	BD
Pre	8-23-07	0630				4360	379,640	P	BD
Post	8-24-07	0657				4340	383,660	P	BD
Pre	8-24-07	0657				4340	383,660	P	BD
Post	8-27-07	0810				4300	375,700	P	[illegible]
Pre	8-27-07	0810				4300	375,700	P	[illegible]
Post	8-28-07	0645				4030	373,970	P	BD
Pre	8-28-07	0645				4030	373,970	P	BD
Post	8-29-07	0730				4380	335,620	P	[illegible]
Pre	8-29-07	0730	N	A		4380	335,620	P	[illegible]
Post	8-30-07	0705				4460	377,540	P	PR
Pre	8-30-07	0705				4460	377,540	P	PR
Post	9-4-07	0805				4490	352,510	P	[illegible]
Pre	9-4-07	0805				4490	352,510	P	[illegible]
Post	9-5-07	0736				5010	326,990	P	[illegible]
Pre	9-5-07	0730				5010	326,990	P	[illegible]
Post	9-6-07	0750				4570	311430	P	[illegible]
Pre	9-6-07	0750				4570	311430	P	[illegible]
Post	9-7-07	0750				4490	374510	P	BD
Pre	9-7-07	0750				4490	374510	P	BD
Post	9-8-07	0730				4840	318160	P	[illegible]
Pre	9-8-07	0730				4840	318160	P	[illegible]
Post	9-10-07	0800				4460	336540	P	[illegible]
Pre	9-10-07	0800				4460	336540	P	[illegible]
Post	9-11-07	0800				4460	338540	P	[illegible]

Reviewed By (print and sign)	Date
Lawrence Casey / [illegible]	9-21-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 11-13-07 To:	005	PR249946

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	
Pre	11.13.07	0800				4130	329870	P	
Post	11.14.07	0730				4440	330560	P	
Pre	11.14.07	0730				4440	330560	P	
Post	11.15.07	0730				3390	328610	P	
Pre	11.15.07	0730				3390	328610	P	
Post	11.16.07	0800				3900	342100	P	
Pre	11.16.07	0800				3900	342100	P	
Post	11.19.07	0800		N		3420	337580	P	
Pre	11.19.07	0800				3420	337580	P	
Post	11.20.07	0700				4900	342100	P	
Pre	11.20.07	0700				4900	342100	P	
Post	11.21.07	0730				4430	342570	P	
Pre	11.21.07	0730				4430	342570	P	
Post	11.26.07	0730				4740	331260	P	
Pre	11.26.07	0730				4740	331260	P	
Post	11.28.07	0730				4490	329510	P	
Pre	11.28.07	0730				4490	329510	P	
Post	11.29.07	0730				4430	340470	P	
Pre	11.29.07	0730				4430	340470	P	
Post	11.30.07	0730				4090	329510	P	
Pre	11.30.07	0730				4090	329910	P	
Post	12.1.07	0800				4100	333900	P	
Pre	12.1.07	0800				4100	333900	P	
Post	12.3.07	0800				4250	341750	P	
Pre	12.3.07	0800				4250	341750	P	
Post	12.5.07	0730				4350	365610	P	
Pre	12.5.07	0730				4390	365610	P	
Post	12.6.07	0800				4100	318900	P	

Reviewed By (print and sign)	Date
Lawrence Cass	12-15-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 12-6-07 To:	005	PR249946

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	12.6.07	0840				4100	318960	P	
Post	12.7.07	0800				4450	329510	P	
Pre	12.7.07	0800				4450	329510	P	
Post	12.10.07	0860				3960	337040	P	
Pre	12.10.07	0860				3960	337040	P	
Post	12.12.07	0830				4100	336900	P	
Pre	12.12.07	0830				4100	336900	P	
Post	12.13.07	0830				4500	335560	P	
Pre	12.13.07	0830				4500	335500	P	
Post	12.14.07	0830				4330	322170	P	
Pre	12.14.07	0830				4330	322170	P	
Post	12.19.07	0745				4550	341450	P	
Pre	12.19.07	0745				4550	341450	P	
Post	12.20.07	0800				4150	358000	P	
Pre	12.20.07	0800				4150	358000	P	
~~Post~~	~~1.14.08~~	~~0630~~				~~5430~~			
~~Pre~~	~~1.14.08~~	~~0630~~				~~5430~~			
Post	1.17.08	0700				3150	334650	P	
Pre	1.17.08	0700				3150	334850	P	
Post	1.21.08	0715				3220	346736	P	
Pre	1.21.08	0715				3220	346736	P	
Post	1.22.08	1500				4170	339830	P	
Pre	1.22.08	1500				4170	339830	P	
Post	NA	NA				NA	NA	NA	NA
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)

Date 2-5-08

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CTO-15	From: 5-10-07 To: 8-28-07 (8-28-07)	022

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
190602	L2929	5-9-07	5-9-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR199159	L43-10-1	5-9-07	5-9-08	SEE	DAILY

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th 230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
5-10-07	1330	Bob Dickenson	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	47	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	10546	7980
2	10605	8167
3	10432	8069
4	10365	8047
5	10389	7929
6	10293	7969
7	10420	8093
8	10587	7991
9	10625	7997
10	10455	8097

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
10472	12,566	8,378
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
8034	9,641	6,427

Reviewed By (print and sign)	Date
Marc Weddle	5-28-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 5-10-07 To:	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	5-10-07	1330	0	10267	P	47	8037	P	BD
Post	5-11-07	0630	0	10344	P	49	8046	P	BD
Pre	5-11-07	0630	0	10344	P	49	8046	P	BD
Post	5-12-07	0625	0.1	10400	P	49	8180	P	BD
Pre	5-12-07	0625	0.1	10400	P	49	8180	P	BD
Post	5.13.07	0730	0.1	10976	P	49	8539	P	PR
Pre	5.13.07	0730	0.1	10976	P	49	8539	P	PR
Post	5.14.07	0700	0.3	10634	P	52	8310	P	PR
Pre	5.14.07	0700	0.3	10634	P	52	8310	P	PR
Post	5-15-07	0650	0	10479	P	58	8122	P	PR
Pre	5-15-07	0650	0	10479	P	58	8122	P	PR
Post	5-16-07	0655	0	10483	P	59	8101	P	PR
Pre	5-16-07	0655	0	10483	P	59	8101	P	
Post	5-17-07	0630	0	11025	P	50	8124	P	PR
Pre	5.17.07	0630	0	11025	P	50	8124	P	PR
Post	5-18-07	0800	0	10992	P	50	8243	P	BD
Pre	5-18-07	0800	0	10992	P	50	8242	P	BD
Post	5-21-07	0650	0	10953	P	49	8233	P	BD
Pre	5-21-07	0650	0	10953	P	49	8233	P	BD
Post	5-22-07	0650	0	10788	P	54	8206	P	PR
Pre	5-22-07	0650	0	10788	P	54	8206	P	PR
Post	5.23.07	0640	0.0	10638	P	47.4	7909	P	PR
Pre	5-23-07	0640	0.0	10638	P	47.4	7909	P	PR
Post	5.24.07	0630	0	10747	P	51	8160	P	PR
Pre	5.24.07	0630	0	10747	P	51	8160	P	PR
Post	5.29.07	0655	0	10998	P	53	7958	P	PR
Pre	5.29.07	0655	0	10998	P	53	7958	P	PR
Post	5.30.07	0630	0	10746	P	36	8153	P	PR

Reviewed By (print and sign) Date 6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 5.30.07 To: 6.19.07	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	5.30.07	0630	0	10746	P	36	8153	P	PR
Post	5.31.07	0655	0	10264	P	41	8009	P	PR
Pre	5.31.07	0655	0	10264	P	41	8009	P	PR
Post	6.1.07	0645	0	10728	P	43	7960	P	PR
Pre	6.1.07	0645	0	10728	P	43	7960	P	PR
Post	6.4.07	0650	~~0.05~~ 0	10374	P	51	8130	P	PR
Pre	6.4.07	0650	~~0.05~~ 0	10374	P	51	8130	P	PR
Post	6.5.07	0635	0	10753	P	48	7861	P	PR
Pre	6.5.07	0635	0	10753	P	48	7861	P	PR
Post	6.6.07	0640	1	10411	P	35	7994	P	PR
Pre	6.6.07	0640	1	10411	P	35	7994	P	PR
Post	6.7.07	0630	0	10740	P	50	7949	P	PR
Pre	6.7.07	0630	0	10740	P	50	7949	P	PR
Post	6.8.07	0700	~~0.05~~ 0	10384	P	48	7936	P	PR
Pre	6.8.07	0700	~~0.05~~ 0	10384	P	48	7936	P	PR
Post	6.11.07	0640	0	10289	P	47	7910	P	PR
Pre	6.11.07	0640	0	10289	P	47	7910	P	PR
Post	6.12.07	0630	0	10648	P	54	8014	P	PR
Pre	6.12.07	0630	0	10648	P	54	8014	P	PR
Post	6.13.07	0640	1	10551	P	52	7909	P	PR
Pre	6.13.07	0640	1	10551	P	52	7909	P	PR
Post	6.14.07	0640	0	10670	P	~~50~~ 54	7946	P	PR
Pre	6.14.07	0640	0	10670	P	~~50~~ 54	7946	P	PR
Post	6.15.07	0730	0	10304	P	48	7948	P	PR
Pre	6.15.07	0730	0	10304	P	48	7948	P	PR
Post	6.18.07	0630	0	10300	P	57	8010	P	PR
Pre	6.18.07	0630	0	10300	P	57	8010	P	PR
Post	6.19.07	0635	0	10806	P	53	8324	P	PR

Reviewed By (print and sign) [signature]

Date 7-13-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO -15	From: 6.19.07 To: 7.11.07	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	6.19.07	0635	0	10806	P	53	8324	P	PR
Post	6.21.07	0635	1	10303	P	50	7875	P	PR
Pre	6.21.07	0635	1	10303	P	50	7875	P	PR
Post	6.25.07	0635	0	10726	P	54	8062	P	PR
Pre	6.25.07	0635	0	10726	P	54	8062	P	PR
Post	6.26.07	0710	0	10753	P	56	8109	P	PR
Pre	6.26.07	0710	0	10753	P	56	8109	P	PR
Post	6.27.07	0640	0	10602	P	51	8195	P	PR
Pre	6.27.07	0640	0	10602	P	51	8195	P	PR
Post	6.28.07	0650	1	10457	P	49	8050	P	PR
Pre	6.28.07	0650	1	10457	P	49	8050	P	PR
Post	6.29.07	0730	0	10636	P	56	8003	P	PR
Pre	6.29.07	0730	0	10636	P	56	8003	P	PR
Post	6.29.07	1110	0	10794	P	52	7946	P	PR
Pre	6.29.07	1110	0	10794	P	52	7946	P	PR
Post	7.2.07	0635	0	10590	P	51	7979	P	PR
Pre	7.2.07	0635	0	10590	P	51	7979	P	PR
Post	7.3.07	0630	0	10556	P	53	7947	P	PR
Pre	7.3.07	0630	0	10556	P	53	7947	P	PR
Post	7.5.07	0650	0	10980	P	53	8121	P	PR
Pre	7.5.07	0650	0	10980	P	53	8121	P	PR
Post	7.6.07	0645	1	10800	P	50	8001	P	PR
Pre	7.6.07	0645	1	10800	P	50	8001	P	PR
Post	7.9.07	0630	0	10794	P	50	7981	P	PR
Pre	7.9.07	0630	0	10794	P	50	7981	P	PR
Post	7.10.07	0635	0	10787	P	48	7735	P	PR
Pre	7.10.07	0635	0	10787	P	48	7735	P	PR
Post	7.11.07	0625	0	10596	P	49	7956	P	PR

Note: Recalculated Because of Power Failure

Reviewed By (print and sign) Marc Weddell

Date 7-13-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 7.11.07 To: 7-28-07	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	7.11.07	0635	0	10596	P	49	7956	P	PR
Post	7.12.07	0640	0	10566	P	51	7907	P	PR
Pre	7.12.07	0640	0	10566	P	51	7907	P	PR
Post	7.13.07	0630	0	10777	P	34	8180	P	PR
Pre	7.13.07	0630	0	10777	P	34	8180	P	PR
Post	7.16.07	0640	0	10698	P	45	8005	P	PR
Pre	7.16.07	0640	0	10698	P	45	8005	P	PR
Post	7.17.07	0630	0	10728	P	44	7930	P	PR
Pre	7.17.07	0630	0	10728	P	44	7930	P	PR
Post	7.18.07	0650	0	10605	P	48	7953	P	PR
Pre	7.18.07	0650	0	10605	P	48	7953	P	PR
Post	7.19.07	0640	0	10583	P	45	8097	P	PR
Pre	7.19.07	0640	0	10583	P	45	8097	P	PR
Post	7.20.07	0730	0	10699	P	44	7987	P	PR
Pre	7.20.07	0730	0	10699	P	44	7987	P	PR
Post	7.23.07	0645	0	10641	P	51	8009	P	PR
Pre	7.23.07	0645	0	10641	P	51	8009	P	PR
Post	7-23-07	1130	0.05	10449	P	44	7736	P	BD
Pre	7-23-07	1130	0.05	10449	P	44	7736	P	BD
Post	7-24-07	0720	1	10531	P	43	7893	P	PR
Pre	7-24-07	0720	1	10531	P	43	7893	P	PR
Post	7-25-07	0650	0	10652	P	39	8239	P	PR
Pre	7-25-07	0650	0	10652	P	39	8239	P	PR
Post	7-26-07	0655	1	10593	P	47	8109	P	PR
Pre	7-26-07	0655	1	10593	P	47	8109	P	PR
Post	7-27-07	0700	0	10625	P	54	8068	P	PR
Pre	7-27-07	0700	0	10625	P	54	8068	P	PR
Post	7-28-07	0730	0	10636	P	~~44~~ 41	7959	P	PR

Reviewed By (print and sign) Mark Weidler

Date 8-20-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 7-28-07 To: 8-20-07	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	7-28-07	0730	0	10636	P	41	7859	P	PR
Post	7-30-07	0700	0	10612	P	43	7905	P	PR
Pre	7-30-07	0700	0	10612	P	43	7905	P	PR
Post	7-31-07	0725	0	10821	P	40	7905	P	PR
Pre	7-31-07	0725	0	10821	P	40	7905	P	PR
Post	8-1-07	0800	0	10871	P	47	8036	P	[illegible]
Pre	8-1-07	0800	0	10871	P	47	8036	P	[illegible]
Post	8-2-07	0650	0	10759	P	35	8017	P	PR
Pre	8-2-07	0650	0	10759	P	35	8017	P	PR
Post	8-3-07	0715	0	10659	P	39	7907	P	PR
Pre	8-3-07	0715	0	10659	P	39	7907	P	PR
Post	8-6-07	0700	0	10633	P	49	8086	P	PR
Pre	8-6-07	0700	0	10633	P	49	8086	P	PR
Post	8-7-07	0745	0	10855	P	43	~~7995~~ 7827	P	[illegible]
Pre	8-7-07	0800	0	10855	P	43	7827	P	[illegible]
Post	8-8-07	0700	0	10785	P	44	7897	P	PR
Pre	8-8-07	0700	0	10785	P	44	7897	P	PR
Post	8-9-07	0800	0	10662	P	46	7972	P	BD
Pre	8-9-07	0800	0	10662	P	46	7972	P	BD
Post	8-13-07	0830	0	10748	P	37	8014	P	PR
Pre	8-13-07	0830	0	10748	P	37	8014	P	PR
Post	8-14-07	0900	0	10467	P	36	7339	P	[illegible]
Pre	8-14-07	0900	0	10467	P	34	7339	P	[illegible]
Post	8-15-07	0900	0	10866	P	41	~~7944~~ 7906 8/15/07	P	PR
Pre	8-15-07	0900	0	10866	P	41	7906 8/15/07	P	PR
Post	8-16-07	0805	0	10933	P	41	8047	P	PR
Pre	8-16-07	0805	0	10933	P	41	8047	P	PR
Post	8-20-07	0650	0	10716	P	45	8137	P	PR

Reviewed By (print and sign) Mark Wendell

Date 8-20-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 8-20-07 To: 8-28-07	022	PR199159

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-20-07	0630	0	10716	P	45	8137	P	PR
Post	8-21-07	0715	0	10698	P	48	7840	P	PR
Pre	8-21-07	0715	0	10698	P	48	7840	P	PR
Post	8-22-07	0645	0	10683	P	49	8291	P	PR
Pre	8-22-07	0645	0	10683	P	49	8291	P	PR
Post	8-23-07	~~0655~~ 0650	0	10601	P	45	8001	P	PR
Pre	8-23-07	0655	0	10601	P	45	8001	P	PR
Post	8-24-07	0745	0	10647	P	45	7778	P	PR
Pre	8-24-07	0745	0	10647	P	45	7778	P	PR
Post	8-27-07	0650	0	10303	P	46	7700	P	PR
Pre	8-27-07	0650	0	10303	P	46	7700	P	PR
Post	8-28-07	0725	0	10598	P	38	8120	P	PR
Pre	8-28-07	0725	0	10598	P	38	8120	P	PR
Post	8-28-07	1730	0	10544	P	44	7822	P	BD
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre				N	A				
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Marc Weinstein Date 8-30-07

DAILY SCALER LOG

MODEL: L2929 SERIAL NUMBER: 190602/PR199159 CAL. DUE: 5-9-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93TC470 ISOTOPE: Tc99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT	
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA	
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
5-10-07	0 / 47	α 10467 / β 8076	α .327 / β .279	α 7 / β 170	BD
5-11-07	0.1 / 49	α 10575 / β 8143	α .331 / β .281	α 14 / β 172	BD
5-12-07	0.1 / 49	α 10400 / β 8180	α .325 / β .282	α 14 / β 172	BD
5-13-07	0.1 / 49	α 10976 / β 8539	.343 / .294	~~α 15 / β 166~~ α 13 / β 165	PR
5-14-07	0.3 / 52	α 10634 / β 8310 PR	.332 / .287	α 18 / β 174	PR
5-15-07	0.1 / 46.9	10433 / ~~8811~~ PR 5.15 8047.6	.326 / .278	14 / 171	FP
5-16-07	0.05 / 48	10702 / 7940	.334 / .274	12 / 175	FP
5-17-07	~~0.05~~ DO 0.05 / 50.2	11025 / 8174	.345 / .282	13 / 174	PR
5-18-07	0.3 / 50	10501 / 7840	α .328 / β .271	α 18 / β 181	BD
5-21-07	0.15 / 47	10430 / 7949	α 326 / β .274	α 15 / β 173	BD
5-22-07	0.1 / 54	10788 / 8260	.337 / .285	13 / 178	PR
5-23-07	0.1 / 47.4	10458 / 7831	.327 / .270	14 / 177	FP
5-24-07	0.15 / 60	10747 / 8211	.336 / .283	15 / 189	PR
5-29-07	0.1 / 50	10617 / 7826	.332 / .269	14 / 182	FP
5-30-07	0.05 / 46.5	10746 / 8189	.336 / .282	12 / 168	PR
5-31-07	0.1 / 46.7	10439 / 7824	.326 / .270	14 / 175	FP
6-1-07	0.15 / 48.8	10728 / 8003	.335 / .276	15 / 175	PR
6-4-07	0.05 / 48.1	~~10395 / 8046~~ 10719 / 9026 PR 6-4-07	~~.335~~ .311 ~~.277~~	12 / ~~15~~ 154 PR 6-4-07	FP

DAILY SCALER LOG

MODEL: 2929 SERIAL NUMBER: 170602 CAL. DUE: 5-9-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th 230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: ~~93TCR~~ 93TC470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG BACKGROUND COUNTS	Rb BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT SAMPLE COUNT TIME	Tb BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF EFFICIENCY	Ts+b SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
6.5.07	0.1 / 48.7	10753 / 7909	.336 / .273	13 / 177	PR
6.6.07	0.1 / 46.5	10518 / 8001	.329 / .276	14 / 172	PR
6.7.07	0.1 / 45.7	10740 / ~~49~~ 7999	.336 / .276	13 / 170	PR
6.8.07	0.1 / 47.5	10384 / 7936	PR ~~.33~~ .324 / .274	14 / 175	PR
6.11.07	0.05 / 49.7	10386 / 7918	.325 / .273	12 / 179	PR
6.12.07	0.15 / 48.9	10648 / 8068	.333 / .278	15 / 174	PR
6.13.07	0.05 / 50.9	10550 / 7784	.330 / .268	12 / 184	PR
6.14.07	0.1 / 48.7	10670 / 7996	.333 / .276	13 / 175	BD
~~pr bck~~ 6-15-07	0 / 49.0	10351 / 7808	.324 / .269	7 / 180	PR
6-18-07	.05 / 49	10366 / 7757	.324 / .267	12 / 181	PR
6-19-07	0.1 / 47.9	10806 / 8377	.338 / .289	13 / 166	PR
6-21-07	0.1 / 44.7	10425 / 7771	.326 / .268	14 / 173	PR
6.25.07	0 / 49.1	10726 / 8116	.335 / .280	7 / 173	PR
6.26.07	0.15 / 49.3	10510 / 7847	.328 / .271	15 / 180	PR
6.27.07	0.15 / 46.7	10602 / 8246	.331 / .284	15 / 167	PR
6-28-07	.05 / 45.9	10477 / 7815	.327 / .269	12 / 175	PR
6-29-07	.1 / 44.7	10636 / 8059	.332 / .278	13 / 166	PR
6-29-07	0.15 / 45	10794 / 7998	.337 / .274	15 / 170	PR

*1 Recalculated because of power failure

DAILY SCALER LOG

MODEL: L2929 SERIAL NUMBER: 190602 CAL. DUE: 5.9.08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th 230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93TC470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG BACKGROUND COUNTS SCT SAMPLE COUNT TIME EFF EFFICIENCY	Rb BACKGROUND CPM Tb BACKGROUND COUNT TIME Ts+b SAMPLE COUNT TIME	CTO 15 & 28 PROJECTS MDA LIMIT < 20 DPM ALPHA < 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
7/2/07	0.15/48.6	10590/8030	.331/.280	15/172	PR
7-3-07	0.2/45.9	10338/7824	.323/.270	17/174	PR
7.5.07	0.15/44.3	10980/8174	.343/.282	14/164	PR
7-6-07	0.1/46	10328/8264	.323/.351	14/134	PWF
7.9.07	.15/49	10794/8031	.337/.277	15/175	PR
7.10.07	0/46	10530/7745	.329/.267	8/177	PR
7.11.07	.05/49	10596/8005	.331/.276	12/176	PR
7.12.07	0.1/46.6	10236/7941	.320/.274	14/173	PR
7.13.07	0.1/49.4	10777/8214	.337/.257	13/189	PR
7.16.07	0.05/49	10332/8152	.323/.281	12/173	PR
7.17.07	0.1/45.6	10728/7929	.335/.273	13/172	PR
7.18.07	0.1/46	10413/7794	.325/.269	14/175	PR
7.19.07	0.3/49	10583/8142	.331/.281	18/172	PR
7.20.07	0.1/48	10377/7762	.324/.268	14/179	PR
7-23-07	0.2/47.4	10641/8013	.333/.276	16/173	PR
7-23-07 PM	0.05/44	10449/7780	.327/.268	12/172	BD
7-24-07	.05/47	10272/7870	.321/.271	12/175	PR
7-25-07	0.15/44.3	10652/8233	.333/.284	15/163	PR

DAILY SCALER LOG

MODEL: L2929 SERIAL NUMBER: 190602 CAL. DUE: 5-9-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th 230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93 Tc 470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

				CTO 15 & 28 PROJECTS MDA LIMIT
BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	< 20 DPM ALPHA
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 200 DPM BETA/GAMMA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
7-26-07	0.2 / 44	10512 / 7816	.329/.269	16/193	PP
7-27-07	0.25/46	10625 / 8076	.332/.278	17/169	JJ
7-28-07	0.3/46.3	10636 / 7854	.332/.271	18/174	PR
7-30-07	0.15/47	10589/ 7893	.331/.272	15/175	FP
7-31-07	0/44.7	10821/ 7900	.338/.272	7/171	PR
8-1-07	.1/ 46	10871 / 8037	.340/.277	13/170	QQ
8-2-07	0/43	10320/ 7783	.323/.268	7/170	FP
8-3-07	.1/45	10734/7892	.336/.272	17/171	FP
8-6-07	0.15/45.1	10633 / 8090 ~~10887 / 8135~~ 8-6-07	.332/.279	15/167	QQ
8-7-07	0.15/44.5	10855/7827	.339/.270	15/171	QQ
8-8-07	0.2/44.7	10429/7775	.326/.268	17/173	FP
8-9-07	0.1/45	10608/7942	.332/.274	13/170	BD
8-13-07	0.15/44	10748/8007	.336/.276	14/167 15/167	PR
~~8-13-07~~ 8-14-07	0.05/46	10621/8318	.332/.287	12/164	QQ
8-15-07	0.15/46.5	10866/7941	.340/.274	15/173	PR
8-16-07	0.1/44	10933/8044	.342/.277	13/166	PR
8-20-07	0.1/42.7	10716/8139	.335/.281	16/162	PR
8-21-07	0.2/46.9	10265/7743	.321/.267	17/178	FP

DAILY SCALER LOG

MODEL: L2929 SERIAL NUMBER: 190602 CAL. DUE: 5-9-08

SOURCE INFORMATION:

ALPHA SOURCE #: 1836-94 ISOTOPE: Th 230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #: 93 Tc 470 ISOTOPE: Tc 99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG	BACKGROUND COUNTS	Rb	BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT	SAMPLE COUNT TIME	Tb	BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF	EFFICIENCY	Ts+b	SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
8-22-07	0.2 / 45	10683 / ~~8340~~ 8295 ~ 8-22-07	.334 / .286	16 / 163	PR
8-23-07	0.1 / 44	10387 / 7909	.325 / .273	~~8-23-07~~ 14 / 169	PWP
8-24-07	0.15 / 42	10647 / ~~782~~ 7781 ~ 8-24-07	.333 / .268	15 / 168	PR
8-27-07	0.1 / 44	10052 / 7754	.314 / .267	15 / 173	PWP
8-28-07	0 / 44	10598 / 8037	.331 / .277	7 / 166	PR
		N A			

Bob Dickenson / [signature] / 5-10-07

MODEL NUMBER	L2929	INSTRUMENT SERIAL NUMBER	190602/PR199159	CALIBRATION DUE DATE	5-9-08

Alpha CHI – SQUARED

(Example)

	$X - X_b = X_n$	$\_ = X_n - \_$	$(X_n - \_)^2$
1	10546	115	13225
2	10605	174	30,276
3	10432	1	1
4	10365	-66	4356
5	10389	-42	1764
6	10293	-138	19044
7	10420	-11	121
8	10587	156	24336
9	10625	194	37636
10	10455	24	576
11	10436	5	25
12	10418	-13	169
13	10477	46	2116
14	10314	-117	13689
15	10457	26	676
16	10330	-101	10201
17	10267	-164	26896
18	10423	-8	64
19	10453	22	484
20	10328	-103	10609
SUM	208620		196264

$X_b = 0$

$\Sigma(X_n-\_)^2 = 196,264$

$\Sigma X_n = 208,620$

Chi-Squared = $\Sigma(X_n-\_)^2$

$\_ = \frac{\Sigma X_n}{} = 10431$

Chi-Squared = 0.941

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

_.....AVERAGE OF 20 COUNTS

$(X_n-\_)$.....NET COUNT - AVERAGE

$(X_n-\_)^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n-\_)^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

Bob Dickenson / [redacted] / 5-10-07

MODEL NUMBER	L2929	INSTRUMENT SERIAL NUMBER	190602/PR199159	CALIBRATION DUE DATE	5-9-08

Beta CHI – SQUARED

(Example)

	$X - X_b = X_n$	$X_n - \_ = \_$	$(X_n - \_)^2$
1	7980	-19	361
2	8167	168	28224
3	8069	70	4900
4	8047	48	2304
5	7929	-70	4900
6	7969	-30	900
7	8093	94	8836
8	7991	-8	64
9	8097	98	9604
10	7997	-2	4
11	7852	-147	21609
12	7910	-89	7921
13	7963	-36	1296
14	8053	54	2916
15	8023	24	576
16	7982	-17	289
17	8217	218	47524
18	7826	-173	29,929
19	7776	-223	49,729
20	8037	38	1444
SUM	159978		223330

$X_b = 47$

$\Sigma(X_n - \_)^2 = 223,330$

$\Sigma X_n = 159,978$

Chi-Squared = $\Sigma(X_n - \_)^2$

$\_ = 7,999$ ΣX_n

Chi-Squared = 1.396

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

_.....AVERAGE OF 20 COUNTS

$(X_n - \_)$.....NET COUNT - AVERAGE

$(X_n - \_)^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \_)^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA OD-15	Dates Covered From: 3-14-07 To: 5-4-07	ESID Number: 001

Instrument/Probe Information

Instrument Serial Number: 227402	Instrument Type: L2360	Calibration Date: 3-12-07	Calibration Due Date: 3-12-08		
Probe Serial Number: PR151060	Probe Type/Model: L4389	Calibration Date: 3-12-07	Calibration Due Date: 3-12-08	Alpha Eff: 16.28%	Beta/Gamma Eff: ~~10.42%~~ BD 23.29 %

Alpha Source Information

Source Number: 1836-94	Source Isotope: Th230	Source Activity: 31,996 dpm	Assay Date: 3-20-07

Beta/Gamma Source Information

Source Number: 93TC470	Source Isotope: Tc99	Source Activity: 28,999 dpm	Assay Date: 3-20-07

Instrument Response Check

Date: 3-14-07	Time: 0800	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): 0	Alpha Count Time (min): 1	Beta/Gamma Background (cpm): 137	Beta/Gamma Count Time (min): 1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5047	3652
2	5268	3550
3	5299	3537
4	5110	3668
5	5112	3703
6	5252	3544
7	5046	3645
8	5107	3543
9	5021	3660
10	5044	3690

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
5131	6157	4105
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3619	4343	2895

Reviewed By (print and sign) Mark Weldon	Date 4-9-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA STD-15	Dates Covered From: 3-14-07 To: 4-11-07	ESID Number: 001	Probe Serial Number: PR151060

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	3-14-07	0800	0	4991	P	140	3585	P	BD
Post	3-14-07	1600	0	4951	P	148	3260	P	BD
Pre	3-15-07	0800	0	5324	P	141	3493	P	BD
Post	3-15-07	1630	0	5122	P	144	3420	P	BD
Pre	3-21-07	0735	1	5439	P	150	3682	P	BD
Post	3-21-07	1411	1	5237	P	162	3345	P	BD
Pre	3-22-07	1100	0	5468	P	140	3893	P	BD
Post	3-22-07	1600	1	5389	P	144	3542	P	BD
Pre	3-23-07	0830	0	5467	P	138	3652	P	BD
Post	3-23-07	1600	3	5370	P	142	3427	P	BD
Pre	3-26-07	0905	0	5364	P	140	3527	P	BD
Post	3-26-07	1600	0	5429	P	136	3644	P	BD
Pre	3-28-07	0745	0	5593	P	137	3730	P	BD
Post	3-29-07	0730	0	5331	P	143	3498	P	BD
Pre	3-29-07	0800	0	5322	P	138	4560	P	BD
Post	4-2-07	0610	0	5389	P	140	3676	P	BD
Pre	4-3-07	0630	0	5462	P	135	3719	P	BD
Post	4-3-07	1700	0	5322	P	142	3828	P	BD
Pre	4-4-07	0655	1	5524	P	140	3799	P	BD
Post	4-4-07	1700	0	5272	P	141	3748	P	BD
Pre	4-5-07	0630	0	5272	P	141	3748	P	BD
Post	4-6-07	0900	0	5666	P	138	3760	P	BD
Pre	4-6-07	0900	0	5666	P	138	3760	P	BD
Post	4-9-07	0710	0	5492	P	140	3646	P	BD
Pre	4-9-07	0710	0	5492	P	140	3646	P	BD
Post	4-10-07	0645	0	5554	P	136	3844	P	BD
Pre	4-10-07	0645	0	5554	P	136	3844	P	BD
Post	4-11-07	0650	0	5372	P	139	3752	P	BD

Reviewed By (print and sign)	Date
MARC WENDLAND	4-11-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered From: ~~4-11-07~~ BD To: 5-4-07	ESID Number: 001	Probe Serial Number: PR151060
CTO-15			

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	
Pre	4-11-07	0650	0	5372	P	139	3752	P	BD
Post	4-12-07	0640	2	5538	P	122	4058	P	BD
Pre	4.12.07	0640	2	5538	P	122	4058	P	JW
~~Post~~	~~4.12.07~~	~~0640~~	~~2~~	~~5538~~	~~P~~	~~122~~	~~4058~~	~~P~~	JW BD
~~Pre~~									BD
Post	4-13-07	0720	0	5482	P	138	3956	P	BD
Pre	4-13-07	0720	0	5482	P	138	3956	P	BD
Post	4-16-07	0650	0	5474	P	139	3640	P	BD
Pre	4.16.07	0650	0	5474	P	139	3640	P	BD
Post	4.19.07	0655	0	5528	P	167	3480	P	BD
Pre	4.19.07	0655	0	5528	P	167	3480	P	BD
Post	4-20-07	0645	0	5474	P	159 BP	3717	P	BD
Pre	4-20-07	0645	0	5474	P	159	3717	P	BD
Post	4.24.07	0640	0	5407	P	160	4236	P	BD
Pre	4.24.07	0640	0	5407	P	160	4236	P	BD
Post	4.26.07	0635	0	5350	P	165	4542	P	BD
Pre	4.26.07	0635	0	5350	P	165	4542	P	BD
Post	4.27.07	0545	1.0	~~5446~~ 5597	P	~~160~~ 162	~~4505~~ 3541	P	BD
Pre	4.27.07	0545	1	5597	P	162	3541	P	BD
Post	4-30-07	0610	0	5476	P	163	3711	P	BD
Pre	4-30-07	0610	0	5476	P	163	3711	P	BD
Post	5-1-07	0600	0	5270	P	155	3638	P	BD
Pre	5-1-07	0600	0	5270	P	155	3638	P	BD
Post	5-2-07	0600	0	5491	P	140	3786	P	BD
Pre	5-2-07	0600	0	5491	P	140	3786	P	BD
Post	5-3-07	0610	0	5435	P	142	3666	P	BD
Pre	5-3-07	0610	0	5435	P	142	3666	P	BD
Post	5-4-07	0640	0	5437	P	140	3786	P	BD

Reviewed By (print and sign)	Date
	5-7-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CT015	From: 4-24-07 To: 5-11-07	002

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
234856	L2360	4-13-07 (BD)	4-13-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff: Sr90**
PR245349	L4389	4-13-07	4-13-08	17.92%	24.15%

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th 230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999 dpm	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
4-24-07	0800	Bob Dickenson	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	168	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5408	3559
2	5337	3589
3	5527	3527
4	5571	3470
5	5543	3426
6	5517	3500
7	5396	3484
8	5369	3349
9	5219	3426
10	5296	3403

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
5418	6502	4334
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3473	4168	2778

Reviewed By (print and sign)	Date
Marc Wendelboe	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 4-24-07 To: 5-11-07	002	PR 245349

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	4-24-07	0900	0	5433	P	165	3406	P	BD
Post	4-25-07	0638	0	5350	P	158	3376	P	BD
Pre	4-25-07	0638	0	5350	P	158	3376	P	BD
Post	4-26-07	0635	0	5439	P	160	3428	P	BD
Pre	4-26-07	0635	0	5439	P	160	3428	P	BD
Post	4-30-07	0630	1	5405	P	162	3602	P	BD
Pre	4-30-07	0630	1	5405	P	162	3602	P	BD
Post	5-1-07	0610	0	5413	P	184	3705	P	PWP
Pre	5-1-07	0610	0	5413	P	184	3705	P	PWP
Post	5-2-07	0600	0	5529	P	169	3477	P	BD
Pre	5-2-07	0600	0	5529	P	169	3477	P	BD
Post	5-3-07	0610	0	6089	P	180	3720	P	BD
Pre	5-3-07	0610	0	6089	P	180	3720	P	BD
Post	5-4-07	0645	1	5433	P	175	3777	P	BD
Pre	5-4-07	0645	1	5433	P	175	3777	P	BD
Post	5-7-07	0610	0	5372	P	154	3709	P	BD
Pre	5-7-07	0610	0	5372	P	154	3709	P	BD
Post	5-8-07	0606	0	5435	P	169	3509	P	BD
Pre	5-8-07	0606	0	5435	P	169	3509	P	BD
Post	5-9-07	0600	0	5262	P	159	3714	P	BD
Pre	5-9-07	0600	0	5262	P	159	3714	P	BD
Post	5-10-07	0600	0	5320	P	172	3705	P	BD
Pre	5-10-07	0600	0	5320	P	172	3705	P	BD
Post	5-11-07	0600	0	5475	P	161	3644	P	BD
Pre	5-11-07	0600	0	5475	P	161	3644	P	BD
Post	5-11-07	1700	0	5265	P	155	3678	P	BD
Pre	N/A								→
Post	N/A								→

Reviewed By (print and sign) — Date: 5-19-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTD-15	Dates Covered From: 3-19-07 To: 4-26-07	ESID Number: 003

Instrument/Probe Information

Instrument Serial Number: 227433	Instrument Type: L2360	Calibration Date: 2-26-07	Calibration Due Date: 2-26-08		
Probe Serial Number: PR227112	Probe Type/Model: L4389	Calibration Date: 2-26-07	Calibration Due Date: 2-26-08	Alpha Eff: 16.61%	Beta/Gamma Eff: 12.28%

Alpha Source Information

Source Number: 1836-94	Source Isotope: Th230	Source Activity: 31,996 dpm	Assay Date: 3-20-07

Beta/Gamma Source Information

Source Number: 93TC470	Source Isotope: Tc99	Source Activity: 28,999 dpm	Assay Date: 3-20-07

Instrument Response Check

Date: 3-19-07	Time: 0800	RCT Name/Signature: Bob Dickenson	
Alpha Background (cpm): 0	Alpha Count Time (min): 1	Beta/Gamma Background (cpm): 164	Beta/Gamma Count Time (min): 1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5628	4058
2	5394	3915
3	5361	3981
4	5463	4061
5	5431	3968
6	5330	3888
7	5413	3866
8	5368	3868
9	5411	4035
10	5467	3870

Mean Alpha Source Net Measurement (net cpm)	Alpha Uppeverr Bound (aage + 20%)	Alpha Lower Bound (average - 20%)
5427	6512	4342
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3951	4741	3161

Reviewed By (print and sign)	Date

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTO-15	Dates Covered From: ~~3-19-07~~ 3-21-07 BD To: 4-23-07	ESID Number: 003	Probe Serial Number: PR227112

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	3-21-07	0745	0	5357	P	168	3875	P	BD
Post	3-21-07	1600	0	5482	P	153	3921	P	BD
Pre	3-23-07	0845	0	5362	P	200	3892	P	BD
Post	3-23-07	1700	1	5336	P	183	3858	P	BD
Pre	3.26.07	0845	0	5375	P	166	3815	P	PR
Post	4-2-07	0620	0	5205	P	180	3989	P	BD
Pre	4-2-07	0620	0	5205	P	180	3989	P	BD
Post	4-2-07	1700	1	5350	P	181	3909	P	PR
Pre	4.3.07	0635	0	5184	P	187	4207	P	PR
Post	4-3-07	1705	0	5222	P	167	3872	P	BD
Pre	4-4-07	0655	0	5190	P	178	3957	P	PR
Post	4.4.07	1700	0	5164	P	137	4036	F	PR
Pre	4-5-07	0630	0	5164	P	137	4036	P	PR
Post	4-9-07	0630	0	5238	P	194	3956	P	BD
Pre	4-9-07	0630	0	5238	P	194	3956	P	BD
Post	4-10-07	0615	0	5521	P	195	4096	P	JW
Pre	4-10-07	0615	0	5521	P	195	4096	P	JW
Post	4-11-07	0650	0	5396	P	196	3999	P	JW
Pre	4-11-07	0630	0	5396	P	196	3999	P	JW
Post	4-16-07	0730	0	5442	P	185	4006	P	BD
Pre	4-16-07	0730	0	5442	P	185	4006	P	BD
Post	4.16.07	1700	0	5257		171	3873	P	PR
Pre	4.17.07	0710	0	5257		171	3873	P	PR
Post	4.18.07	0645	0	5211	P	211	3986	P	PR
Pre	4.18.07	0645	0	5211	P	211	3986	P	PR
Post	4.19.07	0650	0	5297	P	173	3950	P	PR
Pre	4.19.07	0650	0	5297	P	173	3950	P	PR
Post	4.23.07	0630	0	5449	P	173	4103	P	PR

Reviewed By (print and sign)	Date
	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 4-25-07 To: 4-26-07	003	PR227112

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	4-23-07	0630	0	5449	P	173	4103	P	FRP
Post	4-24-07	0640	0	4902	P	183	4803	P	FP
Pre	4-24-07	0640	0	4902	P	183	4803	P	FP
Post	4-24-07	0645	1	5222	P	177	4810	P	FP
Pre	4-26-07	0645	1	5222	P	177	4810	P	FP
Post	4-26-07	0900	0	4877	P	175	4652	P	BD
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post				N	A				
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
MARC WOODARD	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA OD-15	Dates Covered From: 3-23-07 To: 5-30-07	ESID Number: 011

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
C665J	Micro Rem	3-14-07	3-14-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
N/A	N/A	N/A	N/A	N/A	N/A

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co 60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
3-23-07	0915	B. Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (μR):**	**Beta/Gamma Count Time (min):**
N/A	N/A	3	

Count Number	Alpha Source Count Rate (net)	γ ~~Beta~~ Sources Count Rate (net μR)
1	N A	1,398
2		1,498
3		1,398
4		1,398
5		1,498
6		1,398
7		1,498
8		1,398
9		1,498
10		1,498

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (net μR)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
1,448	1,738	1,158

Reviewed By (print and sign)	Date
	4-9-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA	Dates Covered From: 3-~~23~~ 26-07 To: 5-1-07	ESID Number: 011	Probe Serial Number: C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (uR)	Source Check (net uR)	P/F*	RCT Initials
Pre	3-26-07	1430				4	1,496	P	BD
Post	3-26-07	1700				7	1,200	P	BD
Pre	4-2-07					7	1,200	P	BD
Post	4-2-07	1700				7	1300	P	BD
Pre	4-3-07	0645				7	1300	P	BD
Post	4-3-07	1725				5	1300	P	BD
Pre	4-4-07	0650				7	1300	P	BD
Post	4-9-07	0830				5	1300	P	BD
Pre	4-9-07	0830				5	1300	P	BD
Post	4-12-07	0800				5	1300	P	BD
Pre	4-12-07	0800				5	1300	P	BD
Post	4-16-07	1545	N	A		5	1300	P	BD
Pre	4-16-07	1545				5	1300	P	BD
Post	4-19-07	0650				5	1400	P	BD
Pre	4-19-07	0650				5	1400	P	BD
Post	4-20-07	0640				5	1500	P	BD
Pre	4-20-07	0640				5	1500	P	BD
Post	4-23-07	0655				7	1400	P	BD
Pre	4-23-07	0655				7	1400	P	BD
Post	4-24-07	0658				7	1500	P	BD
Pre	4-24-07	0650				7	1500	P	BD
Post	4-26-07	0700				10	1500	P	BD
Pre	4-26-07	0700				10	1500	P	BD
Post	4-27-07	0555				5	1500	P	BD
Pre	4-27-07	0555				5	1500	P	BD
Post	4-30-07	0635				5	1500	P	BD
Pre	4-30-07	0635				5	1500	P	BD
Post	5-1-07	0630				7	1500	P	BD

Reviewed By (print and sign)	Date
[signature]	5-2-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA	From: ~~5-1-07~~ ~~5-15-07~~ To: 5-29-07 BD	011	C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (MR)	Source Check (net)	P/F*	Background (MR)	Source Check (net MR)	P/F*	RCT Initials
Pre	5-1-07	0630				7	1500	P	PR
Post	5-2-07	0615				7	1500	P	PR
Pre	5-2-07	0615				7	1500	P	PR
Post	5-3-07	0615				7	1500	P	PR
Pre	5-3-07	0615				7	1500	P	PR
Post	5-4-07	0645				7	1500	P	PR
Pre	5-4-07	0645				7	1500	P	PR
Post	5-7-07	0610				7	1500	P	PR
Pre	5-7-07	0610				7	1500	P	PR
Post	5-8-07	0615				7	1500	P	PR
Pre	5-8-07	0615				7	1500	P	PR
Post	5-9-07	0615				7	1500	P	PR
Pre	5-9-07	0615				7	1500	P	PR
Post	5-10-07	0615		N A		7	1500	P	PR
Pre	5-10-07	0615				7	1500	P	PR
Post	5-14-07	0640				7	1500	P	PR
Pre	5-14-07	0640				7	1500	P	PR
Post	5-15-07	0630				7	1500	P	PR
Pre	5-15-07	0630				7	1500	P	PR
Post	~~5-15-07~~ 5-14-07	0650				7	1500	P	PR
Pre	5-17-07	0650				7	1500	P	PR
Post	5-21-07	0620				5	1500	P	BD
Pre	5-21-07	0620				5	1500	P	BD
Post	5-22-07	0630				5	1500	P	PR
Pre	5-22-07	0630				5	1500	P	PR
Post	5-24-07	0620				5	1500	P	PR
Pre	5-24-07	0620				5	1500	P	PR
Post	5-29-07	0640				6	1500	P	PR

Reviewed By (print and sign)	Date
Marc Weddle	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA	From: ~~5-29-07~~ RD To: 5-30-07	all	C665J

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (μR/h)	Source Check (net uR/h)	P/F*	RCT Initials
Pre	5.29.07	0640				6	1500	P	PR
Post	5.30.07	0620				5	1500	P	PR
Pre	5.30.07	0620		N A		5	1500	P	PR
Post	5-30-07	1700				5	1500	P	RD
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre				N A					
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

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RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CTO-15	From: 4-16-07 To: 5-7-07	020

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
227393	12360	4-9-07	4-9-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244541	L4393	4-9-07	4-9-08	17.96 %	28.12 % Sr90

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc99	28,999 dpm	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
4-16-07	1000	Bob Dickenson	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	142	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5763	3331
2	5945	3552
3	5905	3516
4	5886	3472
5	5973	3498
6	5967	3559
7	5928	3440
8	6009	3501
9	5902	3464
10	5974	3364

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
5925	7110	4740
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3470	4164	2776

Reviewed By (print and sign)	Date
	5-7-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 4-16-07 To: 5-7-07	020	PR244541

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	4-16-07	1100	30+0	5978	P	142	3318	P	BD
Post	4-16-07	1700	0	5986	P	148	3497	P	FP
Pre	4-17-07	0710	0	5986	P	148	3497	P	FP
Post	4-18-07	0655	0	5970	P	152	3455	P	FP
Pre	4-18-07	0655	0	5970	P	152	3455	P	FP
Post	4-19-07	0700	0	5890	P	150	3600	P	FP
Pre	4-19-07	0700	0	5890	P	150	3600	P	FP
Post	4-23-07	0630	0	5937	P	157	4105	P	FP
Pre	4-23-07	0630	0	5937	P	157	4105	P	FP
Post	4-24-07	0635	0	6090	P	118	3755	P	FP
Pre	4-24-07	0635	0	6090	P	118	3755	P	FP
Post	4-25-07	0635	0	5950	P	131	3511	P	BD
Pre	4-25-07	0635	0	5950	P	131	3511	P	BD
Post	4-26-07	0635	0	5850	P	145	3610	P	BD
Pre	4-26-07	0635	0	5850	P	145	3610	P	BD
Post	4-27-07	0730	0	5898	P	114	3379	P	FP
Pre	4-27-07	0730	0	5898	P	114	3379	P	FP
Post	4-30-07	0630	0	5762	P	160	3405	P	FP
Pre	4-30-07	0630	0	5762	P	160	3405	P	FP
Post	5-1-07	0610	0	6070	P	120	3417	P	FP
Pre	5-1-07	0610	0	6070	P	120	3417	P	FP
Post	5-2-07	0600	0	5858	P	127	3336	P	FP
Pre	5-2-07	0600	0	5858	P	127	3336	P	FP
Post	5-3-07	0610	1	5429	P	123	3658	P	FP
Pre	5-3-07	0610	1	5429	P	123	3658	P	FP
Post	5-4-07	635	0	5873	P	134	3455	P	FP
Pre	5-4-07	635	0	5873	P	134	3455	P	FP
Post	5-7-07	0605	0	5559	P	137	3515	P	FP

Reviewed By (print and sign)	Date
	5-7-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: ~~4-16-07~~ 5-7-07 To: 5-24-07	020	PR244541

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (CPM)	Source Check (net)	P/F*	Background (CPM)	Source Check (net)	P/F*	RCT Initials
Pre	5-7-07	0605	0	5559	P	137	3515	P	FRP
Post	5-8-07	0615	0	5401	P	139	3683	P	FRP
Pre	5-8-07	0615	0	5401	P	139	3683	P	FRP
Post	5-9-07	0600	0	5680	P	140	3462	P	FRP
Pre	5-9-07	0600	0	5680	P	140	3462	P	FRP
Post	5-10-07	0600	0	5747	P	139	3382	P	FRP
Pre	5-10-07	0600	0	5747	P	139	3382	P	FRP
Post	5-11-07	0610	0	5662	P	151	3554	P	BD
Pre	5-11-07	0610	0	5662	P	151	3554	P	BD
Post	5-12-07	0600	0	5723	P	141	3372	P	BD
Pre	5-12-07	0600	0	5723	P	141	3372	P	BD
Post	5-13-07	0650	0	5358	P	137	3090	P	PJR
Pre	5-13-07	0650	0	5358	P	137	3090	P	PJR
Post	5-14-07	0610	0	5661	P	131	3124	P	PJR
Pre	5-14-07	0610	0	5661	P	131	3124	P	RD
Post	5-15-07	0605	1	5585	P	127	3415	P	FRP
Pre	5-15-07	0605	1	5585	P	127	3415	P	FRP
Post	5-16-07	0626	0 2 FRP 5-16-07	5412	P	156	3303	P	FRP
Pre	5-16-07	0620	0	5412	P	156	3303	P	FRP
Post	5-17-07	0620	0	6016	P	162	3423	P	PR
Pre	5-17-07	0620	0	6016	P	162	3423	P	PR
Post	5-21-07	0640	0	5778	P	121	3316	P	RD
Pre	5-21-07	0640	0	5778	P	121	3316	P	RD
Post	5-22-07	0620	0	5900	P	144	3550	P	PR
Pre	5-22-07	0620	0	5900	P	144	3550	P	PR
Post	5-23-07	6:10	0	5833	P	116	3784	P	FRP
Pre	5-23-07	6:10	0	5833	P	116	3784	P	FRP
Post	5.24.07	06:05	0	6482	P	140	3316	P	PR

Reviewed By (print and sign) [signature] [signature] Date 6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: ~~4-16-07~~ 5-24-07 BD To: 6-1-07	020	PR244541

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net)	P/F*	Background (cpm)	Source Check (net)	P/F*	RCT Initials
Pre	5.24.07	0605	0	6482	P	140	3316	P	PR
Post	5.29.07	0615	0	5779	P	136	3619	P	PR
Pre	5.29.07	0615	0	5779	P	136	3619	P	PR
Post	5.30.07	0605	0	5924	P	125	3168	P	PR
Pre	5.30.07	0605	0	5924	P	125	3168	P	PR
Post	5.31.07	0615	0	5146	P	135	3105	P	PR
Pre	5.31.07	0615	0	5146	P	135	3105	P	PR
Post	6.1.07	0610	0	5555	P	140	3317	P	~~KP~~ PR
Pre	6.1.07	0610	0	5555	P	140	3317	P	PR
Post	6-1-07	1700	0	5288	P	138	3205	P	JD
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post				N	A				
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Marc Weddell

Date 6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CTO-15	From: 4-26-07 To: 5-2-07	021

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
135008	Model 12	4-24-07	4-24-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR150641	L44-10	4-24-07	4-24-08	N/A	0.62 %

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
~~51592~~ BD N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
4-25-07	0800	Bob Dickerson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
N/A	N/A	4931	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net cpm)
1	N/A	BD ~~224,708~~ 219,977
2		BD ~~225,548~~ 220,617
3		220,003
4		218,611
5		219,254
6		219,119
7		218,749
8		219,052
9		218,593
10		219,155

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
219,313	263,176	175,450

Reviewed By (print and sign)	Date
Mark Weidler	6-12-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 4-26-07 To: 5-2-07	021	PR150641

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	4-26-07	0700				4902	219467	P	RD
Post	4-26-07	1500				5122	220,000	P	RD
Pre	7-30-07	0730				5122	220,000	P	RD
Post	5-2-07	0640				4905	238127	P	RD
Pre	5-2-07	0640				4905	238127	P	RD
Post	5-2-07	1700				5072	232,928	P	RD
Pre									
Post									
Pre									
Post									
Pre			NA						
Post									
Pre									
Post									
Pre							NA		
Post									
Pre									
Post	NA								
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Mark Weidner

Date 6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CT015	Dates Covered From: 3-23-07 To: 7-27-07	ESID Number: 012

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
1897	Micro Rem	2-16-07	2-16-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
N/A	N/A	N/A	N/A	N/A	N/A

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
3-23-07	0830	B. Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (μR):**	**Beta/Gamma Count Time (min):**
N/A	N/A	4	

Count Number	Alpha Source Count Rate (net)	δ ~~Beta~~ Sources Count Rate (net μR) 4-9-07
1	N A	1,996
2		2,096
3		1,996
4		1,996
5		2,096
6		1,996
7		1,996
8		2,096
9		1,996
10		1,996

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (netμR)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
2,026	2,431	1,621

Reviewed By (print and sign)	Date
	4-9-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA	Dates Covered From: 3-23-07 To: 5-10-07	ESID Number: 012	Probe Serial Number: 1897

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (uR)	Source Check (net uR)	P/F*	RCT Initials
Pre	3-26-07	1430				4	2,096	P	BD
Post	3-26-07	1600				5	2,096	P	BD
Pre	4.2.07	0810				7	2,000	P	
Post	4.2.07	1715				7	2000	P	
Pre	4.4.07	0655				7	2060	P	
Post	4-9-07	0830				5	2000	P	BD
Pre	4-9-07	0830				5	2000	P	BD
Post	4.23.07	0700				7	2000	P	
Pre	4.23.07	0700				7	2000	P	
Post	4.24.07	0650				7	2000	P	
Pre	4.24.07	0650	N	A		7	2000	P	
Post	4.26.07	0700				7	2000	P	
Pre	4.26.07	0700				7	2000	P	
Post	4.30.07	0635				7	2000	P	
Pre	4.30.07	0635				7	2000	P	
Post	5-1-07	0630				7	2000	P	
Pre	5-1-07	0630				7	2000	P	
Post	5-2-07	0610				7	2000	P	
Pre	5-2-07	0610				7	2000	P	
Post	5-3-07	0610				7	2000	P	
Pre	5-3-07	0610				7	2000	P	
Post	5-7-07	0615				7	2000	P	
Pre	5-7-07	0615				7	2000	P	
Post	5-8-07	0620				7	2000	P	
Pre	5-8-07	0620				7	2000	P	
Post	5-9-07	0615				7	2000	P	
Pre	5-9-07	0615				7	2000	P	
Post	5-10-07	0620				7	2000	P	

Reviewed By (print and sign)	Date
	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA	Dates Covered From: 3-23-07 To: 6-7-07	ESID Number: 012	Probe Serial Number: 1857

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background	Source Check (net)	P/F*	RCT Initials
Pre	5-10-07	0620				7	2000	P	
Post	5-14-07	0640				7	2000	P	
Pre	5-14-07	0640				7	2000	P	
Post	5-15-07	0630				7	2000	P	
Pre	5-15-07	0630				7	2000	P	
Post	5.17.07	0650				7	2000	P	PR
Pre	5.17.07	0650				7	2000	P	PR
Post	5-21-07	0620				5	1800	P	BD
Pre	5-21-07	0620				5	1800	P	BD
Post	5.22.07	0630				7	2000	P	PR
Pre	5-22-07	0630				7	2000	P	PR
Post	5.24.07	0620				7	2000	P	PR
Pre	5.24.07	0620				7	2000	P	PR
Post	5.29.07	0640				7	2000	P	
Pre	5.29.07	0640				7	2000	P	
Post	5.30.07	0620				7	2000	P	PR
Pre	5.31.07	0635				7	2000	P	PR
Post	5.31.07	0635				7	2000	P	
Pre	6-1-07	0625				7	2000	P	PR
Post	6-1-07	0625				7	2000	P	PR
Pre	6.4.07	0640				7	2000	P	
Post	6.4.07	0640				7	2000	P	
Pre	6.5.07	0630				7	2000	P	PR
Post	6.5.07	0630				7	2000	P	PR
Pre	6.6.07	0635				7	2000	P	
Post	6.6.07	0635				7	2000	P	
Pre	6.6.07	0635				7	2000	P	
Post	6.7.07	0605				7	2000	P	PR

Reviewed By (print and sign)	Date
	6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered 6-7-07 From: ~~3-23-07~~ DO 8-6-07 To: 7-6-07	ESID Number:	Probe Serial Number:
TCRA		012	1897

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm/100)	Source Check (net cpm/100)	P/F*	RCT Initials
Pre	6.7.07	0605				7	2000	P	PR
Post	6.11.07	0700				7	2000	P	PR
Pre	6.11.07	0700				7	2000	P	PR
Post	6.12.07	0605				7	2000	P	PR
Pre	6.12.07	0605				7	2000	P	PR
Post	6.13.07	0657				7	2000	P	PR
Pre	6.13.07	0650				7	2000	P	PR
Post	6.14.07	0605				7	2000	P	PR
Pre	6.14.07	0605				7	2000	P	PR
Post	6.19.07	0610				7	2000	P	PR
Pre	6.19.07	0610				7	2000	P	PR
Post	6.21.07	1030				5	2000	P	BD
Pre	6.21.07	1030	N			5	2000	P	BD
Post	6.25.07	0630				5	2000	P	PR
Pre	6.25.07	0630		A		5	2000	P	PR
Post	6.26.07	0700				7	2000	P	PR
Pre	6.26.07	0700				7	2000	P	PR
Post	~~6.26.07~~ 06.27.07	0610				5	2000	P	PR
Pre	6.27.07	0610				5	2000	P	PR
Post	6.28.07	0640				5	2000	P	PR
Pre	6.28.07	0640				5	2000	P	PR
Post	7.2.07	0610				7	2000	P	PR
Pre	7.2.07	0610				7	2000	P	PR
Post	7.3.07	0745				7	2100	P	PR
Pre	7.3.07	0745				7	2100	P	PR
Post	7.5.07	0620				5	2000	P	PR
Pre	7.5.07	0620				5	2000	P	PR
Post	7.6.07	0655				7	2000	P	PR

Reviewed By (print and sign)

Date 7-13-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA	From: 7.6.07 To: 7-26.07	612	1897

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ~~(net)~~	Source Check (net)	P/F*	RCT Initials
Pre	7.6.07	0655	NA	NA	NA	7	2000	P	[illegible]
Post	7.9.07	0605				7	2000	P	PR
Pre	7.9.07	0605				7	2000	P	PR
Post	7.10.07	0640				7	2000	P	[illegible]
Pre	7.10.07	0640				7	2000	P	[illegible]
Post	7.11.07	0605				7	2000	P	PR
Pre	7.11.07	0605				7	2000	P	PR
Post	7.12.07	0650				7	2000	P	[illegible]
Pre	7.12.07	0650				7	2000	P	[illegible]
Post	7.13.07	0625				5	2000	P	PR
Pre	7.13.07	0625				5	2000	P	PR
Post	7.16.07	0650				5	2000	P	[illegible]
Pre	7.16.07	0650				5	2000	P	[illegible]
Post	7.17.07	0615	N	A		7	2000	P	PR
Pre	7.17.07	0615				7	2000	P	PR
Post	7.18.07	0645				7	2000	P	[illegible]
Pre	7.18.07	0645				7	2000	P	[illegible]
Post	7.19.07	0620				6	1900	P	PR
Pre	7.19.07	0620				6	1900	P	PR
Post	7.20.07	0740				7	1900	P	[illegible]
Pre	7.20.07	0740				7	1900	P	[illegible]
Post	7.23.07	0615				7	2000	P	PR
Pre	7.23.07	0615				7	2000	P	PR
Post	7.24.07	0640				7	2000	P	[illegible]
Pre	7.24.07	0640				7	2000	P	[illegible]
Post	7.25.07	0605				7	2000	P	PR
Pre	7.25.07	0605				7	2000	P	PR
Post	7.26.07	0740				7	2000	P	[illegible]

Reviewed By (print and sign) [illegible] Date 8-1-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA	From: 7-26-07 To: 7-27-07	012	1897

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (MPC)	Source Check (net MPC)	P/F*	RCT Initials
Pre	7-26-07	0930				7	1993	P	[illegible]
Post	7-27-07	0620				5	1995	P	[illegible]
Pre	7-27-07	0620				5	1995	P	[illegible]
Post	7.27-07	1530				5	1995	~~P~~ P	BD
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post	NA						NA		
Pre									
Post									
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Pre									
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Post									
Pre									
Post									

NA

Reviewed By (print and sign)	Date
Marc Weinrich	8-8-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CD-15	Dates Covered From: 3-23-07 To: 6-18-07	ESID Number: 013

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
190204	L2221	3-21-07	3-21-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR240362	L44-10	3-21-07	3-21-08	N/A	0.71 %

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
3-23-07	1030	B. Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
N/A	N/A	6,256	1

Count Number	Alpha Source Count Rate (net)	~~Beta~~ Sources Count Rate (net cpm)
1	N/A	492,792
2		490,243
3		491,088
4		491,617
5		491,875
6		489,127
7		497,819
8		494,662
9		499,489
10		496,851

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
493,556	592,268	394,845

Reviewed By (print and sign)	Date
	4/1/07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CD-15	Dates Covered From: 3-23-07 To: 4-23-07	ESID Number: 013	Probe Serial Number: PR240362

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	3-24-07	0750				5908	497,540	P	BD
Post	3-24-07	1330				5,500	499,500	P	BD
Pre	3.26.07	0800				3,189	444,855	P	FRP
Post	3-26-07	0930				5,202	449,355	P	BD
Pre	3-29-07	1000				5586	428684	P	BD
Post	3-29-07	1600				5231	464372	P	FRP
Pre	4.2.07	0800				5138	440486	P	FRP
Post	4.2.07	1700				5107	474199	P	FRP
Pre	4.3.07	0650				5008	476078	P	FRP
Post	4.4.07	0650				5466	436652	P	FRP
Pre	4.5.07	0650	N/A			5478	441620	P	FRP
Post	4-9-07	0840				5235	450450	P	BD
Pre	4-9-07	0840				5235	450450	P	BD
Post	4-10-07	0740				5225	454175	P	JW
Pre	4-10-07	0740				5225	454175	P	JW
Post	4-11-07	0635				5238	425981	P	JW
Pre	4-11-07	0635				5238	425981	P	JW
Post	4.12.07	0645				5278	483193	P	JW
Pre	4.12.07	0645				5278	483193	P	JW
Post	4-16-07	0720				5232	436,009	P	BD
Pre	4.16.07	0720				5232	436,009	P	FRP
Post	4.16.07	1700				5107	449107	P	FRP
Pre	4.17.07	0645				5107	449107	P	FRP
Post	4.18.07	0655				5003	445K	P	FRP
Pre	4.18.07	0655				5003	445K	P	FRP
Post	4.19.07	0700				5115	451K	P	FRP
Pre	4.19.07	0700				5115	451K	P	FRP
Post	4.23.07	0645				5532	464774	P	FRP

Reviewed By (print and sign) [signature]

Date [signature]

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 3-23-07 To: 5-15-07	013	PR-240362

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (CPM)	Source Check (net CPM)	P/F*	Background (CPM)	Source Check (net CPM)	P/F*	RCT Initials
Pre	4.23.07	0645				5537	464774	P	FAP
Post	4-24-07	0605				4952	454515	P	FAP
Pre	4-24-07	0605				4952	454515	P	FAP
Post	4-25-07	0645				5396	478920	P	BD
Pre	4-25-07	0645				5396	478920	P	BD
Post	4.26.07	0645				5208	417839	P	FAP
Pre	4.26.07	0645				5208	417839	P	FAP
Post	4.30.07	0640				5221	469848	P	FAP
Pre	4.30.07	0640				5224	463948	P	FAP
Post	~~4.30.07~~ 5-1-07	0645				4831	453708	P	FAP
Pre	~~4.30.07~~ 5-1-07	0645				4831	453708	P	FAP
Post	5-2-07	0630				5363	442751	P	FAP
Pre	5-2-07	0630				5363	442751	P	FAP
Post	5-3-07	0605		A		5133	436355	P	FAP
Pre	5-3-07	0605		N		5133	436355	P	FAP
Post	5-4-05	0630				5168	435194	P	FAP
Pre	5-4-05	0630				5168	435194	P	FAP
Post	5-7-07	0620				5009	428813	P	FAP
Pre	5-7-07	0620				5009	428813	P	FAP
Post	5-8-07	0610				5587	426326	P	FAP
Pre	5-8-07	0615				5582	426326	P	FAP
Post	5-9-07	0610				5192	446879	P	FAP
Pre	5-9-07	0610				5192	446879	P	FAP
Post	5-10-07	0615				4995	449363	P	FAP
Pre	5-10-07	0615				4995	449363	P	FAP
Post	5-14-07	0630				5029	445502	P	FAP
Pre	5-14-07	0630				5029	445502	P	FAP
Post	5-15-07	0630				4949	421206	P	FAP

FAP 5-1-07

Reviewed By (print and sign)	Date
	5-15-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO-15	From: 3-23-07 To: 6-7-07	013	PR240362

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	5-15-07	0630				4949	421206	P	
Post	5-16-07	0630				5497	449875	P	
Pre	5-16-07	0605				5497	449875	P	
Post	5-17-07	0630				5218	442736	P	
Pre	5-17-07	0730				5218	442736	P	
Post	5-21-07	0635				5370	487235	P	
Pre	5-21-07	0635				5370	487235	P	
Post	5-22-07	0630				5569	473345	P	
Pre	5-22-07	0630				5569	473345	P	
Post	5-23-07	0630		A		5170	451584	P	
Pre	5-23-07	0630	N			5170	451584	P	
Post	5-24-07	0625				5429	481299	P	
Pre	5-24-07	0625				5429	481299	P	
Post	5-29-07	0635				5219	452057	P	
Pre	5-29-07	0635				5219	452057	P	
Post	5-30-07	0630				5107	448866	P	
Pre	5-30-07	0630				5107	448866	P	
Post	5-31-07	0630				4976	433131	P	
Pre	5-31-07	0630				4976	433131	P	
Post	6-1-07	0620				5722	412059	P	
Pre	6-1-07	0620				5722	412059	P	
Post	6-4-07	0630				5149	462381	P	
Pre	6-4-07	0630				5149	462381	P	
Post	6-5-07	0615				5452	462084	P	
Pre	6-5-07	0615				5452	462084	P	
Post	6-6-07	0630				5211	451592	P	
Pre	6-6-07	0630				5211	451592	P	
Post	6-7-07	0615				5373	421769	P	

Reviewed By (print and sign)

Date 6-19-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTO-15	Dates Covered From: 3-23-07 To: 6-18-07	ESID Number: 013	Probe Serial Number: PR240362

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	4/7/07	0615				5373	421769	P	PR
Post	6-11-07	0630				4948	439549	P	PR
Pre	6-11-07	0630				4948	439549	P	PR
Post	6-12-07	0610				5460	Not	P	PR
Pre	6-12-07	0610				5460	USED	P	PR
Post	6-18-07	0730				5222	442760	P	PR
Pre	6-18-07	0730				5222	442760	P	PR
Post	6-18-07	1730				5410	440690	P	BD
Pre									
Post									
Pre									
Post			N						
Pre									
Post									
Pre				A					
Post									
Pre							N A		
Post									
Pre	N	A							
Post									
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Post									

Reviewed By (print and sign) Mark Weidler Mark Weidler

Date 6/18/07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA GJO-15	Dates Covered From: 3-23-07 To: 6-27-07	ESID Number: 014

Instrument/Probe Information

Instrument Serial Number: 184009 ~~L2221~~	Instrument Type: L2221	Calibration Date: 3-21-07	Calibration Due Date: 3-21-08		
Probe Serial Number: PR240366	Probe Type/Model: L 44-10	Calibration Date: 3-21-07	Calibration Due Date: 3-21-08	Alpha Eff: N/A	Beta/Gamma Eff: 0.66%

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A	N/A	N/A	N/A

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co 60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:
3-23-07	1130	B. Dickenson

Alpha Background ( ):	Alpha Count Time (min):	Beta/Gamma Background (cpm):	Beta/Gamma Count Time (min):
N/A	N/A	5,657	1

Count Number	Alpha Source Count Rate (net)	~~Beta~~ Sources Count Rate (net cpm)
1	N A	281,493
2		281,384
3		280,407
4		280,979
5		280,939
6		281,009
7		281,240
8		281,223
9		281,407
10		281,323

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		

Mean Beta Source Net Measurement (net cpm)	Beta/Gamma Upper Bound (average + 20%)	Beta/Gamma Lower Bound (average - 20%)
281,140	337,368.	224,912

Reviewed By (print and sign)	Date
Marc Wendt	6-1-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CD-1/5	Dates Covered From: 3-23-07 To: 5-10-07	ESID Number: 014	Probe Serial Number: PR240366

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	3-24-07	0800				5784	284,812	P	BD
Post	3-24-07	1330				5,610	284,390	P	BD
Pre	3-26-07	0805				3342	260,672	P	PB
Post	3-26-07	1400				5,207	286,465	P	BD
Pre	~~3-29-07~~	~~1100~~				~~5,586~~			BD
Post	4-23-07	0650				4936	261310	P	BD
Pre	4.23.07	0650				4936	261310	P	PB
Post	4-24-07	0610				4845	289899	P	BD
Pre	4-24-07	0610				4845	289899	P	BD
Post	4-25-07	0650				4923	288605	P	BD
Pre	4-25-07	0650	N	A		4923	288605	P	DD
Post	4.26.07	0640				5212	268679	P	PB
Pre	4.26.07	0640				5110	268679	P	PB
Post	4.30.07	0646				4994	286154	P	PB
Pre	4.30.07	0640				4994	286154	P	PB
Post	5-1-07	0620				4831	286341	P	PB
Pre	5-1-07	0620				4831	286341	P	PB
Post	5-2-07	0636				5363	268049	P	PB
Pre	5-2-07	0630				5363	268049	P	PB
Post	5-3-07	0605				4915	269173	P	PB
Pre	5-3-07	0605				4915	269173	P	PB
Post	5-7-07	0615				4950	267738	P	PB
Pre	5-7-07	0615				4950	267738	P	PB
Post	5-8-07	0615				5245	267990	P	PB
Pre	5-8-07	0615				5245	267990	P	PB
Post	5-9-07	0610				5227	289053	P	PB
Pre	5-9-07	0610				5227	289053	P	PB
Post	5-10-07	0610				4865	254934	P	PB

Reviewed By (print and sign)	Date
	6-12-07

RTS
Environmental Survey Instrument Data Sheet

Project: TCRA CTO-15	Dates Covered From: 3-23-07 To: 6-5-07	ESID Number: 014	Probe Serial Number: PR240366

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background (cpm)	Source Check (netcpm)	P/F*	RCT Initials
Pre	5-10-07	0600				4865	254934	P	PR
Post	5-14-07	0600				5316	280517	P	PR
Pre	5-14-07					5316	280512	P	PR
Post	5-15-07					5248	255371	P	PR
Pre	5-15-07					5248	255301	P	PR
Post	5-16-07					5111	269386	P	PR
Pre	5-16-07					5111	269389	P	PR
Post	5-17-07					5003	254307	P	PR
Pre	5-17-07					5003	254300	P	PR
Post	5-21-07			A		5045	255399	P	PR
Pre	5-21-07		N			5045	255399	P	PR
Post	5-22-07					5549	283065	P	PR
Pre	5-22-07					5549	283065	P	PR
Post	5-23-07					4715	269 389	P	PR
Pre	5-23-07					4715	269 389	P	PR
Post	5-24-07	0620				5353	285140	P	PR
Pre	5-24-07	0620				5353	285140	P	PR
Post	5-29-07	0630				5292	262058	P	PR
Pre	5-29-07	0630				5292	262058	P	PR
Post	5-30-07	0620				4961	269873	P	PR
Pre	5-30-07	0620				4961	269873	P	PR
Post	5-31-07	0630				5101	253801	P	PR
Pre	5-31-07	0630				5101	253861	P	PR
Post	6-1-07	0620				5278	267329	P	PR
Pre	6-1-07	0620				5278	267329	P	PR
Post	6-4-07	0630				5144	233310	P	PR
Pre	6-4-07	0630				5144	233310	P	PR
Post	6-5-07	0615				5615	259695	P	PR

Reviewed By (print and sign)	Date
	6-9-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
TCRA CTO-15	From: 3-23-07 To: 6-27-07	014	PR240366

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	6-5-07	0615				5615	259695	P	PR
Post	6-6-07	0620				4598	256071	P	PR
Pre	6-6-07	0620				4598	256071	P	
Post	6-7-07	0615				4752	243340	P	PR
Pre	6-7-07	0615				4752	243340	P	PR
Post	6-11-07	0700				4959	257280	P	PR
Pre	6-11-07	0700				4959	257280	P	PR
Post	6-12-07	0610				5619	241990	P	PR
Pre	6-12-07	0610				5619	241990	P	PR
Post	6-13-07	0645				5509	257806	P	PR
Pre	6-13-07	0645				5509	257806	P	PR
Post	6-14-07	0615				4878	251977	P	PR
Pre	6-14-07	0615				4878	251977	P	PR
Post	6-18-07	0730				5105	249905	P	PR
Pre	6-18-07	0730		N A		5105	249905	P	PR
Post	6-19-07	0625				5303	254505	P	PR
Pre	6-19-07	0625				5303	254505	P	PR
Post	6-20-07	1430				5250	267132	P	PR
Pre	6-20-07	1430				5250	267132	P	PR
Post	6-21-07	0650				5159	254237	P	PR
Pre	6-21-07	0650				5159	254237	P	PR
Post	6-25-07	0620				5554	264895	P	PR
Pre	6-25-07	0620				5554	264895	P	PR
Post	6-27-07	0630				5257	246853	P	PR
Pre	6-27-07	0630				5257	246853	P	PR
Post	6-27-07	1730				5330	255670	P	PR
Pre	N						N		
Post		A						A	

Reviewed By (print and sign)

Date 6-27-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CTO 15	From: 7-11-07 To: 7-27-07	029

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
227393	L2360	4-9-07	4-9-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244541	L43-93	4-9-07	4-9-08	17.96%	28.12% S=80

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	TH 230	31,996 dPM	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
7-11-07	1530	GM WINDER / GM Winder	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (~~DET~~):**	**Beta/Gamma Count Time (min):**
0	1	117	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	5638	3167
2	5634	3080
3	5116	3089
4	5712	3021
5	5703	2992
6	5775	3045
7	5851	3069
8	5880	3034
9	5681	3153
10	5727	3194

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
5672	6806	4537.6
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
3084	3701	~~2220~~ 2467

Reviewed By (print and sign)	Date
Mark Weinstein	7-11-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 7-12-07 To: 7-27-07	029	PR244 541

Operational Checks

			Alpha			Beta/Gamma			RCT Initials
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	
Pre	7-12-07	0625	0	5664	P	135	3226	P	[illegible]
Post	~~7-13-07~~	~~0625~~	~~0~~	~~5664~~	~~P~~	~~135~~	~~3226~~	~~P~~	7/12/07 PR
Pre	~~7-13-07~~	~~0630~~	~~0~~		~~P~~	131		P	7/12/07 PR
Post	7-13-07	0630	0	5527	P	131	3211	P	PR
Pre	7-13-07	0630	0	5527	P	131	3211	P	PR
Post	7-16-07	0610	0	5598	P	125	3428	P	[illegible]
Pre	7-16-07	0610	0	5598	P	125	3428	P	[illegible]
Post	7-17-07	0630	0	5394	P	127	3660	P	PR
Pre	7-17-07	0630	0	5394	P	127	3660	P	PR
Post	7-18-07	0605	0	5682	P	121	PR ~~3445~~ 3458	P	[illegible]
Pre	7-18-07	0605	0	5682	P	121	3458	P	[illegible]
Post	7-19-07	0610	0	5492	P	127	3253	P	PR
Pre	7-19-07	0610	0	5492	P	127	3253	P	PR
Post	7-20-07	0650	0	5401	P	138	3484	P	[illegible]
Pre	7-20-07	0650	0	5401	P	138	3484	P	[illegible]
Post	7-23-07	0620	0	5731	P	128	3025	P	PR
Pre	7-23-07	0620	0	5731	P	128	3025	P	PR
Post	7-24-07	0630	0	5815	P	137	3119	P	[illegible]
Pre	7-24-07	0630	0	5815	P	137	3119	P	[illegible]
Post	7-25-07	0615	0	5772	P	152	3310	P	PR
Pre	7-25-07	0615	0	5772	P	152	3310	P	PR
Post	7-26-07	0615	0	5698	P	138	3407	P	[illegible]
Pre	7-26-07	0615	0	5698	P	138	3407	P	[illegible]
Post	7-27-07	0630	0	5830	P	118	3322	P	PR
Pre	7-27-07	0630	0	5830	P	118	3322	P	PR
Post	7-27-07	1700	0	5722	P	124	3378	P	BD
Pre	N/								
Post	/A								

Reviewed By (print and sign) [signature]

Date 7-27-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:
CTO 15	From: 5-12-07 To: 7-13-07	025

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
237276	L2360	4-23-07	4-23-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
PR244554	L4393	4-23-07	4-23-08	19.7%	29.1% Sr90

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
1836-94	Th230	31,996 dpm	3-20-07

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
93TC470	Tc 99	28,999 dpm	3-20-07

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
5-12-07	0840	Bob Dickenson	
Alpha Background (cpm):	**Alpha Count Time (min):**	**Beta/Gamma Background (cpm):**	**Beta/Gamma Count Time (min):**
0	1	165	1

Count Number	Alpha Source Count Rate (net cpm)	Beta Sources Count Rate (net cpm)
1	7038	4015
2	7017	3988
3	6875	4059
4	6933	3962
5	7021	3915
6	6798	4051
7	6867	4020
8	6903	3985
9	7042	4017
10	6881	4067

Mean Alpha Source Net Measurement (net cpm)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
6,938	8,325	5,550
Mean Beta Source Net Measurement (net cpm)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
4,008	4,810	3,206

Reviewed By (print and sign)	Date
MARC WEISMAN	5-23-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 5-12-07 To:	025	PR244554

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	5-14-07	0605	0	5830	P	155	3981	P	[illegible]
Post	5-15-07	0610	0	5955	P	161	3881	P	[illegible]
Pre	5-15-07	0610	0	5955	P	161	3881	P	[illegible]
Post	5-16-07	0615	0	5957	P	168	3926	P	[illegible]
Pre	5-16-07	0615	0	5957	P	168	3926	P	[illegible]
Post	5-17-07	0620	0	6003	P	169	4019	P	PR
Pre	5-17-07	0620	0	6003	P	169	4019	P	PR
Post	5-21-07	0645	0	6046	P	158	3805	P	BD
Pre	5-21-07	0645	0	6046	P	158	3805	P	BD
Post	5-22-07	0730	0	5888	P	175	3939	P	[illegible]
Pre	5-22-07	0730	0	5888	P	175	3939	P	[illegible]
Post	5-23-07	0615	0	6088	P	162	3781	P	[illegible]
Pre	5-23-07	0615	0	6088	P	162	3781	P	[illegible]
Post	5-24-07	0615	0	5961	P	146	3615	P	PR
Pre	5-24-07	0615	0	5961	P	146	3615	P	PR
Post	5-29-07	0620	0	5950	P	168	3900	P	[illegible]
Pre	5-29-07	0620	0	5956	P	168	3900	P	[illegible]
Post	5-30-07	0605	0	5785	P	159	3583	P	PR
Pre	5-30-07	0605	0	5785	P	159	3583	P	PR
Post	5-31-07	0610	0	5871	P	157	3605	P	[illegible]
Pre	5-31-07	0610	0	5871	P	157	3605	P	[illegible]
Post	6-1-07	0610	0	6202 4542 PSR	P	172	3376	P	PR
Pre	6-1-07	0610	0	6202 4542 PSR	P	172	3376	P	PR
Post	6-4-07	0615	0	5837	P	174	4169	P	BD
Pre	6-4-07	0615	0	5837	P	174	4169	P	BD
Post	6-5-07	0610	0	5867	P	159	3720	P	PR
Pre	6-5-07	0610	0	5867	P	159	3720	P	PR
Post	6-6-07	0605	0	5921	P	174	3974	P	[illegible]

Reviewed By (print and sign) [illegible] Date 6-9-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered 6.6.07	ESID Number:	Probe Serial Number:
CTO15	From: ~~5-12-07~~ To: 6.25.07	025	PR244554

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net)	P/F*	Background (cpm)	Source Check (net)	P/F*	RCT Initials
Pre	6.6.07	0605	0	5921	P	174	3914	P	
Post	6.7.07	0625	0	6023	P	165	3689	P	PR
Pre	6.7.07	0625	0	6023	P	165	3689	P	PR
Post	6.8.07	0730	0	5880	P	175	4088	P	
Pre	6.8.07	0730	0	5880	P	175	4088	P	
Post	6.11.07	0610	0	5863	P	171	3793	P	
Pre	6.11.07	0610	0	5863	P	171	3793	P	
Post	6.12.07	0610	0	5922	P	171	3740	P	PR
Pre	6.12.07	0610	0	5922	P	171	3740	P	PR
Post	6.13.07	0615	0	5708	P	169	3960	P	
Pre	6.13.07	0615	0	5708	P	169	3960	P	
Post	~~6.14.07~~	~~0610~~	~~0~~		P	~~176~~	~~4117 cpm~~	P	~~PR cpm~~
Pre	~~6.14.07~~	~~0610~~	~~0~~		P	~~176~~	~~4117 cpm~~	P	~~PR cpm~~
Post	6.14.07	0610	0	5934	P	176	3733	P	PR
Pre	6.14.07	0610	0	5934	P	176	3733	P	PR
Post	6.15.07	0715	0	5570	P	153	3678	P	PR
Pre	6.15.07	0715	0	5570	P	153	3678	P	PR
Post	6.18.07	0610	0	5870	P	172	3955	P	
Pre	6.18.07	0610	0	5870	P	172	3955	P	
Post	6.19.07	0610	0	5870	P	164	4201	P	PR
Pre	6.19.07	0610	0	5870	P	164	4201	P	PR
Post	6.20.07	1345	0	5854	P	169	3454	P	PR
Pre	6.20.07	1345	0	5854	P	169	3454	P	PR
Post	6.21.07	0610	0	5763	P	138	4027	P	
Pre	6.21.07	0610	0	5763	P	138	4027	P	
Post	6.22.07	0725	0	6258	P	140	3780	P	
Pre	6.22.07	0725	0	6258	P	140	3788	P	
Post	6.25.07	0610	0	5796	P	161	3824	P	PR

Reviewed By (print and sign) MARC WEBSTER

Date 7-13-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered From: ~~5-12-07~~ 06-25-07 To: 7-13-07	ESID Number:	Probe Serial Number:
CTO 15		025	PR244554

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	06.25.07	0610	0	5796	P	161	3826	P	PR
Post	6.26.07	0600	0	6138	P	175	3912	P	FWP
Pre	6.26.07	0600	0	6138	P	175	3912	P	FWP
Post	6.27.07	0605	0	6658	P	150	3607	P	PR
Pre	6.27.07	0605	~~PR 0~~ 0	6658	P	150	3607	P	PR
Post	6.28.07	0605	0	5842	P	153	3906	P	FWP
Pre	6.28.07	0605	0	5842	P	153	3906	P	FWP
Post	6.29.07	0710	0	~~PR 59~~ 5693	P	171	3404	P	PR
Pre	6.29.07	0710	0	5693	P	171	3404	P	PR
Post	7.2.07	0625	0	5821	P	154	4210	P	PR
Pre	7.2.07	0625	0	5821	P	154	4210	P	PR
Post	7.3.07	0620	0	6178	P	165	3789	P	FWP
Pre	7.3.07	0620	0	6178	P	165	3789	P	FWP
Post	7.5.07	0640	0	5676	P	158	3909	P	PR
Pre	7.5.07	0640	0	5676	P	158	3909	P	PR
Post	~~7.13.07~~	~~0630~~	~~0~~		~~P~~	~~129~~		~~P~~	PR
Pre	~~7.13.07~~	~~0630~~	~~0~~		~~P~~	~~129~~		~~P~~	PR
Post	7.13.07	0630	0	5772	P	129	3850	P	ED
Pre									
Post									
Pre									
Post									
Pre				N	A				
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign)	Date
Marc Weinberg	7/13/07

ALPHA

MODEL NUMBER	L2929	INSTRUMENT SERIAL NUMBER	236402	CALIBRATION DUE DATE	9-14-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{X}_n - \bar{}$ =	$(X_n - \bar{})^2$
1	9287	-253	64,009
2	9470	-70	4900
3	9543	3	9
4	9484	-56	3136
5	9599	59	3481
6	9724	184	33,856
7	9622	82	6724
8	9591	51	2601
9	9365	-175	30,625
10	9368	-172	29,584
11	9499	-41	1681
12	9585	45	2025
13	9539	-1	1
14	9527	-13	169
15	9628	88	7744
16	9392	-148	21,904
17	9584	44	1936
18	9684	144	20,736
19	9698	158	24,964
20	9605	65	4225
SUM	190794		264310

X_b =

$\Sigma(X_n - \bar{})^2$ =

ΣX_n =

$$\text{Chi-Squared} = \frac{\Sigma(X_n - \bar{})^2}{\Sigma X_n}$$

Chi-Squared = 1.385

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{})$.....NET COUNT - AVERAGE

$(X_n - \bar{})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

BETA

MODEL NUMBER	L2929	INSTRUMENT SERIAL NUMBER	236402	CALIBRATION DUE DATE	9-14-08

CHI – SQUARED

(Example)

	$X - X_b$ X_n	$\bar{X}_n - \bar{}$ =	$(X_n - \bar{})^2$
1	4001	-26	676
2	4054	27	729
3	3987	-40	1600
4	4000	-27	729
5	4155	128	16384
6	3974	-53	2809
7	4029	2	4
8	4093	66	4356
9	3902	-125	15625
10	4108	81	6561
11	4040	13	16
12	4051	24	576
13	3941	-86	7396
14	4010	-17	289
15	4106	79	6241
16	3999	-28	784
17	4036	9	81
18	3907	-120	14,400
19	4066	39	1521
20	4076	49	2401
SUM	80535		83178

X_b =

$\Sigma(X_n - \bar{})^2$ =

ΣX_n =

$$\text{Chi-Squared} = \frac{\Sigma(X_n - \bar{})^2}{\Sigma X_n}$$

Chi-Squared = 1.0328

If Chi-Squared value is between 0.508 and 1.5072, then instrument is good.

If Chi-Squared value does not fall between 0.508 and 1.5072, repeat procedure.

X.....GROSS COUNTS

X_n.....GROSS COUNTS - BACKGROUND COUNTS

$\bar{}$.....AVERAGE OF 20 COUNTS

$(X_n - \bar{})$.....NET COUNT - AVERAGE

$(X_n - \bar{})^2$.....SQUARE OF THE ABOVE ANSWER

$\Sigma(X_n - \bar{})^2$.....SUM OF THE ABOVE SQUARES

ΣX_n.....SUM OF THE ORIGINAL COUNTS

DAILY SCALER LOG

MODEL: 2929 SERIAL NUMBER: 235402 CAL. DUE: 9-1408

SOURCE INFORMATION:

ALPHA SOURCE #: 183694 ISOTOPE: TH 230 SOURCE ACTIVITY: 31,996 DPM

BETA SOURCE #93TC470 ISOTOPE: TC99 SOURCE ACTIVITY: 28,999 DPM

$$EFF = \frac{SOURCE\ COUNTS}{ACTIVITY\ OF\ SOURCE}$$

$$MDA = \frac{3 + 3.29\sqrt{RbTs + B(1 + Ts + b/Tb)}}{(EFF * 0.25 * Ts + b)}$$

BKG BACKGROUND COUNTS	Rb BACKGROUND CPM	CTO 15 & 28 PROJECTS MDA LIMIT
SCT SAMPLE COUNT TIME	Tb BACKGROUND COUNT TIME	< 20 DPM ALPHA
EFF EFFICIENCY	Ts+b SAMPLE COUNT TIME	< 200 DPM BETA/GAMMA

DATE	BKG	SOURCE COUNTS	EFF	MDA	INITIALS
9-21-07	.4/28	10344/4189	.323/.144	39/27 20/241 ✱	
9-22-07	.1/26	10056/4154	.314/.143	27/27 14/251 ✱	
9-24-07	.05/25	9863/4276	.308/.147	12/240 ✱	
9-25-07	.1/25	9761/4213	.305/.145	15/243 ✱	
9-26-07	.05/24	10235/4201	.320/.145	12/239 ✱	
~~9-26-07~~ 9-27-07 (Master)	.05/23	9903/4165	.310/.144	12/236 ✱	
9-28-07	.1/25	10298/4208	.322/.145	14/243 ✱	
9-29-07	.05/25	9888/4314	.309/.149	12/236 ✱	
10-1-07	.05/24	9748/4240	.305/.146	✱	

✱ uppond Review scaller has mal function all survey have been recounted on scaller #37

RTS
Environmental Survey Instrument Data Sheet

Page 1 of ___

Project:	Dates Covered From:	To:	ESID Number:
CTO15	5-30-07		027

Instrument/Probe Information

Instrument Serial Number:	Instrument Type:	Calibration Date:	Calibration Due Date:		
1920	Micro Rem	5-7-07	5-7-08		
Probe Serial Number:	**Probe Type/Model:**	**Calibration Date:**	**Calibration Due Date:**	**Alpha Eff:**	**Beta/Gamma Eff:**
N/A					

Alpha Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
N/A			

Beta/Gamma Source Information

Source Number:	Source Isotope:	Source Activity:	Assay Date:
51592	Co 60	947.4 nCi	6-1-04

Instrument Response Check

Date:	Time:	RCT Name/Signature:	
5-30-07	1600	Bob Dickenson	
Alpha Background ( ):	**Alpha Count Time (min):**	**Beta/Gamma Background (uR/h):**	**Beta/Gamma Count Time (min):**
N/A	N/A	4	1

Count Number	Alpha Source Count Rate (net)	Beta Sources Count Rate (net uR/h)
1	N/A	2,000
2		1,900
3		1,900
4		2,000
5		2,000
6		2,000
7		1,900
8		2,000
9		2,000
10		1,900

Mean Alpha Source Net Measurement (net)	Alpha Upper Bound (average + 20%)	Alpha Lower Bound (average - 20%)
N/A		
Mean Beta Source Net Measurement (net uR/h)	**Beta/Gamma Upper Bound (average + 20%)**	**Beta/Gamma Lower Bound (average - 20%)**
1960	2352	1568

Reviewed By (print and sign)	Date
Lawrence Casey	9-12-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CT015	From: 8-14-07 To: 9-6-07	027	1920

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background (cpm)	Source Check (net cpm)	P/F*	Background (cpm)	Source Check (net cpm)	P/F*	RCT Initials
Pre	8-14-07	0730				5	1995	P	BD
Post	8-15-07	0825				5	1895	P	PR
Pre	8-15-07	0825				5	1895	P	PR
Post	8-16-07	0755				7 ~~10~~ 8-16-07	1795	P	PR
Pre	8-16-07	0755				7 ~~10~~ 8-16-07	1795	P	PR
Post	8-20-07	0617				7	1793	P	PR
Pre	8-20-07	0617	N			7	1793	P	PR
Post	8-21-07	0630				7	1993	P	WP
Pre	8-21-07	0630				7	1993	P	WP
Post	8-22-07	0625				7	1993	P	PR
Pre	8-22-07	0625				7	1993	P	PR
Post	8-23-07	0625				7	1893	P	WP
Pre	8-23-07	0625				7	1893	P	WP
Post	8-24-07	0625				7	1893	P	PR
Pre	8-24-07	0625				7	1893	P	PR
Post	8-27-07	0810				7	1793	P	WP
Pre	8-27-07	0810				7	1793	P	WP
Post	8-28-07	0610				7	1893	P	PR
Pre	8-28-07	0610			A	7	1893	P	PR
Post	8-29-07	0620				7	1893	P	WP
Pre	8-29-07	0620				7	1893	P	WP
Post	8-30-07	0630				7	1893	P	PR
Pre	8-30-07	0630				7	1893	P	PR
Post	9-4-07	0610				7	1893	P	WP
Pre	9-4-07	0610				7	1893	P	WP
Post	9-5-07	0800				7	1893	P	WP
Pre	9-5-07	0800				7	1893	P	WP
Post	9-6-07	0730				7	1893	P	WP

Reviewed By (print and sign)	Date
Lawrence Casey / LCC	9-17-07

RTS
Environmental Survey Instrument Data Sheet

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTDLS	From: 9-6-07 To:	027	1920

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	9.6.07	0730				7	1893	P	
Post	9.7.07	0730				7	1893	P	
Pre	9.7.07	0730				7	1853	P	
Post	9-0-07	0630				7	1793	P	
Pre	9-10-07	0630				7	1793	P	
Post	9-10-07	0630				7	1893	P	
Pre	9-11-07	0630				7	1893	P	
Post	9-12-07	0630				7	1793	P	
Pre	9-12-07	0630				7	1793	P	
Post	9-13-07	0630				7	1843	P	
Pre	9-13-07	0630	N	A		7	1843	P	
Post	9.14.07	0640				7	1793	P	
Pre	9.14.07	0640				7	1793	P	
Post	9.17.07	0650				7	1793	P	
Pre	9.17.07	0650				7	1793	P	
Post	9.18.07	0640				7	1793	P	
Pre	9.18.07	0640				7	1793	P	
Post	9.24.07	0630				7	1793	P	
Pre	9.25.07	0630				7	1793	P	
Post	9.25.07	0650				7	1793	P	
Pre	9.26.07	0650				7	1793	P	
Post	9.26.07	0630				7	1793	P	
Pre	9.27.07	0630				7	1793	P	
Post	9.27.07	0645				7	1793	P	
Pre	10.1.07	0645				7	1793	P	
Post	10.1.07	0650				7	1793	P	
Pre	10.2.07	0650				7	1793	P	
Post	10.3.07	0655				7	1753	P	

Reviewed By (print and sign) Lawrence Casey

Date 11-6-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO15	From: 10.3.07 To:	027	1926

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10.3.07	0655				7	1793	P	PP
Post	10.4.07	0700				7	1793	P	PP
Pre	10.4.07	0700				7	1793	P	PP
Post	10.5.07	0730				7	1793	P	PP
Pre	10.5.07	0700				7	1793	P	PP
Post	10.6.07	0700				7	1793	P	PP
Pre	10.6.07	0700				7	1793	P	PP
Post	10.8.07	0650				7	1793	P	PP
Pre	10.8.07	0650				7	1793	P	PP
Post	10.9.07	0640				7	1793	P	PP
Pre	10.9.07	0640				7	1793	P	PP
Post	10.10.07	0630				7	1793	P	QJ
Pre	10.10.07	0630				7	1793	P	QJ
Post	10.11.07	0630		N A		7	1793	P	QJ
Pre	10.11.07	0630				7	1793	P	QJ
Post	10.12.07	0600				7	1793	P	QJ
Pre	10.12.07	0600				7	1793	P	QJ
Post	10.16.07	0700				7	1793	P	PP
Pre	10.16.07	0700				7	1793	P	PP
Post	10.17.07	0640				5	1600	P	QJ
Pre	10.17.07	0640				5	1600	P	QJ
Post	10.19.07	0600				7	1600	P	QJ
Pre	10.19.07	0600				7	1600	P	QJ
Post	10.20.07	0600				7	1750	P	QJ
Pre	10.20.07	0600				7	1756	P	QJ
Post	10.22.07	0640				7	1793	P	PP
Pre	10.22.07	0640				7	1793	P	PP
Post	10.23.07	0600				7	1700	P	QJ

Reviewed By (print and sign) Laurence Casey LC

Date 11-21-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 10307 To:	027	1920

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net)	P/F*	RCT Initials
Pre	10230	0600				7	1700	P	JJ
Post	10.26.07	0715				7	1693	P	PP
Pre	10.26.07	0715				7	1693	P	PP
Post	10.27.07	0600				7	1700	P	JJ
Pre	10.27.07	0600				7	1700	P	JJ
Post	10.29.07	0600				7	1600	P	JJ
Pre	10.29.07	0600				7	1600	P	JJ
Post	10.30.07	0630				7	1593	P	PP
Pre	10.30.07	0630				7	1593	P	PP
Post	10.31.07	0600				7	1600	P	JJ
Pre	10.31.07	0600				7	1600	P	JJ
Post	11.1.07	0635				7	1593	P	PP
Pre	11.1.07	0635				7	1593	P	PP
Post	11.2.07	0600				7	1600	P	JJ
Pre	11.2.07	0600				7	1600	P	JJ
Post	11.3.07	0640				7	1593	P	PP
Pre	11.3.07	0640				7	1593	P	PP
Post	11.5.07	0600				7	1650	P	JJ
Pre	11.5.07	0600				7	1650	P	JJ
Post	11.7.07	0600				7	1600	P	JJ
Pre	11.7.07	0600				7	1600	P	JJ
Post	11.8.07	0640				5	1595	P	PP
Pre	11.8.07	0640				5	1595	P	PP
Post	11.12.07	0650				5	1595	P	PP
Pre	11.12.07	0650				5	1695	P	PP
Post	11.13.07	0650				5	1895	P	PP
Pre	11.13.07	0650				5	1895	P	PP
Post	11.13.07	0600				5	1650	P	JJ

Reviewed By (print and sign)	Date
[signature]	11-21-07

RTS
Environmental Survey Instrument Data Sheet

Page ___ of ___

Project:	Dates Covered	ESID Number:	Probe Serial Number:
CTO 15	From: 11.13.07 To:	027	1920

Operational Checks

			Alpha			Beta/Gamma			
	Date	Time	Background ( )	Source Check (net)	P/F*	Background ( )	Source Check (net [redacted])	P/F*	RCT Initials
Pre	11.13.07	0600				5	1650	P	JJ
~~Post~~	~~11.15.07~~	~~0650~~				~~5~~	~~1895~~	~~P~~	~~PP~~ PP 11.15
~~Pre~~	~~11.15.07~~	~~0650~~				~~5~~	~~1895~~	~~P~~	~~PP~~ PP
Post	11.15.07	0715	NA	NA	NA	5	1695	P	PP
Pre	11.15.07	0715				5	1695	P	PP
Post	11.16.07	0600				5	1750	P	JJ
Pre	11.16.07	0600				5	1750	P	JJ
Post	11.19.07	0640				5	1695	P	PP
Pre	11.19.07	0640				5	1695	P	PP
Post	~~11.27.07~~	~~0730~~				5			N/A
Pre	~~11.27~~	~~0730~~							N/A
Post	11.28.07	0730	NA	NA	NA	5	1695	P	PP
Pre	11.28.07	0730	NA	NA	NA	5	1695	P	PP
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									
Pre					NA				
Post									
Pre									
Post									
Pre									
Post									
Pre									
Post									

Reviewed By (print and sign) Mark Wendzel Z-508 Date

APPENDIX I

RADIOACTIVE DISCRETE ITEMS
(Log in hard copy; log and photographs on CD)

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APPENDIX I

RADIOACTIVE DISCRETE ITEMS

Discrete ID	IR Site	Origin of Material	Where Found	Description	Survey Report Number	Date	Dose Rate @ Contact (uR\hr)	Dose Rate @ 30 cm (uR\hr)	Photos
HS-1	IR 1	FRB	In-Situ	Glass Vial	ESR-012-07	4/10/07	500	13	PHOTO
HS-2	IR 1	FRB	Screen Pad	Glass Vial	ESR-018-07	4/12/07	200	8	PHOTO
HS-3	IR 1	FRB	Screen Pad	1”x1” metal or brick “chip”	TCRA-034-07	4/16/07	350	8	PHOTO
HS-4	IR 1	FRB	In-Situ	Soil Particle	ESR-036-07	4/24/07	8	8	PHOTO
HS-5	IR 1	FRB	Screen Pad	Instrument Gauge?	TCRA-057-07	5/1/07	1,500	25	PHOTO
HS-6	IR 1	FRB	Screen Pad	Soil Particle	ESR-052-07	5/7/07	900	20	PHOTO
HS-7	IR 1	FRB	In-Situ	Instrument Gauge?	TCRA-096-07	5/21/07	1,000	30	PHOTO
HS-8	IR 1	FRB	In-Situ	Instrument Gauge?	TCRA-096-07	5/21/07	500	20	PHOTO
HS-9	IR 1	Debris Pit	Screen Pad	Toggle Switch?	ESR-069-07	5/22/07	600	10	PHOTO
HS-10	IR 1	Debris Pit	Screen Pad	Debris Chip	ESR-069-07	5/22//07	300	7	PHOTO
HS-11	IR 1	Debris Pit	In-Situ	Debris Chip	ESR-070-07	5/22/07	300	8	PHOTO
HS-12	IR 1	Debris Pit	In-Situ	Debris Chip	ESR-070-07	5/22/07	110	7	PHOTO
HS-13	IR 1	FRB Test Pit #2	Screen Pad	Glass Frag.	ESR-076-07	5/31/07	650	10	PHOTO
HS-14	IR 1	FRB Test Pit #2	Screen Pad	Debris\Rock?	ESR-076-07	5/31/07	80	5	PHOTO
HS-15	IR 1	FRB Test Pit #2	In-Situ	Gauges & wire cables	ESR-075-07	5/31/07	130	9	PHOTO
HS-16	IR 1	FRB Test Pit #2	In-Situ	Gauges	ESR-075-07	5/31/07	180	10	PHOTO
HS-17	IR 1	FRB Test Pit #3	In-Situ	Gauge	ESR-075-07	5/31/07	450	13	PHOTO
HS-18	IR 1	FRB Tect Pit #3	Screen Pad	Gauge or debris	ESR-077-07	6/1/07	900	15	PHOTO
HS-19	IR 1	FRB Test Pit #3	Screen Pad	Gauges & wire cables	ESR-077-07	6/1/07	200	8	PHOTO
HS-20	IR 1	FRB Test Pit #3	Screen Pad	Gauges or debris	ESR-077-07	6/1/07	45	7	PHOTO
HS-21	IR 1	FRB Test Pit #1	Screen Pad	Debris\Rock?	ESR-077-07	6/1/07	150	7	PHOTO
HS-22	IR 1	FRB Test Pit #1	Screen Pad	Debris\Rock?	ESR-077-07	6/1/07	120	8	PHOTO
HS-23	IR 1	FRB Test Pit #1	Screen Pad	Gauges or debris	ESR-077-07	6/1/07	200	9	PHOTO
HS-24	IR 1	FRB Test Pit #1	Screen Pad	Metal Cap?	ESR-077-07	6/1/07	450	9	PHOTO
HS-25	IR 1	FRB Test Pit #1	Screen Pad	Debris\Rock?	ESR-077-07	6/1/07	100	7	PHOTO
HS-26	IR 1	FRB Test Pit #1	Screen Pad	Debris\Rock?	ESR-077-07	6/1/07	200	7	PHOTO
HS-27	IR 1	Disposal Trench	In-Situ	Debris\Rock	TCRA-137-07	6/5/07	3,000	50	PHOTO
HS-28	IR 1	Debris Pit	Screen Pad	Toggle Switch?	ESR-080-07	6/7/07	800	8	PHOTO
HS-29	IR 1	Debris Pit	Screen Pad	Debris	ESR-081-07	6/12/07	400	7	PHOTO
HS-30	IR 1	Debris Pit	Screen Pad	Debris	ESR-084-07	6/13/07	300	7	PHOTO
HS-31	IR 1	Debris Pit	Screen Pad	Debris	ESR-084-07	6/13/07	350	9	PHOTO
HS-32	IR 1	Debris Pit	Screen Pad	Debris	ESR-084-07	6/13/07	400	7	PHOTO
HS-33	IR 1	Debris Pit	In-Situ	Gauge	ESR-083-07	6/14/07	400	10	PHOTO
HS-34	IR 1	Debris Pit	In-Situ	Soil Particle	ESR-083-07	6/14/07	800	15	PHOTO

APPENDIX I

RADIOACTIVE DISCRETE ITEMS

Discrete ID	IR Site	Origin of Material	Where Found	Description	Survey Report Number	Date	Dose Rate @ Contact (uR\hr)	Dose Rate @ 30 cm (uR\hr)	Photos
HS-35	IR 1	Debris Pit	Screen Pad	Switch?	ESR-085-07	6/18/07	500	20	PHOTO
HS-36	IR 1	Debris Pit	Screen Pad	Gauge	ESR-086-07	6/19/07	125	8	PHOTO
HS-37	IR 1	Debris Pit	Screen Pad	Debris Chips	ESR-086-07	6/19/07	110	8	PHOTO
HS-38	IR 1	Debris Pit	Screen Pad	Metal Debris	ESR-087-07	6/21/07	1,000	10	PHOTO
HS-39	IR 1	Debris Pit	Screen Pad	Debris Chips	ESR-087-07	6/21/07	700	5	PHOTO
HS-40	IR 1	Debris Pit	Screen Pad	Debris Chips	ESR-087-07	6/21/07	200	5	PHOTO
HS-41	IR 1	Debris Pit	Screen Pad	Debris Chip	ESR-087-07	6/21/07	300	5	PHOTO
HS-42	IR 1	Debris Pit	In-Situ	Debris\Gauge	ESR-089-07	6/25/07	200	20	PHOTO
HS-43	IR 1	Debris Pit	In-Situ	Debris Chip	ESR-089-07	6/25/07	1,000	30	PHOTO
HS-44	IR 1	Debris Pit	In-Situ	Debris Chip	ESR-089-07	6/25/07	1,000	30	PHOTO
HS-45	IR 1	Debris Pit	In-Situ	Debris\Gauge	ESR-089-07	6/25/07	450	15	PHOTO
HS-46	IR 1	FRB	Screen Pad	Debris\Chip	ESR-095-07	7/5/07	200	7	PHOTO
HS-47	IR 1	FRB	Screen Pad	Chip	ESR-097-07	7/10/07	200	5	PHOTO
HS-48	IR 1	FRB	Screen Pad	Chip	ESR-099-07	7/12/07	30	5	PHOTO
HS-49	IR 1	FRB	Screen Pad	Chip	ESR-103-07	7/23/07	220	7	PHOTO
HS-50	IR 1	FRB	Screen Pad	Chip	ESR-104-07	7/24/07	350	7	PHOTO
HS-51	IR 1	Debris Pit	Screen Pad	Rock\Debris	ESR-110-07	7/31/07	350	7	PHOTO
HS-52	IR 1	Debris Pit	Screen Pad	Chip	ESR-111-07	8/1/07	130	5	PHOTO
HS-53	IR 1	FRB	Screen Pad	Chip	ESR-113-07	8/6/07	170	10	PHOTO
HS-54	IR 1	FRB	Screen Pad	Chip	ESR-113-07	8/6/07	350	12	PHOTO
HS-55	IR 1	FRB	Screen Pad	Chip	ESR-113-07	8/6/07	800	20	PHOTO
HS-56	IR 1	Debris Pit	Screen Pad	Chip	ESR-114-07	8/7/07	150	6	PHOTO
HS-57	IR 1	Debris Pit	Screen Pad	Chip	ESR-114-07	8/7/07	200	7	PHOTO
HS-58	IR 1	FRB	Screen Pad	Grains	ESR-114-07	8/7/07	70	5	PHOTO
HS-59	IR 1	FRB	Screen Pad	Grains	ESR-115-07	8/8/07	175	12	PHOTO
HS-60	IR 1	FRB	Screen Pad	Chip	ESR-118-07	8/15/07	200	5	PHOTO
HS-61	IR 1	FRB	Screen Pad	Toggle Switch?	ESR-119-07	8/16/07	500	7	PHOTO
HS-62	IR 1	IR1	Anomaly	Toggle Switch?	ESR-125-07	8/24/07	595	10	PHOTO
HS-63	IR 1	IR1	Anomaly	Wire	ESR-125-07	8/24/07	350	14	PHOTO
HS-64	IR 1	Bedding Sand	Screen Pad	Chip	ESR-127-07	8/27/07	120	8	PHOTO
HS-65	IR 1	IR1	Anomaly	Chip	ESR-128-07	8/27/07	1,700	17	PHOTO
HS-66	IR 1	Bedding Sand	Screen Pad	Chip	ESR-129-07	8/28/07	200	15	PHOTO
HS-67	IR 1	5A - IR1	Anomaly	Valve	ESR-133-07	8/29/07	6,000	400	PHOTO
HS-68	IR 1	14-IR1	Anomaly	Stones	ESR-153-07	9/12/07	200	10	PHOTO

APPENDIX I

RADIOACTIVE DISCRETE ITEMS

Discrete ID	IR Site	Origin of Material	Where Found	Description	Survey Report Number	Date	Dose Rate @ Contact (uR\hr)	Dose Rate @ 30 cm (uR\hr)	Photos
HS-69	IR 1	16-IR1	Anomaly	Plastic	ESR-154-07	9/12/07	600	20	PHOTO
HS-70	IR 32	4A-IR32	Anomaly	Toggle Switch	ESR-154-07	9/12/07	70	10	PHOTO
HS-71	IR 1	18A-IR1	Anomaly	1.5" Screw	ESR-155-07	9/13/07	300	20	PHOTO
HS-72	IR 1	18B-IR1	Anomaly	1.5" Screw	ESR-155-07	9/13/07	500	20	PHOTO
HS-73	IR 1	18C-IR1	Anomaly	1.5" Screw	ESR-155-07	9/13/07	200	20	PHOTO
HS-74	IR 1	25-IR1	Anomaly	1" Button	ESR-155-07	9/13/07	1,400	40	PHOTO
HS-75	IR 1	22-IR1	Anomaly	0.5" Stone	ESR-155-07	9/13/07	300	10	PHOTO
HS-76	IR 1	22-IR1	Anomaly	1" Piece of Plastic	ESR-155-07	9/13/07	3,000	100	PHOTO
HS-77	IR 1	22-IR1	Anomaly	1" Piece of Plastic	ESR-155-07	9/13/07	3,000	100	PHOTO
HS-78	IR 1	20-IR1	Anomaly	0.5" Piece of Rock	ESR-156-07	9/13/07	40	6	PHOTO
HS-79	IR 1	23-IR1	Anomaly	1" Piece of Rock	ESR-156-07	9/13/07	40	5	PHOTO
HS-80	IR 1	17-IR1	Anomaly	2 Small Rocks	ESR-156-07	9/13/07	20	2	PHOTO
HS-81	IR 1	12-IR1	Anomaly	12" X 2" Piping	ESR-157-07	9/14/07	5,000	600	PHOTO
HS-82	IR 1	11-IR1	Anomaly	Pebble	ESR-157-07	9/14/07	135	15	PHOTO
HS-83	IR 32	6-IR32	Anomaly	Switch	ESR-163-07	9/24/07	30	2	PHOTO
HS-84	IR 2	7-IR2	Anomaly	Vial	ESR-166-07	9/25/07	6,000	1,000	PHOTO
HS-85	IR 2	12-IR2	Anomaly	Pebbly dirt	ESR-166-07	9/25/07	700	10	PHOTO
HS-86	IR 2	11B-IR2	Anomaly	Soil	ESR-166-07	9/25/07	900	100	PHOTO
HS-87	IR 2	10-IR2	Anomaly	Soil	ESR-166-07	9/25/07	1,200	300	PHOTO
HS-88	IR 2	6-IR2	Anomaly	Soil	ESR-167-07	9/26/07	500	30	PHOTO
HS-89	IR 2	5-IR2	Anomaly	Soil	ESR-167-07	9/26/07	1,000	100	PHOTO
HS-90	IR 2	3-IR2	Anomaly	Soil	ESR-168-07	9/26/07	300	30	PHOTO
HS-91	IR 2	119-IR2	Anomaly	Knob	ESR-168-07	9/26/07	2,000	200	PHOTO
HS-92	IR 1	13B-IR1	Anomaly	Soil	ESR-174-07	10/1/07	700	30	PHOTO
HS-93	IR 1	5-IR1	Anomaly	Piping	ESR-176-07	10/2/07	8,000	300	No photo available
HS-94	IR 1	5-IR1	Anomaly	Soil	ESR-193-07	10/13/07	1,000	100	PHOTO
HS-95	IR 1	5-IR1	Anomaly	Rocks	ESR-193-07	10/13/07	160	20	PHOTO
HS-96	IR 1	5-IR1	Anomaly	6" Piping	ESR-193-07	10/13/07	3,000	500	PHOTO
HS-97	IR 1	5-IR1	Anomaly	7' Piping (field)	ESR-193-07	10/12/07	8,000	1,000	PHOTO
HS-98	IR 1	5-IR1	Anomaly	5' Piping (field)	ESR-193-07	10/12/07	2,000	300	PHOTO
HS-99	IR 1	5-IR1	Anomaly	2' Piping	ESR-193-07	10/13/07	1,500	200	PHOTO
HS-100	IR 1	5-IR1	Anomaly	2' Piping	ESR-193-07	10/13/07	600	200	PHOTO
HS-101	IR 2	172-IR2	Anomaly	Small metal strip	ESR-198-07	10/23/07	13,000	1,000	PHOTO
HS-102	IR 2	172-IR2	Anomaly	Small metal strip	ESR-199-07	10/23/07	4,000	200	PHOTO

APPENDIX I

RADIOACTIVE DISCRETE ITEMS

Discrete ID	IR Site	Origin of Material	Where Found	Description	Survey Report Number	Date	Dose Rate @ Contact (uR\hr)	Dose Rate @ 30 cm (uR\hr)	Photos
HS-103	IR 1	5-IR1	Anomaly	Clump of soil	ESR-207-07	10/13/07	300	20	PHOTO
HS-104	IR 1	1-IR1	Anomaly	Chunk of asphalt	ESR-207-07	10/24/07	700	40	PHOTO
HS-105	IR 2	282-IR2	Anomaly	Switch	ESR-212-07	10/29/07	2,000	30	PHOTO
HS-106	IR 1	5-IR1	Anomaly	Catch tank	ESR-193-07	10/13/07	50	5	PHOTO
HS-107	IR 32	7-IR32	Anomaly	Switch	ESR-232-07	11/27/07	700	20	PHOTO
HS-108	IR 32	36-IR32	Anomaly	Small piece of glass	ESR-233-07	11/28/07	1,200	15	PHOTO
HS-109	IR 1	5-IR1	Anomaly	Pipe and tee	ESR-193-07	10/13/07	3,000	300	PHOTO
HS-110	IR 1	5-IR1	Anomaly	L-shaped pipe	ESR-233-07	10/13/07	8,000	300	PHOTO
HS-111	IR 1	A28-IR1	Anomaly	Soil	ESR-221-07	11/12/07	170	10	PHOTO
HS-112	IR 1	A114-IR1	Anomaly	Soil and asphalt	ESR-225-07	11/15/07	160	20	PHOTO
HS-113	IR 1	5-IR1	Anomaly	2" valve	ESR-193-07	10/13/07	2,000	150	PHOTO
HS-114	IR 1	5-IR1	Anomaly	Screen	ESR-233-07	10/13/07	65	10	PHOTO
HS-115	IR 1	A114-IR1	Anomaly	Pebbles	ESR-225-07	11/15/07	300	10	PHOTO
HS-116	IR 1	A114-IR1	Anomaly	Soil	ESR-226-07	11/16/07	40	10	PHOTO
HS-117	IR 1	A114-IR1	Anomaly	Soil	ESR-226-07	11/16/07	42	10	PHOTO
HS-118	IR 1	A114-IR1	Anomaly	Soil	ESR-226-07	11/16/07	1,700	40	PHOTO
HS-119	IR 1	5-IR1	Anomaly	Pipe	ESR-133-07	8/29/07	500	50	No photo available
HS-120	IR 32	54-IR32	Anomaly	Soil	ESR-234-07	11/29/07	80	5	PHOTO
HS-121	IR 32	60-IR32	Anomaly	Small metal plug	ESR-236-07	11/30/07	300	20	PHOTO
HS-122	IR 32	65-IR32	Anomaly	Pebble	ESR-242-07	12/3/07	700	30	PHOTO
HS-123	IR 32	79-IR32	Anomaly	Toggle	ESR-242-07	12/3/07	800	15	PHOTO
HS-124	IR 32	76-IR32	Anomaly	Pebble and switch	ESR-242-07	12/3/07	1,500	70	PHOTO
HS-125	IR 32	84-IR32	Anomaly	Pebble	ESR-242-07	12/3/07	70	10	PHOTO
HS-126	IR 32	73-IR32	Anomaly	Soil	ESR-244-07	12/5/07	900	10	PHOTO
HS-127	IR 32	73-IR32	Anomaly	Glass vial	ESR-244-07	12/5/07	600	20	PHOTO
HS-128	IR 32	71-IR32	Anomaly	Soil	ESR-244-07	12/5/07	80	20	PHOTO
HS-129	IR 32	95-IR32	Anomaly	Soil and rocks	ESR-246-07	12/6/07	50	7	PHOTO
HS-130	IR 32	95-IR32	Anomaly	Soil and rocks	ESR-246-07	12/6/07	400	40	PHOTO
HS-131	IR 32	150B-IR32	Anomaly	Switch	ESR-250-07	12/7/07	600	30	PHOTO
HS-132	IR 32	150-IR32	Anomaly	Soil	ESR-250-07	12/7/07	1,400	200	PHOTO
HS-133	IR 32	150-IR32	Anomaly	Soil	ESR-250-07	12/7/07	1,000	100	PHOTO
HS-134	IR 32	139-IR32	Anomaly	Rock	ESR-257-07	12/11/07	200	24	PHOTO
HS-135	IR 32	139-IR32	Anomaly	Soil	ESR-257-07	12/11/07	100	10	PHOTO
HS-136	IR 32	141-IR32	Anomaly	Pebble	ESR-257-07	12/11/07	80	10	PHOTO

APPENDIX I

RADIOACTIVE DISCRETE ITEMS

Discrete ID	IR Site	Origin of Material	Where Found	Description	Survey Report Number	Date	Dose Rate @ Contact (uR\hr)	Dose Rate @ 30 cm (uR\hr)	Photos
HS-137	IR 32	137-IR32	Anomaly	Rock	ESR-257-07	12/11/07	20	8	PHOTO
HS-138	IR 32	139-IR32	Anomaly	Rock	ESR-257-07	12/11/07	23	8	PHOTO
HS-139	IR 32	126-IR32	Anomaly	Pebble	ESR-257-07	12/11/07	150	10	PHOTO
HS-140	IR 32	138-IR32	Anomaly	Rock	ESR-257-07	12/11/07	100	10	PHOTO
HS-141	IR 32	133-IR32	Anomaly	Soil	ESR-257-07	12/11/07	90	8	PHOTO
HS-142	IR 32	133-IR32	Anomaly	Pebble	ESR-257-07	12/11/07	100	10	PHOTO
HS-143	IR 32	131-IR32	Anomaly	6" metal ring	ESR-257-07	12/11/07	160	12	PHOTO
HS-144	IR 32	75-IR32	Anomaly	Rock	ESR-260-07	12/12/07	180	12	PHOTO
HS-145	IR 32	159-IR32	Anomaly	Soil and pebbles	ESR-265-07	12/14/07	300	20	PHOTO
HS-146	IR 32	7-IR32	Anomaly	Soil	ESR-265-07	12/14/07	50	10	PHOTO
HS-147	IR 32	158-IR32	Anomaly	1 oz glass bottle	ESR-265-07	12/14/07	20,000	300	PHOTO
HS-148	IR 32	62-IR32	Anomaly	Rock	ESR-265-07	12/14/07	50	6	PHOTO
HS149	IR 32	157-IR32	Anomaly	Soil	ESR-266-07	12/17/07	90	8	PHOTO
HS150	IR 1	A135-IR1	Anomaly	Soil	ESR-266-07	12/17/07	180	10	PHOTO
HS151	IR 32	157-IR32	Anomaly	Soil	ESR-266-07	12/17/07	380	60	PHOTO
HS-152	IR 32	G8-IR32	Anomaly	25 ml vial	ESR-004-08	1/15/08	550	20	PHOTO
HS-153	IR 32	32X-IR32	Anomaly	Pebble	ESR-004-08	1/15/08	5,000	5	PHOTO

Abbreviations and Acronyms:

µR\hr - microroentgens per hour
cm – centimeter
FRB - Firing-Range Berm

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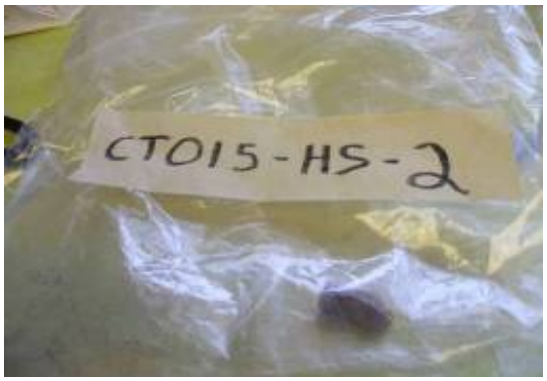

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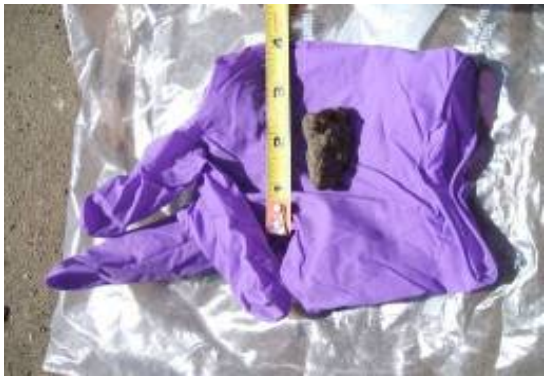

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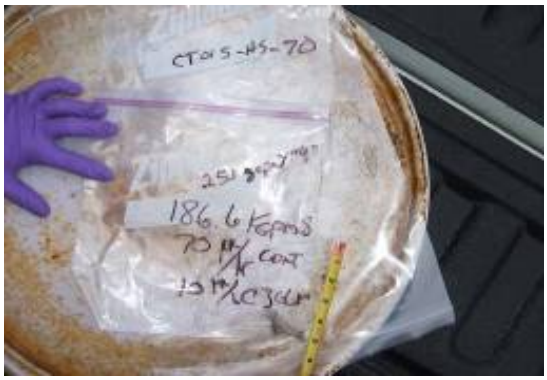

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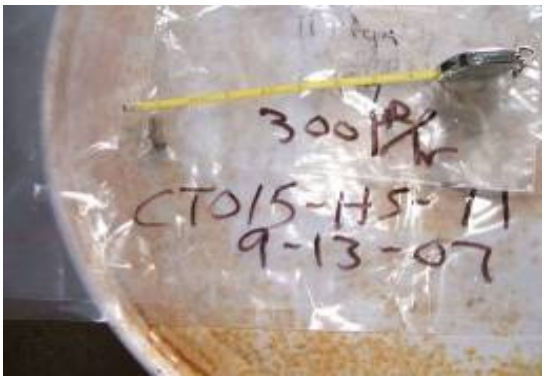

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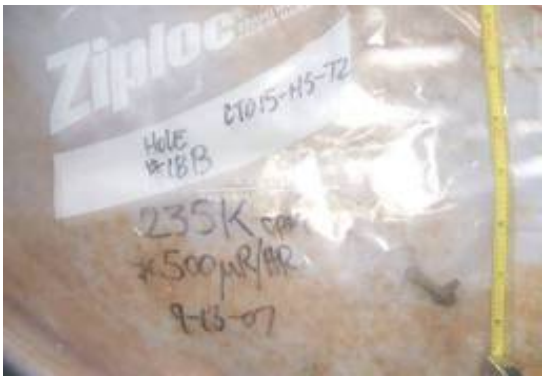

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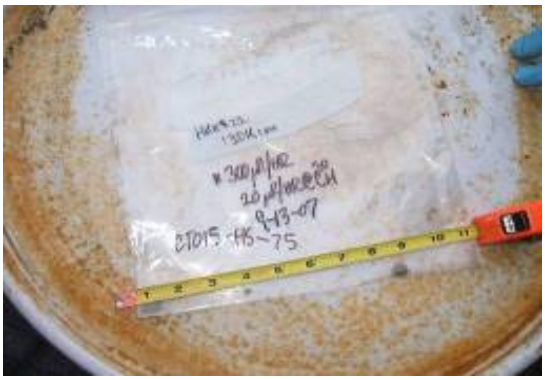

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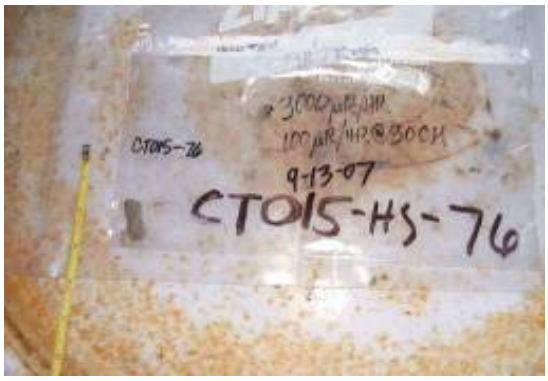

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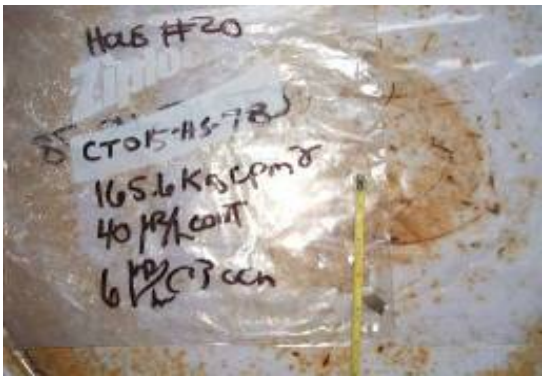

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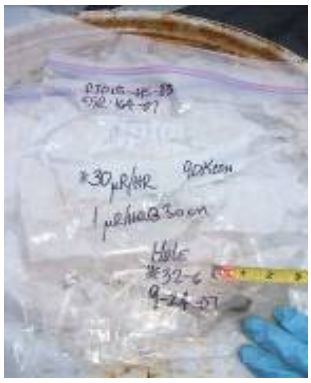

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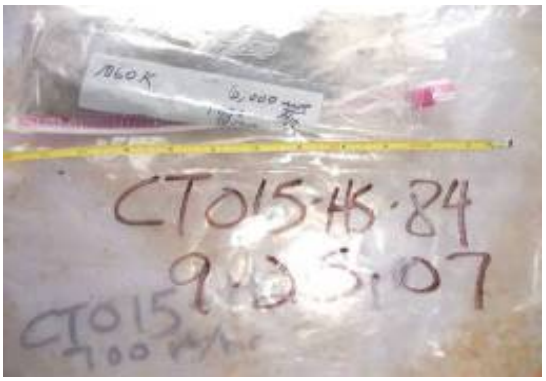

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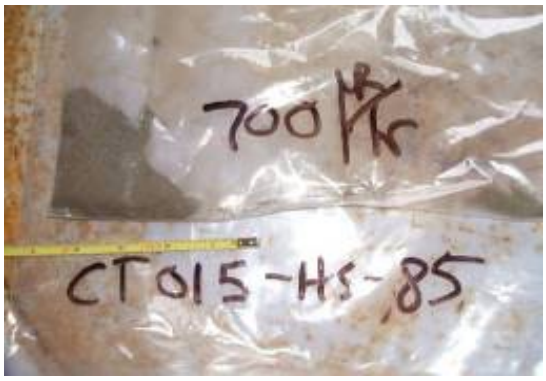

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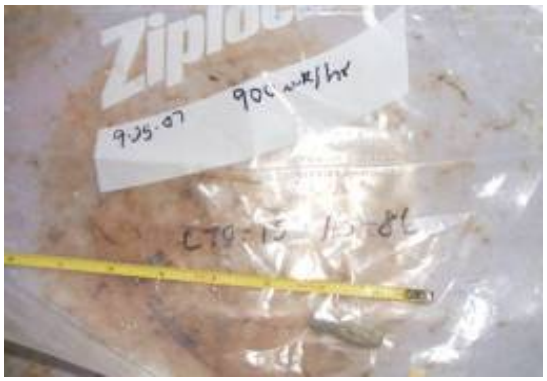

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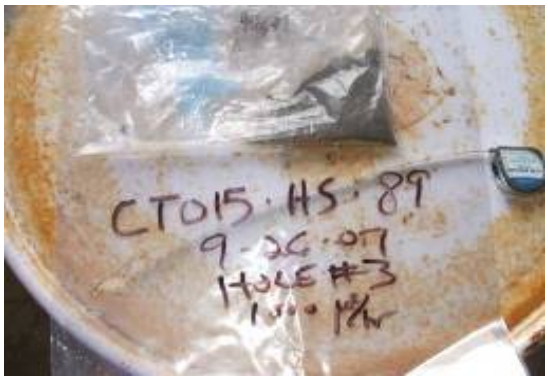

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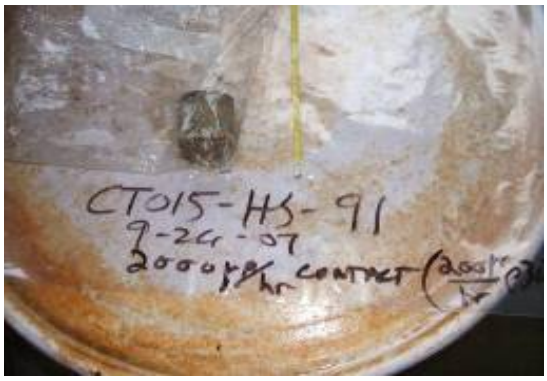

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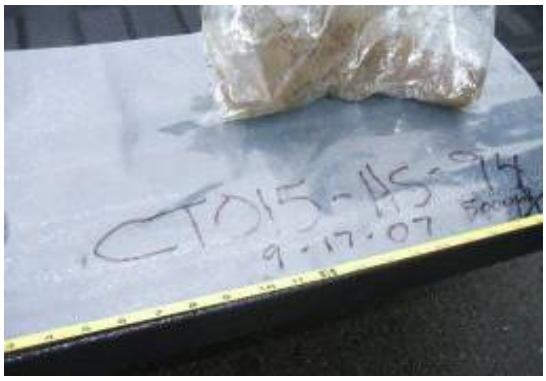

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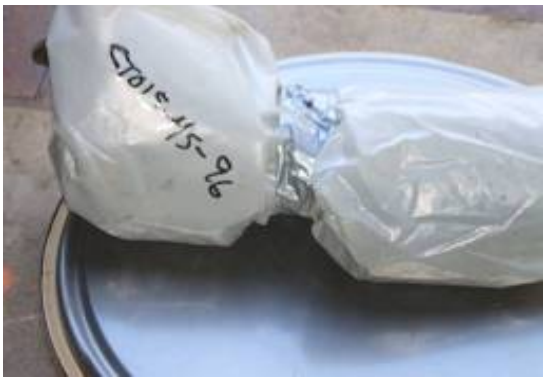

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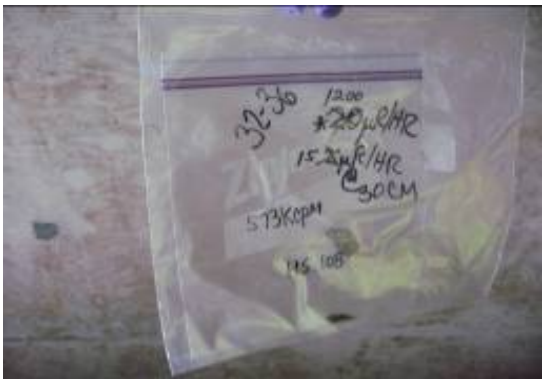

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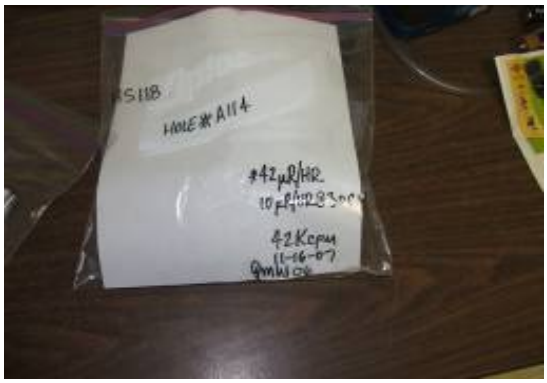

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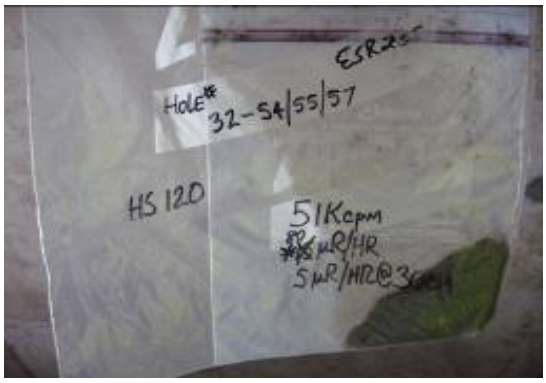

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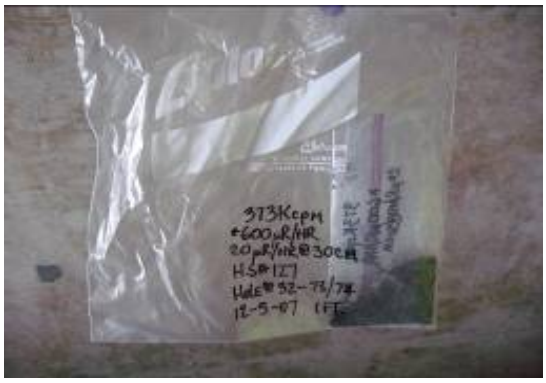

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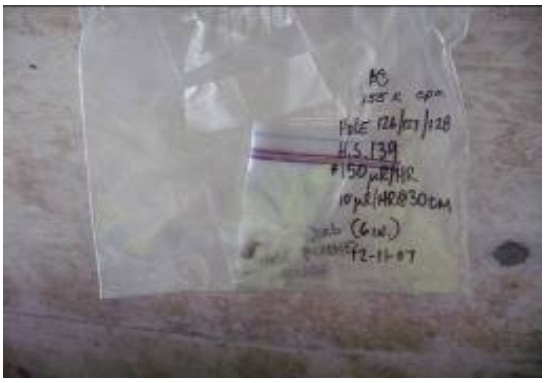

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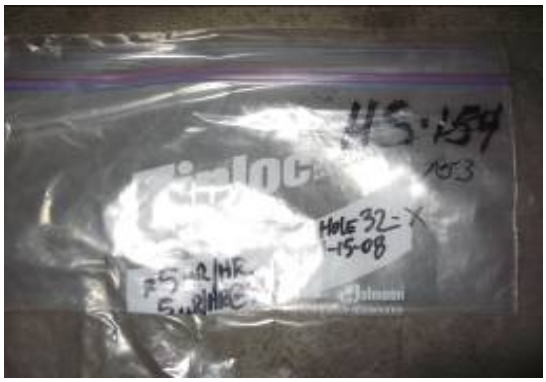

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APPENDIX J

DISPOSAL TRENCH POST-EXCAVATION SCAN DATA
(Available on CD only)

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AREA	PERIMETER	DT_NEW_	DT_NEW_ID	CPM	LAT	LONG	ELEV	DATETIME
0.000000	0.000000	1	1	3048	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	2	2	2965	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	3	3	2853	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	4	4	2831	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	5	5	2779	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	6	6	2745	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	7	7	2714	476924.43000000000	1471188.05100000000	8.64700000000	10/11/07 09:09:57pm
0.000000	0.000000	8	8	2808	476924.51600000000	1471187.96500000000	8.51900000000	10/11/07 09:09:58pm
0.000000	0.000000	9	9	3064	476924.45300000000	1471188.07400000000	8.60300000000	10/11/07 09:09:59pm
0.000000	0.000000	10	10	3366	476924.35700000000	1471188.17400000000	8.64700000000	10/11/07 09:10:00pm
0.000000	0.000000	11	11	3453	476924.44800000000	1471188.15600000000	8.54800000000	10/11/07 09:10:01pm
0.000000	0.000000	12	12	3112	476924.60700000000	1471188.08100000000	8.36000000000	10/11/07 09:10:02pm
0.000000	0.000000	13	13	2921	476924.74600000000	1471188.02100000000	8.18100000000	10/11/07 09:10:03pm
0.000000	0.000000	14	14	2850	476924.97700000000	1471187.96600000000	7.90300000000	10/11/07 09:10:04pm
0.000000	0.000000	15	15	2781	476925.18900000000	1471187.91600000000	7.62100000000	10/11/07 09:10:05pm
0.000000	0.000000	16	16	2876	476925.49000000000	1471187.81500000000	7.28300000000	10/11/07 09:10:06pm
0.000000	0.000000	17	17	2953	476925.73100000000	1471187.70700000000	7.06500000000	10/11/07 09:10:07pm
0.000000	0.000000	18	18	3213	476925.98000000000	1471187.59400000000	6.84000000000	10/11/07 09:10:08pm
0.000000	0.000000	19	19	3502	476926.17000000000	1471187.51600000000	6.65300000000	10/11/07 09:10:09pm
0.000000	0.000000	20	20	3425	476926.40100000000	1471187.42500000000	6.41300000000	10/11/07 09:10:10pm
0.000000	0.000000	21	21	2939	476926.56900000000	1471187.37000000000	6.21800000000	10/11/07 09:10:11pm
0.000000	0.000000	22	22	3198	476926.66000000000	1471187.30800000000	6.08900000000	10/11/07 09:10:12pm
0.000000	0.000000	23	23	3156	476927.00300000000	1471187.40500000000	6.02900000000	10/11/07 09:10:13pm
0.000000	0.000000	24	24	2908	476927.19100000000	1471187.70800000000	5.94100000000	10/11/07 09:10:14pm
0.000000	0.000000	25	25	3203	476927.12400000000	1471187.72600000000	5.85600000000	10/11/07 09:10:15pm
0.000000	0.000000	26	26	2941	476927.06700000000	1471187.68600000000	5.91500000000	10/11/07 09:10:16pm
0.000000	0.000000	27	27	2967	476927.03500000000	1471187.73600000000	6.05500000000	10/11/07 09:10:17pm
0.000000	0.000000	28	28	3139	476926.97800000000	1471187.80700000000	6.30400000000	10/11/07 09:10:18pm
0.000000	0.000000	29	29	2740	476927.08500000000	1471187.65200000000	6.60300000000	10/11/07 09:10:19pm
0.000000	0.000000	30	30	2771	476927.13200000000	1471187.64700000000	6.97400000000	10/11/07 09:10:20pm
0.000000	0.000000	31	31	2789	476927.06700000000	1471187.75000000000	7.25800000000	10/11/07 09:10:21pm
0.000000	0.000000	32	32	2611	476926.99200000000	1471187.83200000000	7.58100000000	10/11/07 09:10:22pm
0.000000	0.000000	33	33	2774	476926.92600000000	1471187.92700000000	7.85100000000	10/11/07 09:10:23pm
0.000000	0.000000	34	34	2985	476926.85000000000	1471188.05100000000	8.17900000000	10/11/07 09:10:24pm
0.000000	0.000000	35	35	2991	476926.78500000000	1471188.16700000000	8.44500000000	10/11/07 09:10:25pm
0.000000	0.000000	36	36	3565	476926.70900000000	1471188.29200000000	8.73900000000	10/11/07 09:10:26pm
0.000000	0.000000	37	37	3310	476926.64600000000	1471188.32100000000	8.91700000000	10/11/07 09:10:27pm
0.000000	0.000000	38	38	3347	476926.57400000000	1471188.32000000000	9.04200000000	10/11/07 09:10:28pm
0.000000	0.000000	39	39	3277	476926.52400000000	1471188.30400000000	9.09400000000	10/11/07 09:10:29pm
0.000000	0.000000	40	40	3163	476926.48700000000	1471188.25500000000	9.11700000000	10/11/07 09:10:30pm
0.000000	0.000000	41	41	2927	476926.48300000000	1471188.24500000000	9.05100000000	10/11/07 09:10:31pm
0.000000	0.000000	42	42	3011	476926.29400000000	1471188.20900000000	8.96700000000	10/11/07 09:10:32pm
0.000000	0.000000	43	43	2961	476926.19900000000	1471188.15300000000	8.69000000000	10/11/07 09:10:33pm
0.000000	0.000000	44	44	3143	476926.14700000000	1471188.11900000000	8.32600000000	10/11/07 09:10:34pm
0.000000	0.000000	45	45	3155	476926.11800000000	1471188.06900000000	8.08200000000	10/11/07 09:10:35pm
0.000000	0.000000	46	46	3042	476926.09100000000	1471188.00000000000	7.74300000000	10/11/07 09:10:36pm
0.000000	0.000000	47	47	3054	476926.07000000000	1471187.96700000000	7.44200000000	10/11/07 09:10:37pm
0.000000	0.000000	48	48	2760	476926.03600000000	1471187.91600000000	7.08200000000	10/11/07 09:10:38pm
0.000000	0.000000	49	49	2902	476926.00300000000	1471187.85800000000	6.79100000000	10/11/07 09:10:39pm
0.000000	0.000000	50	50	2975	476925.98200000000	1471187.80100000000	6.43100000000	10/11/07 09:10:40pm
0.000000	0.000000	51	51	3076	476925.96700000000	1471187.76300000000	6.18800000000	10/11/07 09:10:41pm

0.000000	0.000000	52	52	3035	476925.92200000000	1471187.70200000000	5.98100000000	10/11/07 09:10:42pm
0.000000	0.000000	53	53	3462	476925.89400000000	1471187.68600000000	5.89400000000	10/11/07 09:10:43pm
0.000000	0.000000	54	54	2960	476925.88200000000	1471187.69900000000	5.85600000000	10/11/07 09:10:44pm
0.000000	0.000000	55	55	2700	476925.88200000000	1471187.70000000000	5.87200000000	10/11/07 09:10:45pm
0.000000	0.000000	56	56	3648	476925.80400000000	1471187.75000000000	5.96700000000	10/11/07 09:10:46pm
0.000000	0.000000	57	57	3327	476925.75200000000	1471187.71900000000	6.08000000000	10/11/07 09:10:47pm
0.000000	0.000000	58	58	3079	476925.71800000000	1471187.67500000000	6.25000000000	10/11/07 09:10:48pm
0.000000	0.000000	59	59	3382	476925.68600000000	1471187.67400000000	6.35300000000	10/11/07 09:10:49pm
0.000000	0.000000	60	60	3169	476925.61400000000	1471187.64800000000	6.56700000000	10/11/07 09:10:50pm
0.000000	0.000000	61	61	3043	476925.54500000000	1471187.61500000000	6.74900000000	10/11/07 09:10:51pm
0.000000	0.000000	62	62	3189	476925.48000000000	1471187.58500000000	6.95900000000	10/11/07 09:10:52pm
0.000000	0.000000	63	63	2821	476925.45600000000	1471187.48900000000	7.20200000000	10/11/07 09:10:53pm
0.000000	0.000000	64	64	2727	476925.39900000000	1471187.74900000000	7.55600000000	10/11/07 09:10:54pm
0.000000	0.000000	65	65	3033	476925.32900000000	1471188.49100000000	7.83400000000	10/11/07 09:10:55pm
0.000000	0.000000	66	66	3041	476925.38000000000	1471188.72100000000	8.05000000000	10/11/07 09:10:56pm
0.000000	0.000000	67	67	3405	476925.98300000000	1471188.55000000000	8.07300000000	10/11/07 09:10:57pm
0.000000	0.000000	68	68	2973	476926.54100000000	1471188.20400000000	8.09000000000	10/11/07 09:10:58pm
0.000000	0.000000	69	69	3030	476926.35500000000	1471188.30400000000	8.18100000000	10/11/07 09:10:59pm
0.000000	0.000000	70	70	3227	476925.54800000000	1471189.25800000000	8.25400000000	10/11/07 09:11:00pm
0.000000	0.000000	71	71	3045	476925.23300000000	1471189.65800000000	8.20700000000	10/11/07 09:11:01pm
0.000000	0.000000	72	72	2763	476925.63900000000	1471189.50500000000	8.11900000000	10/11/07 09:11:02pm
0.000000	0.000000	73	73	2844	476926.24100000000	1471189.33600000000	7.90700000000	10/11/07 09:11:03pm
0.000000	0.000000	74	74	3572	476926.85500000000	1471189.06500000000	7.64900000000	10/11/07 09:11:04pm
0.000000	0.000000	75	75	3689	476926.93700000000	1471188.93800000000	7.51800000000	10/11/07 09:11:05pm
0.000000	0.000000	76	76	3815	476927.01600000000	1471188.77800000000	7.34600000000	10/11/07 09:11:06pm
0.000000	0.000000	77	77	4036	476926.75800000000	1471188.50300000000	7.15500000000	10/11/07 09:11:07pm
0.000000	0.000000	78	78	4850	476926.49400000000	1471188.29600000000	6.96600000000	10/11/07 09:11:08pm
0.000000	0.000000	79	79	5045	476926.69500000000	1471188.47300000000	6.82100000000	10/11/07 09:11:09pm
0.000000	0.000000	80	80	5441	476927.09100000000	1471188.81900000000	6.64700000000	10/11/07 09:11:10pm
0.000000	0.000000	81	81	5693	476927.34800000000	1471188.98900000000	6.48000000000	10/11/07 09:11:11pm
0.000000	0.000000	82	82	6202	476927.58300000000	1471188.82700000000	6.34000000000	10/11/07 09:11:12pm
0.000000	0.000000	83	83	6151	476927.50600000000	1471188.59800000000	6.22400000000	10/11/07 09:11:13pm
0.000000	0.000000	84	84	6175	476927.28100000000	1471188.66900000000	6.18000000000	10/11/07 09:11:14pm
0.000000	0.000000	85	85	6286	476927.09600000000	1471188.22600000000	5.87700000000	10/11/07 09:11:15pm
0.000000	0.000000	86	86	6183	476926.65600000000	1471187.64500000000	5.25500000000	10/11/07 09:11:16pm
0.000000	0.000000	87	87	5960	476927.26500000000	1471187.60800000000	5.55700000000	10/11/07 09:11:17pm
0.000000	0.000000	88	88	5960	476928.36000000000	1471188.49100000000	6.36100000000	10/11/07 09:11:19pm
0.000000	0.000000	89	89	5730	476927.94200000000	1471188.14300000000	6.38700000000	10/11/07 09:11:19pm
0.000000	0.000000	90	90	6233	476928.82300000000	1471188.72700000000	6.51500000000	10/11/07 09:11:20pm
0.000000	0.000000	91	91	5591	476928.69600000000	1471188.47600000000	6.77800000000	10/11/07 09:11:21pm
0.000000	0.000000	92	92	5200	476927.87300000000	1471187.50500000000	7.08500000000	10/11/07 09:11:22pm
0.000000	0.000000	93	93	4987	476927.56300000000	1471186.44400000000	7.20100000000	10/11/07 09:11:23pm
0.000000	0.000000	94	94	4905	476927.61500000000	1471184.87500000000	7.34200000000	10/11/07 09:11:24pm
0.000000	0.000000	95	95	5039	476927.37600000000	1471183.07100000000	7.48800000000	10/11/07 09:11:25pm
0.000000	0.000000	96	96	5692	476926.93700000000	1471180.42700000000	7.50600000000	10/11/07 09:11:26pm
0.000000	0.000000	97	97	5469	476926.78200000000	1471178.14700000000	7.57600000000	10/11/07 09:11:27pm
0.000000	0.000000	98	98	5014	476927.33500000000	1471175.79200000000	7.69100000000	10/11/07 09:11:28pm
0.000000	0.000000	99	99	4973	476927.36600000000	1471174.63700000000	7.87200000000	10/11/07 09:11:29pm
0.000000	0.000000	100	100	5467	476927.29000000000	1471174.35500000000	7.96900000000	10/11/07 09:11:30pm
0.000000	0.000000	101	101	5415	476927.54900000000	1471174.34200000000	7.99800000000	10/11/07 09:11:31pm
0.000000	0.000000	102	102	5701	476928.31900000000	1471174.37600000000	7.99800000000	10/11/07 09:11:32pm
0.000000	0.000000	103	103	4819	476929.79100000000	1471174.65400000000	7.98100000000	10/11/07 09:11:33pm

0.000000	0.000000	104	104	5291	476931.07700000000	1471174.81900000000	8.04300000000	10/11/07 09:11:34pm
0.000000	0.000000	105	105	5271	476931.26400000000	1471174.79900000000	8.10500000000	10/11/07 09:11:35pm
0.000000	0.000000	106	106	5245	476931.01800000000	1471175.07100000000	8.21000000000	10/11/07 09:11:36pm
0.000000	0.000000	107	107	5193	476931.43800000000	1471175.47000000000	8.20100000000	10/11/07 09:11:37pm
0.000000	0.000000	108	108	5095	476931.81900000000	1471175.17200000000	8.23200000000	10/11/07 09:11:38pm
0.000000	0.000000	109	109	5813	476931.90300000000	1471174.98000000000	8.33500000000	10/11/07 09:11:39pm
0.000000	0.000000	110	110	5722	476932.09100000000	1471174.97100000000	8.39300000000	10/11/07 09:11:40pm
0.000000	0.000000	111	111	5349	476932.20200000000	1471174.92300000000	8.40000000000	10/11/07 09:11:41pm
0.000000	0.000000	112	112	5221	476932.10100000000	1471174.85800000000	8.40100000000	10/11/07 09:11:42pm
0.000000	0.000000	113	113	5794	476932.25500000000	1471174.70700000000	8.44700000000	10/11/07 09:11:43pm
0.000000	0.000000	114	114	6124	476932.65600000000	1471174.81200000000	8.50600000000	10/11/07 09:11:44pm
0.000000	0.000000	115	115	5567	476932.76300000000	1471174.90600000000	8.53700000000	10/11/07 09:11:45pm
0.000000	0.000000	116	116	5486	476932.66400000000	1471175.12000000000	8.48500000000	10/11/07 09:11:46pm
0.000000	0.000000	117	117	5163	476932.64500000000	1471175.30700000000	8.43300000000	10/11/07 09:11:47pm
0.000000	0.000000	118	118	5334	476932.78600000000	1471175.27400000000	8.33400000000	10/11/07 09:11:48pm
0.000000	0.000000	119	119	5505	476932.96500000000	1471175.07700000000	8.24900000000	10/11/07 09:11:49pm
0.000000	0.000000	120	120	5242	476933.06700000000	1471175.16700000000	8.11000000000	10/11/07 09:11:50pm
0.000000	0.000000	121	121	5071	476933.05900000000	1471175.33100000000	7.99800000000	10/11/07 09:11:51pm
0.000000	0.000000	122	122	5267	476933.02300000000	1471175.39200000000	7.84200000000	10/11/07 09:11:52pm
0.000000	0.000000	123	123	4883	476932.93900000000	1471175.39200000000	7.74300000000	10/11/07 09:11:53pm
0.000000	0.000000	124	124	5139	476932.86000000000	1471175.34600000000	7.62000000000	10/11/07 09:11:54pm
0.000000	0.000000	125	125	5343	476932.79800000000	1471174.97600000000	7.63400000000	10/11/07 09:11:55pm
0.000000	0.000000	126	126	5330	476932.80900000000	1471175.08600000000	7.62200000000	10/11/07 09:11:56pm
0.000000	0.000000	127	127	5346	476932.94200000000	1471175.38500000000	7.61000000000	10/11/07 09:11:57pm
0.000000	0.000000	128	128	5617	476933.47600000000	1471175.29300000000	7.64400000000	10/11/07 09:11:58pm
0.000000	0.000000	129	129	6452	476933.42700000000	1471175.39100000000	7.62500000000	10/11/07 09:11:59pm
0.000000	0.000000	130	130	6262	476932.90500000000	1471175.44600000000	7.50100000000	10/11/07 09:12:00pm
0.000000	0.000000	131	131	5877	476932.77600000000	1471175.33400000000	7.43700000000	10/11/07 09:12:01pm
0.000000	0.000000	132	132	5271	476932.74800000000	1471175.25700000000	7.33600000000	10/11/07 09:12:02pm
0.000000	0.000000	133	133	5470	476932.71500000000	1471175.24000000000	7.25500000000	10/11/07 09:12:03pm
0.000000	0.000000	134	134	5589	476932.74200000000	1471175.21100000000	7.15000000000	10/11/07 09:12:04pm
0.000000	0.000000	135	135	5311	476932.77400000000	1471175.16300000000	7.03800000000	10/11/07 09:12:05pm
0.000000	0.000000	136	136	5485	476932.81100000000	1471175.09900000000	6.81900000000	10/11/07 09:12:06pm
0.000000	0.000000	137	137	5875	476932.83900000000	1471175.08500000000	6.63500000000	10/11/07 09:12:07pm
0.000000	0.000000	138	138	5330	476932.78800000000	1471174.84100000000	6.40400000000	10/11/07 09:12:08pm
0.000000	0.000000	139	139	6418	476932.75100000000	1471174.47100000000	6.26700000000	10/11/07 09:12:09pm
0.000000	0.000000	140	140	5980	476933.59100000000	1471174.52200000000	6.14100000000	10/11/07 09:12:10pm
0.000000	0.000000	141	141	6041	476934.43100000000	1471174.27100000000	6.06900000000	10/11/07 09:12:11pm
0.000000	0.000000	142	142	5858	476936.21300000000	1471174.44400000000	6.06100000000	10/11/07 09:12:12pm
0.000000	0.000000	143	143	5432	476938.47100000000	1471174.87700000000	5.98900000000	10/11/07 09:12:13pm
0.000000	0.000000	144	144	5508	476941.31000000000	1471174.98900000000	5.93200000000	10/11/07 09:12:14pm
0.000000	0.000000	145	145	4898	476943.40600000000	1471175.20500000000	6.03700000000	10/11/07 09:12:15pm
0.000000	0.000000	146	146	4960	476946.19300000000	1471175.07300000000	6.22700000000	10/11/07 09:12:16pm
0.000000	0.000000	147	147	5490	476948.16300000000	1471174.89500000000	6.41200000000	10/11/07 09:12:17pm
0.000000	0.000000	148	148	5495	476950.44300000000	1471174.39700000000	6.85700000000	10/11/07 09:12:18pm
0.000000	0.000000	149	149	5056	476951.20900000000	1471174.59000000000	7.18300000000	10/11/07 09:12:19pm
0.000000	0.000000	150	150	4981	476951.84000000000	1471175.03600000000	7.63300000000	10/11/07 09:12:20pm
0.000000	0.000000	151	151	5329	476952.09600000000	1471174.95400000000	8.02700000000	10/11/07 09:12:21pm
0.000000	0.000000	152	152	5293	476951.74500000000	1471175.39700000000	8.49700000000	10/11/07 09:12:22pm
0.000000	0.000000	153	153	5497	476951.68900000000	1471175.84600000000	8.91200000000	10/11/07 09:12:23pm
0.000000	0.000000	154	154	5019	476952.03500000000	1471176.36300000000	9.41100000000	10/11/07 09:12:24pm
0.000000	0.000000	155	155	4968	476952.63100000000	1471176.72500000000	9.83300000000	10/11/07 09:12:25pm

0.000000	0.000000	156	156	5104	476952.95700000000	1471177.30700000000	10.28700000000	10/11/07 09:12:26pm
0.000000	0.000000	157	157	4724	476953.14600000000	1471177.46600000000	10.52100000000	10/11/07 09:12:27pm
0.000000	0.000000	158	158	4944	476953.50200000000	1471177.48700000000	10.73200000000	10/11/07 09:12:28pm
0.000000	0.000000	159	159	5178	476953.54800000000	1471177.80400000000	10.83100000000	10/11/07 09:12:29pm
0.000000	0.000000	160	160	5085	476954.22100000000	1471177.39800000000	10.83700000000	10/11/07 09:12:30pm
0.000000	0.000000	161	161	5080	476955.02900000000	1471177.21800000000	10.83400000000	10/11/07 09:12:31pm
0.000000	0.000000	162	162	5527	476955.91400000000	1471177.93900000000	10.81700000000	10/11/07 09:12:32pm
0.000000	0.000000	163	163	6041	476956.49300000000	1471177.94100000000	10.80100000000	10/11/07 09:12:33pm
0.000000	0.000000	164	164	5348	476957.29100000000	1471177.78800000000	10.71000000000	10/11/07 09:12:34pm
0.000000	0.000000	165	165	5258	476957.85900000000	1471178.16000000000	10.64500000000	10/11/07 09:12:35pm
0.000000	0.000000	166	166	5110	476958.88400000000	1471178.13700000000	10.54100000000	10/11/07 09:12:36pm
0.000000	0.000000	167	167	4727	476959.46200000000	1471177.75800000000	10.41800000000	10/11/07 09:12:37pm
0.000000	0.000000	168	168	4789	476960.15500000000	1471177.85800000000	10.29000000000	10/11/07 09:12:38pm
0.000000	0.000000	169	169	4546	476960.88100000000	1471178.17200000000	10.22700000000	10/11/07 09:12:39pm
0.000000	0.000000	170	170	5257	476961.63900000000	1471178.13700000000	10.09500000000	10/11/07 09:12:40pm
0.000000	0.000000	171	171	5357	476962.02500000000	1471178.15000000000	9.97800000000	10/11/07 09:12:41pm
0.000000	0.000000	172	172	5376	476962.71800000000	1471178.56200000000	9.91700000000	10/11/07 09:12:42pm
0.000000	0.000000	173	173	5521	476963.32200000000	1471178.64600000000	9.88700000000	10/11/07 09:12:43pm
0.000000	0.000000	174	174	5543	476964.23900000000	1471178.48300000000	9.86900000000	10/11/07 09:12:44pm
0.000000	0.000000	175	175	5068	476964.78000000000	1471178.37600000000	9.94000000000	10/11/07 09:12:45pm
0.000000	0.000000	176	176	5093	476965.31400000000	1471178.29300000000	10.05100000000	10/11/07 09:12:46pm
0.000000	0.000000	177	177	5632	476965.82300000000	1471178.01500000000	10.19700000000	10/11/07 09:12:47pm
0.000000	0.000000	178	178	5336	476966.11500000000	1471177.86700000000	10.14900000000	10/11/07 09:12:48pm
0.000000	0.000000	179	179	4981	476966.52700000000	1471178.32400000000	10.16700000000	10/11/07 09:12:49pm
0.000000	0.000000	180	180	5089	476967.22300000000	1471178.44700000000	10.21300000000	10/11/07 09:12:50pm
0.000000	0.000000	181	181	5045	476967.60800000000	1471178.24900000000	10.30700000000	10/11/07 09:12:51pm
0.000000	0.000000	182	182	5215	476968.10600000000	1471178.99600000000	10.39100000000	10/11/07 09:12:52pm
0.000000	0.000000	183	183	5071	476968.41200000000	1471179.63600000000	10.32700000000	10/11/07 09:12:53pm
0.000000	0.000000	184	184	5410	476968.65400000000	1471178.95000000000	10.58300000000	10/11/07 09:12:54pm
0.000000	0.000000	185	185	5203	476968.84400000000	1471178.19700000000	10.91600000000	10/11/07 09:12:55pm
0.000000	0.000000	186	186	6024	476969.38200000000	1471178.67300000000	10.69100000000	10/11/07 09:12:56pm
0.000000	0.000000	187	187	5818	476970.38800000000	1471178.93900000000	10.66500000000	10/11/07 09:12:57pm
0.000000	0.000000	188	188	6228	476971.33000000000	1471177.87700000000	11.05700000000	10/11/07 09:12:58pm
0.000000	0.000000	189	189	5798	476971.88300000000	1471177.53700000000	11.23500000000	10/11/07 09:12:59pm
0.000000	0.000000	190	190	5916	476972.71300000000	1471177.58800000000	11.29000000000	10/11/07 09:13:00pm
0.000000	0.000000	191	191	5623	476973.30700000000	1471177.08700000000	11.22600000000	10/11/07 09:13:01pm
0.000000	0.000000	192	192	5518	476974.14700000000	1471176.89900000000	11.01000000000	10/11/07 09:13:02pm
0.000000	0.000000	193	193	5203	476974.81700000000	1471176.91800000000	10.72300000000	10/11/07 09:13:03pm
0.000000	0.000000	194	194	5267	476975.62800000000	1471176.33500000000	10.20900000000	10/11/07 09:13:04pm
0.000000	0.000000	195	195	5565	476976.08800000000	1471176.11300000000	9.80900000000	10/11/07 09:13:05pm
0.000000	0.000000	196	196	5620	476977.03000000000	1471176.26300000000	9.35200000000	10/11/07 09:13:06pm
0.000000	0.000000	197	197	5689	476977.77200000000	1471175.98700000000	8.98500000000	10/11/07 09:13:07pm
0.000000	0.000000	198	198	5510	476978.56700000000	1471175.57300000000	8.47900000000	10/11/07 09:13:08pm
0.000000	0.000000	199	199	5792	476979.11200000000	1471175.50300000000	8.09400000000	10/11/07 09:13:09pm
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0.000000	0.000000	202	202	5663	476980.85900000000	1471174.97500000000	7.02300000000	10/11/07 09:13:12pm
0.000000	0.000000	203	203	5443	476981.41400000000	1471174.87700000000	6.81100000000	10/11/07 09:13:13pm
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0.000000	0.000000	206	206	5547	476982.78000000000	1471174.35800000000	6.49700000000	10/11/07 09:13:16pm
0.000000	0.000000	207	207	5542	476983.29800000000	1471174.59700000000	6.50700000000	10/11/07 09:13:17pm

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0.000000	0.000000	213	213	5677	476985.48100000000	1471174.19800000000	7.21200000000	10/11/07 09:13:23pm
0.000000	0.000000	214	214	6171	476985.50100000000	1471174.21300000000	7.33000000000	10/11/07 09:13:24pm
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0.000000	0.000000	216	216	5747	476985.10700000000	1471173.74400000000	7.65100000000	10/11/07 09:13:26pm
0.000000	0.000000	217	217	5448	476985.55900000000	1471174.25900000000	7.76200000000	10/11/07 09:13:27pm
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0.000000	0.000000	219	219	5832	476985.85300000000	1471174.33200000000	7.82900000000	10/11/07 09:13:29pm
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0.000000	0.000000	222	222	5381	476986.55300000000	1471173.90300000000	7.75400000000	10/11/07 09:13:32pm
0.000000	0.000000	223	223	6072	476987.10900000000	1471173.80500000000	7.77400000000	10/11/07 09:13:33pm
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0.000000	0.000000	226	226	5579	476988.41100000000	1471173.78800000000	7.75600000000	10/11/07 09:13:36pm
0.000000	0.000000	227	227	5388	476988.83300000000	1471173.13100000000	7.67900000000	10/11/07 09:13:37pm
0.000000	0.000000	228	228	5191	476989.37600000000	1471172.87200000000	7.58000000000	10/11/07 09:13:38pm
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0.000000	0.000000	230	230	5065	476990.04400000000	1471173.01300000000	7.42900000000	10/11/07 09:13:40pm
0.000000	0.000000	231	231	5354	476991.16600000000	1471172.91800000000	7.43500000000	10/11/07 09:13:41pm
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0.000000	0.000000	233	233	5537	476992.05300000000	1471172.58200000000	7.47800000000	10/11/07 09:13:43pm
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0.000000	0.000000	253	253	5833	476998.50700000000	1471168.95300000000	8.67200000000	10/11/07 09:14:03pm
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0.000000	0.000000	339	339	5887	476972.54900000000	1471150.25400000000	4.44700000000	10/11/07 09:15:29pm
0.000000	0.000000	340	340	5644	476971.59500000000	1471150.99200000000	4.42100000000	10/11/07 09:15:30pm
0.000000	0.000000	341	341	5290	476971.07500000000	1471151.25800000000	4.40900000000	10/11/07 09:15:31pm
0.000000	0.000000	342	342	5533	476970.65000000000	1471150.83300000000	4.45100000000	10/11/07 09:15:32pm
0.000000	0.000000	343	343	5475	476970.05100000000	1471150.27100000000	4.65600000000	10/11/07 09:15:33pm
0.000000	0.000000	344	344	5127	476969.46700000000	1471150.01700000000	4.88100000000	10/11/07 09:15:34pm
0.000000	0.000000	345	345	5328	476968.80500000000	1471150.13500000000	4.86000000000	10/11/07 09:15:35pm
0.000000	0.000000	346	346	5517	476968.14800000000	1471150.06700000000	5.00000000000	10/11/07 09:15:36pm
0.000000	0.000000	347	347	5301	476968.07500000000	1471149.92200000000	5.09800000000	10/11/07 09:15:37pm
0.000000	0.000000	348	348	5066	476967.91500000000	1471149.95100000000	5.11400000000	10/11/07 09:15:38pm
0.000000	0.000000	349	349	4867	476967.65500000000	1471150.02000000000	5.08100000000	10/11/07 09:15:39pm
0.000000	0.000000	350	350	4980	476966.91200000000	1471149.76300000000	5.15800000000	10/11/07 09:15:40pm
0.000000	0.000000	351	351	4909	476965.86900000000	1471149.85300000000	5.08800000000	10/11/07 09:15:41pm
0.000000	0.000000	352	352	5243	476964.93900000000	1471150.08300000000	4.90800000000	10/11/07 09:15:42pm
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0.000000	0.000000	354	354	5246	476963.88100000000	1471150.26200000000	4.76500000000	10/11/07 09:15:44pm
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0.000000	0.000000	356	356	5621	476962.56000000000	1471150.66300000000	5.08100000000	10/11/07 09:15:46pm
0.000000	0.000000	357	357	5877	476962.37700000000	1471150.61500000000	5.28600000000	10/11/07 09:15:47pm
0.000000	0.000000	358	358	6291	476962.13900000000	1471150.66200000000	5.63300000000	10/11/07 09:15:48pm
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0.000000	0.000000	360	360	5713	476961.51800000000	1471150.67700000000	6.38800000000	10/11/07 09:15:50pm
0.000000	0.000000	361	361	6169	476961.14300000000	1471150.91000000000	6.80400000000	10/11/07 09:15:51pm
0.000000	0.000000	362	362	6177	476960.72400000000	1471151.40000000000	7.31100000000	10/11/07 09:15:52pm
0.000000	0.000000	363	363	6602	476960.60600000000	1471151.57200000000	7.77300000000	10/11/07 09:15:53pm

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0.000000	0.000000	367	367	6109	476957.10100000000	1471152.40900000000	9.60900000000	10/11/07 09:15:57pm
0.000000	0.000000	368	368	5769	476956.22200000000	1471152.32400000000	9.99800000000	10/11/07 09:15:58pm
0.000000	0.000000	369	369	5210	476955.33000000000	1471152.32900000000	10.24300000000	10/11/07 09:15:59pm
0.000000	0.000000	370	370	4933	476954.85500000000	1471152.37700000000	10.26400000000	10/11/07 09:16:00pm
0.000000	0.000000	371	371	4807	476955.04700000000	1471152.31900000000	10.24900000000	10/11/07 09:16:01pm
0.000000	0.000000	372	372	4571	476955.11600000000	1471152.54200000000	10.31600000000	10/11/07 09:16:02pm
0.000000	0.000000	373	373	4746	476954.94200000000	1471152.67800000000	10.36200000000	10/11/07 09:16:03pm
0.000000	0.000000	374	374	5422	476954.83100000000	1471152.78700000000	10.32900000000	10/11/07 09:16:04pm
0.000000	0.000000	375	375	5562	476954.31500000000	1471152.23000000000	10.38200000000	10/11/07 09:16:05pm
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0.000000	0.000000	378	378	6027	476952.05700000000	1471153.71700000000	9.78600000000	10/11/07 09:16:08pm
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0.000000	0.000000	382	382	6232	476946.79300000000	1471154.77100000000	10.34400000000	10/11/07 09:16:12pm
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0.000000	0.000000	385	385	5675	476945.89400000000	1471154.75100000000	10.31900000000	10/11/07 09:16:15pm
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0.000000	0.000000	389	389	5093	476946.56000000000	1471158.53500000000	10.37100000000	10/11/07 09:16:19pm
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0.000000	0.000000	408	408	5570	476950.48100000000	1471172.35200000000	8.61100000000	10/11/07 09:16:38pm
0.000000	0.000000	409	409	5450	476950.96800000000	1471172.81600000000	8.29700000000	10/11/07 09:16:39pm
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0.000000	0.000000	411	411	5367	476951.81700000000	1471174.65600000000	7.80200000000	10/11/07 09:16:41pm
0.000000	0.000000	412	412	5119	476952.05800000000	1471175.69400000000	7.66100000000	10/11/07 09:16:42pm
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0.000000	0.000000	431	431	5314	476953.72700000000	1471174.04200000000	9.39400000000	10/11/07	09:17:01pm
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0.000000	0.000000	490	490	6220	476951.20200000000	1471164.53700000000	7.93900000000	10/11/07 09:18:00pm
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0.000000	0.000000	508	508	6088	476949.55400000000	1471162.58600000000	5.79800000000	10/11/07 09:18:18pm
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0.000000	0.000000	514	514	6450	476950.76400000000	1471159.26900000000	7.83200000000	10/11/07 09:18:24pm
0.000000	0.000000	515	515	5998	476950.75100000000	1471159.18100000000	7.99700000000	10/11/07 09:18:25pm
0.000000	0.000000	516	516	5594	476950.84100000000	1471159.07400000000	8.13000000000	10/11/07 09:18:26pm
0.000000	0.000000	517	517	6064	476950.73000000000	1471158.99400000000	8.21800000000	10/11/07 09:18:27pm
0.000000	0.000000	518	518	5976	476950.71400000000	1471158.59800000000	8.36700000000	10/11/07 09:18:28pm
0.000000	0.000000	519	519	6009	476951.11900000000	1471157.87900000000	8.57400000000	10/11/07 09:18:29pm

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0.000000	0.000000	686	686	18052	476955.51800000000	1471162.84500000000	6.60300000000	10/11/07 09:26:17pm
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0.000000	0.000000	845	845	7413	476956.38800000000	1471168.24500000000	6.61800000000	10/11/07 09:26:17pm
0.000000	0.000000	846	846	7404	476956.05500000000	1471166.18200000000	6.61300000000	10/11/07 09:26:17pm
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0.000000	0.000000	1021	1021	6169	476956.10100000000	1471166.46700000000	6.61300000000	10/11/07 09:26:17pm
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0.000000	0.000000	1027	1027	6150	476956.37400000000	1471168.16000000000	6.61800000000	10/11/07 09:26:17pm
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0.000000	0.000000	1498	1498	5423	476957.65300000000	1471175.08600000000	6.95500000000	10/16/07 07:54:34pm
0.000000	0.000000	1499	1499	5398	476958.83100000000	1471174.75600000000	6.70400000000	10/16/07 07:54:35pm
0.000000	0.000000	1500	1500	5024	476959.71300000000	1471174.15200000000	6.52900000000	10/16/07 07:54:36pm
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0.000000	0.000000	1515	1515	5402	476973.31900000000	1471174.20300000000	6.33400000000	10/16/07 07:54:51pm
0.000000	0.000000	1516	1516	5431	476974.37600000000	1471173.93500000000	6.54700000000	10/16/07 07:54:52pm
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0.000000	0.000000	1661	1661	5677	476988.27700000000	1471165.65200000000	4.91800000000	10/16/07 07:58:27pm
0.000000	0.000000	1662	1662	5962	476987.19100000000	1471165.74600000000	4.93900000000	10/16/07 07:58:29pm
0.000000	0.000000	1663	1663	6098	476986.24100000000	1471166.49100000000	4.94800000000	10/16/07 07:58:30pm

0.000000	0.000000	1664	1664	5354	476984.37600000000	1471166.33800000000	4.91000000000	10/16/07 07:58:32pm
0.000000	0.000000	1665	1665	5261	476983.78600000000	1471166.35600000000	5.30200000000	10/16/07 07:58:33pm
0.000000	0.000000	1666	1666	5043	476981.88600000000	1471167.62400000000	6.02800000000	10/16/07 07:58:35pm
0.000000	0.000000	1667	1667	5221	476980.20300000000	1471168.02800000000	6.66200000000	10/16/07 07:58:37pm
0.000000	0.000000	1668	1668	4984	476979.10900000000	1471168.43300000000	7.09600000000	10/16/07 07:58:38pm
0.000000	0.000000	1669	1669	5226	476978.06900000000	1471168.47100000000	7.29800000000	10/16/07 07:58:39pm
0.000000	0.000000	1670	1670	5385	476977.18600000000	1471168.88000000000	7.69900000000	10/16/07 07:58:40pm
0.000000	0.000000	1671	1671	5226	476976.79100000000	1471168.40800000000	7.99100000000	10/16/07 07:58:41pm
0.000000	0.000000	1672	1672	5334	476974.05600000000	1471170.11400000000	8.58300000000	10/16/07 07:58:44pm
0.000000	0.000000	1673	1673	5373	476973.10300000000	1471170.02700000000	8.34800000000	10/16/07 07:58:46pm
0.000000	0.000000	1674	1674	5246	476971.85100000000	1471170.43800000000	8.22700000000	10/16/07 07:58:48pm
0.000000	0.000000	1675	1675	5534	476970.64000000000	1471170.57400000000	8.03300000000	10/16/07 07:58:49pm
0.000000	0.000000	1676	1676	5715	476969.98500000000	1471170.95400000000	7.99000000000	10/16/07 07:58:50pm
0.000000	0.000000	1677	1677	5517	476968.78400000000	1471170.61900000000	7.71600000000	10/16/07 07:58:51pm
0.000000	0.000000	1678	1678	5251	476966.06700000000	1471171.05900000000	7.67200000000	10/16/07 07:58:55pm
0.000000	0.000000	1679	1679	5984	476965.07400000000	1471170.52800000000	7.34500000000	10/16/07 07:58:56pm
0.000000	0.000000	1680	1680	6009	476963.34500000000	1471171.06600000000	7.39300000000	10/16/07 07:58:58pm
0.000000	0.000000	1681	1681	6139	476961.62100000000	1471170.88000000000	7.25900000000	10/16/07 07:59:00pm
0.000000	0.000000	1682	1682	6236	476960.86100000000	1471171.01700000000	7.26900000000	10/16/07 07:59:01pm
0.000000	0.000000	1683	1683	5690	476960.36000000000	1471170.43500000000	7.11400000000	10/16/07 07:59:02pm
0.000000	0.000000	1684	1684	5374	476959.02000000000	1471171.51100000000	6.81600000000	10/16/07 07:59:04pm
0.000000	0.000000	1685	1685	5603	476958.15000000000	1471171.27300000000	6.53500000000	10/16/07 07:59:05pm
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0.000000	0.000000	1687	1687	6022	476955.78400000000	1471171.92100000000	5.83900000000	10/16/07 07:59:08pm
0.000000	0.000000	1688	1688	5623	476954.56500000000	1471172.29900000000	5.36700000000	10/16/07 07:59:10pm
0.000000	0.000000	1689	1689	5788	476953.76000000000	1471172.31400000000	5.31400000000	10/16/07 07:59:11pm
0.000000	0.000000	1690	1690	5820	476953.71400000000	1471172.81600000000	5.28300000000	10/16/07 07:59:12pm
0.000000	0.000000	1691	1691	6161	476952.97300000000	1471172.80100000000	5.20600000000	10/16/07 07:59:13pm
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0.000000	0.000000	1693	1693	6036	476952.71800000000	1471172.40000000000	4.87600000000	10/16/07 07:59:15pm
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0.000000	0.000000	1710	1710	5549	476964.67700000000	1471168.07400000000	5.45100000000	10/16/07 07:59:43pm
0.000000	0.000000	1711	1711	5611	476965.67300000000	1471167.81600000000	5.26100000000	10/16/07 07:59:44pm
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0.000000	0.000000	1715	1715	5730	476967.17300000000	1471167.51100000000	5.26100000000	10/16/07 07:59:48pm

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0.000000	0.000000	1722	1722	5665	476971.72400000000	1471166.41800000000	7.30400000000	10/16/07 07:59:55pm
0.000000	0.000000	1723	1723	5669	476972.18900000000	1471166.48400000000	7.27400000000	10/16/07 07:59:56pm
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0.000000	0.000000	1725	1725	6043	476973.88600000000	1471166.33700000000	7.76800000000	10/16/07 07:59:58pm
0.000000	0.000000	1726	1726	6369	476975.04800000000	1471165.88400000000	7.97000000000	10/16/07 07:59:59pm
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0.000000	0.000000	1824	1824	6858	476976.22500000000	1471158.13200000000	4.02500000000	10/16/07 08:04:54pm
0.000000	0.000000	1825	1825	8455	476976.26100000000	1471158.06800000000	4.11300000000	10/16/07 08:04:55pm
0.000000	0.000000	1826	1826	10539	476977.22800000000	1471157.23000000000	4.42700000000	10/16/07 08:04:57pm
0.000000	0.000000	1827	1827	13218	476977.64700000000	1471157.15800000000	4.47200000000	10/16/07 08:04:58pm
0.000000	0.000000	1828	1828	10705	476978.23500000000	1471157.37600000000	4.47000000000	10/16/07 08:04:59pm
0.000000	0.000000	1829	1829	11751	476978.72800000000	1471156.66900000000	4.38100000000	10/16/07 08:05:00pm
0.000000	0.000000	1830	1830	8671	476980.13200000000	1471156.48900000000	4.23700000000	10/16/07 08:05:02pm
0.000000	0.000000	1831	1831	6902	476981.69900000000	1471156.26200000000	4.08900000000	10/16/07 08:05:04pm
0.000000	0.000000	1832	1832	6178	476982.95400000000	1471154.19800000000	4.16600000000	10/16/07 08:05:06pm
0.000000	0.000000	1833	1833	6738	476982.68400000000	1471153.95000000000	4.11900000000	10/16/07 08:05:07pm
0.000000	0.000000	1834	1834	9185	476978.25700000000	1471154.75200000000	4.70900000000	10/16/07 08:05:12pm
0.000000	0.000000	1835	1835	7568	476973.97200000000	1471156.10100000000	4.94800000000	10/16/07 08:05:17pm
0.000000	0.000000	1836	1836	7879	476973.59300000000	1471156.14500000000	4.94400000000	10/16/07 08:05:18pm
0.000000	0.000000	1837	1837	7285	476970.04600000000	1471158.36500000000	5.17300000000	10/16/07 08:05:24pm
0.000000	0.000000	1838	1838	5422	476967.26000000000	1471160.19900000000	4.86500000000	10/16/07 08:05:27pm
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0.000000	0.000000	1841	1841	6027	476952.63200000000	1471161.59600000000	4.82700000000	10/16/07 08:05:51pm
0.000000	0.000000	1842	1842	6197	476953.13500000000	1471161.79700000000	4.95000000000	10/16/07 08:05:57pm
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0.000000	0.000000	1846	1846	5876	476951.32000000000	1471161.57000000000	6.10100000000	10/16/07 08:06:24pm
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0.000000	0.000000	1989	1989	6948	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1990	1990	6945	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1991	1991	6903	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1992	1992	6875	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1993	1993	6862	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1994	1994	6856	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1995	1995	6845	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1996	1996	6844	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1997	1997	6834	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1998	1998	6817	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	1999	1999	6778	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2000	2000	6763	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2001	2001	6759	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2002	2002	6734	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2003	2003	6703	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2004	2004	6684	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2005	2005	6683	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2006	2006	6679	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2007	2007	6643	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2008	2008	6624	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2009	2009	6597	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2010	2010	6579	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2011	2011	6578	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2012	2012	6561	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2013	2013	6490	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2014	2014	6490	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2015	2015	6458	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2016	2016	6450	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2017	2017	6435	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2018	2018	6408	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2019	2019	6385	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2020	2020	6376	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2021	2021	6371	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2022	2022	6366	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2023	2023	6360	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2024	2024	6360	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2025	2025	6357	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2026	2026	6355	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2027	2027	6320	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm

0.000000	0.000000	2028	2028	6319	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2029	2029	6309	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2030	2030	6292	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2031	2031	6283	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2032	2032	6281	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2033	2033	6266	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2034	2034	6245	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2035	2035	6237	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2036	2036	6229	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2037	2037	6219	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2038	2038	6216	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2039	2039	6206	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2040	2040	6205	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2041	2041	6204	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2042	2042	6203	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2043	2043	6188	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2044	2044	6173	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2045	2045	6170	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2046	2046	6165	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2047	2047	6163	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2048	2048	6160	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2049	2049	6144	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2050	2050	6142	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2051	2051	6140	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2052	2052	6121	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2053	2053	6113	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2054	2054	6110	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2055	2055	6107	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2056	2056	6107	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2057	2057	6105	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2058	2058	6092	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2059	2059	6088	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2060	2060	6076	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2061	2061	6058	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2062	2062	6046	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2063	2063	6044	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2064	2064	6042	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2065	2065	6036	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2066	2066	6034	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2067	2067	6032	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2068	2068	6018	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2069	2069	6013	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2070	2070	6006	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2071	2071	6006	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2072	2072	6006	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2073	2073	5999	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2074	2074	5990	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2075	2075	5989	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2076	2076	5977	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2077	2077	5951	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2078	2078	5942	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2079	2079	5931	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm

0.000000	0.000000	2080	2080	5916	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2081	2081	5914	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2082	2082	5905	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2083	2083	5900	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2084	2084	5896	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2085	2085	5893	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2086	2086	5891	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2087	2087	5890	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2088	2088	5889	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2089	2089	5883	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2090	2090	5866	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2091	2091	5865	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2092	2092	5853	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2093	2093	5842	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2094	2094	5835	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2095	2095	5835	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2096	2096	5828	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2097	2097	5821	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2098	2098	5821	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2099	2099	5808	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2100	2100	5788	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2101	2101	5786	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2102	2102	5770	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2103	2103	5766	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2104	2104	5748	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2105	2105	5746	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2106	2106	5744	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2107	2107	5732	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2108	2108	5717	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2109	2109	5698	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2110	2110	5690	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2111	2111	5674	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2112	2112	5669	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2113	2113	5661	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2114	2114	5656	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2115	2115	5643	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2116	2116	5629	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2117	2117	5606	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2118	2118	5586	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2119	2119	5571	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2120	2120	5542	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2121	2121	5534	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2122	2122	5527	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2123	2123	5510	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2124	2124	5509	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2125	2125	5500	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2126	2126	5496	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2127	2127	5494	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2128	2128	5481	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2129	2129	5457	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2130	2130	5453	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2131	2131	5434	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm

0.000000	0.000000	2132	2132	5416	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2133	2133	5358	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2134	2134	5356	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2135	2135	5341	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2136	2136	5301	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2137	2137	5267	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2138	2138	5266	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2139	2139	5265	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2140	2140	5227	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2141	2141	5193	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2142	2142	5190	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2143	2143	5190	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2144	2144	5183	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2145	2145	5137	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2146	2146	5136	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2147	2147	5134	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2148	2148	5095	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2149	2149	4952	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2150	2150	4939	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2151	2151	4910	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2152	2152	4696	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2153	2153	796	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2154	2154	595	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2155	2155	38	476946.80800000000	1471153.38800000000	9.70200000000	10/16/07 08:19:11pm
0.000000	0.000000	2156	2156	5117	476946.88600000000	1471153.37400000000	9.74000000000	10/16/07 08:19:12pm
0.000000	0.000000	2157	2157	5064	476946.84000000000	1471153.58300000000	9.86600000000	10/16/07 08:19:13pm
0.000000	0.000000	2158	2158	4896	476946.87400000000	1471153.40800000000	9.76600000000	10/16/07 08:19:13pm
0.000000	0.000000	2159	2159	4956	476946.81300000000	1471153.59700000000	9.82600000000	10/16/07 08:19:15pm
0.000000	0.000000	2160	2160	5480	476946.59400000000	1471153.59800000000	9.57300000000	10/16/07 08:19:16pm
0.000000	0.000000	2161	2161	5422	476946.60900000000	1471153.64600000000	9.50500000000	10/16/07 08:19:17pm
0.000000	0.000000	2162	2162	5352	476946.51900000000	1471153.67700000000	9.40500000000	10/16/07 08:19:17pm
0.000000	0.000000	2163	2163	5501	476946.33200000000	1471153.83300000000	9.22500000000	10/16/07 08:19:19pm
0.000000	0.000000	2164	2164	5336	476946.16200000000	1471153.99400000000	9.07400000000	10/16/07 08:19:19pm
0.000000	0.000000	2165	2165	5492	476945.89400000000	1471154.24100000000	8.82800000000	10/16/07 08:19:21pm
0.000000	0.000000	2166	2166	5444	476945.73500000000	1471154.40300000000	8.67200000000	10/16/07 08:19:21pm
0.000000	0.000000	2167	2167	5680	476945.36900000000	1471154.74300000000	8.28500000000	10/16/07 08:19:23pm
0.000000	0.000000	2168	2168	4952	476945.54100000000	1471154.61600000000	8.44500000000	10/16/07 08:19:23pm
0.000000	0.000000	2169	2169	5625	476944.97000000000	1471155.01000000000	7.92100000000	10/16/07 08:19:25pm
0.000000	0.000000	2170	2170	5587	476945.08800000000	1471154.97100000000	8.05600000000	10/16/07 08:19:25pm
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0.000000	0.000000	2176	2176	5587	476944.71800000000	1471155.14400000000	7.50700000000	10/16/07 08:19:31pm
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0.000000	0.000000	2181	2181	4905	476950.44200000000	1471176.82000000000	8.46600000000	10/18/07 03:47:44pm
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0.000000	0.000000	2183	2183	4956	476950.49800000000	1471176.78500000000	8.46100000000	10/18/07 03:47:45pm

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0.000000	0.000000	2201	2201	4960	476973.22600000000	1471174.06700000000	10.93800000000	10/18/07 03:48:03pm
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0.000000	0.000000	2321	2321	5309	476959.00000000000	1471151.14200000000	8.39200000000	10/18/07 03:50:03pm
0.000000	0.000000	2322	2322	5424	476959.37900000000	1471150.84700000000	8.75800000000	10/18/07 03:50:05pm
0.000000	0.000000	2323	2323	5023	476959.32400000000	1471150.83100000000	8.94400000000	10/18/07 03:50:05pm
0.000000	0.000000	2324	2324	6088	476959.39000000000	1471150.64300000000	9.29900000000	10/18/07 03:50:07pm
0.000000	0.000000	2325	2325	5997	476959.23600000000	1471150.56300000000	9.56600000000	10/18/07 03:50:07pm
0.000000	0.000000	2326	2326	5893	476959.12100000000	1471151.27300000000	10.01400000000	10/18/07 03:50:08pm
0.000000	0.000000	2327	2327	5715	476959.28800000000	1471151.34500000000	10.30500000000	10/18/07 03:50:09pm
0.000000	0.000000	2328	2328	6439	476959.47700000000	1471151.30900000000	10.56100000000	10/18/07 03:50:10pm
0.000000	0.000000	2329	2329	5977	476959.52200000000	1471151.30700000000	10.75600000000	10/18/07 03:50:11pm
0.000000	0.000000	2330	2330	5724	476959.47500000000	1471151.35600000000	10.94900000000	10/18/07 03:50:12pm
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0.000000	0.000000	2332	2332	6282	476959.52400000000	1471151.48300000000	11.13400000000	10/18/07 03:50:15pm
0.000000	0.000000	2333	2333	5168	476959.41000000000	1471151.50500000000	11.11600000000	10/18/07 03:50:15pm
0.000000	0.000000	2334	2334	5986	476959.74000000000	1471151.36200000000	11.09600000000	10/18/07 03:50:16pm
0.000000	0.000000	2335	2335	5749	476959.06100000000	1471151.01800000000	11.09100000000	10/18/07 03:50:17pm
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0.000000	0.000000	2337	2337	5690	476958.01900000000	1471151.67700000000	11.00400000000	10/18/07 03:50:19pm
0.000000	0.000000	2338	2338	6012	476955.96400000000	1471151.97200000000	11.28000000000	10/18/07 03:50:20pm
0.000000	0.000000	2339	2339	5594	476954.92600000000	1471152.56800000000	11.25600000000	10/18/07 03:50:21pm

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0.000000	0.000000	2342	2342	5295	476952.20000000000	1471152.20700000000	11.14900000000	10/18/07 03:50:24pm
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0.000000	0.000000	2345	2345	5636	476950.54500000000	1471151.94100000000	10.76400000000	10/18/07 03:50:27pm
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0.000000	0.000000	2487	2487	7682	476992.29600000000	1471147.43000000000	8.51900000000	10/18/07 03:52:49pm
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0.000000	0.000000	2491	2491	11390	476993.06800000000	1471149.50000000000	6.32100000000	10/18/07 03:52:53pm
0.000000	0.000000	2492	2492	10554	476993.85500000000	1471149.77800000000	5.51100000000	10/18/07 03:52:54pm
0.000000	0.000000	2493	2493	10781	476993.76600000000	1471150.52700000000	5.06000000000	10/18/07 03:52:55pm
0.000000	0.000000	2494	2494	10347	476993.57200000000	1471151.02800000000	4.65100000000	10/18/07 03:52:56pm
0.000000	0.000000	2495	2495	9915	476993.48200000000	1471151.13200000000	4.43000000000	10/18/07 03:52:57pm

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0.000000	0.000000	2498	2498	10399	476994.05600000000	1471152.32500000000	3.71600000000	10/18/07 03:53:00pm
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0.000000	0.000000	2503	2503	8523	476993.85300000000	1471152.15100000000	4.41000000000	10/18/07 03:53:05pm
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0.000000	0.000000	2648	2648	6197	476961.36100000000	1471170.03500000000	8.02100000000	10/18/07 03:56:42pm
0.000000	0.000000	2649	2649	5818	476962.35800000000	1471169.63400000000	8.08000000000	10/18/07 03:56:43pm
0.000000	0.000000	2650	2650	5920	476962.87700000000	1471169.27100000000	8.02900000000	10/18/07 03:56:44pm
0.000000	0.000000	2651	2651	5962	476964.04400000000	1471169.37700000000	8.07200000000	10/18/07 03:56:45pm

0.000000	0.000000	2652	2652	6196	476964.77200000000	1471168.98200000000	8.02400000000	10/18/07 03:56:46pm
0.000000	0.000000	2653	2653	6058	476966.04100000000	1471169.14200000000	8.08100000000	10/18/07 03:56:47pm
0.000000	0.000000	2654	2654	5687	476967.03700000000	1471168.72900000000	8.02000000000	10/18/07 03:56:48pm
0.000000	0.000000	2655	2655	5314	476967.67900000000	1471168.47500000000	8.01300000000	10/18/07 03:56:49pm
0.000000	0.000000	2656	2656	5209	476968.58300000000	1471168.55700000000	8.01400000000	10/18/07 03:56:50pm
0.000000	0.000000	2657	2657	5270	476968.68500000000	1471168.15900000000	7.90800000000	10/18/07 03:56:51pm
0.000000	0.000000	2658	2658	5327	476969.43500000000	1471167.99600000000	7.85700000000	10/18/07 03:56:52pm
0.000000	0.000000	2659	2659	5261	476970.68900000000	1471167.77100000000	7.83200000000	10/18/07 03:56:53pm
0.000000	0.000000	2660	2660	5239	476971.41100000000	1471166.85600000000	7.53200000000	10/18/07 03:56:54pm
0.000000	0.000000	2661	2661	5295	476972.65400000000	1471167.01200000000	7.80000000000	10/18/07 03:56:55pm
0.000000	0.000000	2662	2662	6195	476973.37000000000	1471166.30600000000	7.75000000000	10/18/07 03:56:56pm
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0.000000	0.000000	2664	2664	6014	476974.89700000000	1471166.41100000000	7.72600000000	10/18/07 03:56:58pm
0.000000	0.000000	2665	2665	6263	476975.24200000000	1471166.18500000000	7.69600000000	10/18/07 03:56:59pm
0.000000	0.000000	2666	2666	6035	476976.35000000000	1471166.44600000000	7.67900000000	10/18/07 03:57:00pm
0.000000	0.000000	2667	2667	5787	476976.91000000000	1471165.88000000000	7.53900000000	10/18/07 03:57:01pm
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0.000000	0.000000	2669	2669	5370	476979.03500000000	1471165.73100000000	7.40200000000	10/18/07 03:57:03pm
0.000000	0.000000	2670	2670	5430	476979.92400000000	1471165.40200000000	7.33500000000	10/18/07 03:57:04pm
0.000000	0.000000	2671	2671	4959	476980.91000000000	1471165.65500000000	7.24300000000	10/18/07 03:57:05pm
0.000000	0.000000	2672	2672	4980	476982.07400000000	1471165.48500000000	7.06300000000	10/18/07 03:57:06pm
0.000000	0.000000	2673	2673	5148	476983.32200000000	1471165.86100000000	7.15300000000	10/18/07 03:57:07pm
0.000000	0.000000	2674	2674	4981	476984.62500000000	1471165.22800000000	7.03200000000	10/18/07 03:57:08pm
0.000000	0.000000	2675	2675	5629	476985.61400000000	1471165.24800000000	6.92700000000	10/18/07 03:57:09pm
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0.000000	0.000000	2677	2677	5392	476986.84400000000	1471164.83900000000	6.72700000000	10/18/07 03:57:11pm
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0.000000	0.000000	2811	2811	7028	476974.18600000000	1471154.40200000000	5.25700000000	10/18/07 03:59:25pm
0.000000	0.000000	2812	2812	6990	476973.04200000000	1471155.06400000000	5.18700000000	10/18/07 03:59:26pm
0.000000	0.000000	2813	2813	7149	476971.97700000000	1471155.60000000000	5.25300000000	10/18/07 03:59:27pm
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0.000000	0.000000	2815	2815	13321	476969.76000000000	1471157.03800000000	5.11000000000	10/18/07 03:59:29pm
0.000000	0.000000	2816	2816	10343	476968.65600000000	1471156.87800000000	5.39900000000	10/18/07 03:59:30pm
0.000000	0.000000	2817	2817	9163	476967.51600000000	1471156.77700000000	5.46500000000	10/18/07 03:59:31pm
0.000000	0.000000	2818	2818	8191	476966.24700000000	1471156.98200000000	5.43500000000	10/18/07 03:59:32pm
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0.000000	0.000000	2820	2820	6515	476963.69200000000	1471157.75900000000	5.46500000000	10/18/07 03:59:34pm
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0.000000	0.000000	2823	2823	6203	476962.79100000000	1471160.56900000000	5.40800000000	10/18/07 03:59:37pm
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0.000000	0.000000	2835	2835	5917	476951.99900000000	1471160.40700000000	6.87200000000	10/18/07 03:59:49pm
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0.000000	0.000000	2974	2974	6538	476962.32900000000	1471156.35600000000	7.10900000000	10/18/07 04:02:12pm
0.000000	0.000000	2975	2975	6820	476962.04200000000	1471157.49100000000	6.61200000000	10/18/07 04:02:13pm
0.000000	0.000000	2976	2976	6476	476962.47400000000	1471158.65300000000	6.14000000000	10/18/07 04:02:14pm
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0.000000	0.000000	2980	2980	6984	476964.56500000000	1471163.31500000000	5.51900000000	10/18/07 04:02:18pm
0.000000	0.000000	2981	2981	6928	476964.94300000000	1471164.12000000000	5.49000000000	10/18/07 04:02:19pm
0.000000	0.000000	2982	2982	7264	476965.55300000000	1471165.18500000000	5.37300000000	10/18/07 04:02:20pm
0.000000	0.000000	2983	2983	6389	476966.04400000000	1471166.55000000000	5.45000000000	10/18/07 04:02:21pm
0.000000	0.000000	2984	2984	6563	476966.73300000000	1471168.02100000000	5.85400000000	10/18/07 04:02:22pm
0.000000	0.000000	2985	2985	5949	476966.94300000000	1471169.10600000000	6.35300000000	10/18/07 04:02:23pm
0.000000	0.000000	2986	2986	6069	476967.32100000000	1471169.84000000000	6.59400000000	10/18/07 04:02:24pm
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0.000000	0.000000	3014	3014	8683	476960.62000000000	1471169.68200000000	6.49200000000	10/18/07 04:02:52pm
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0.000000	0.000000	3099	3099	5580	476955.73200000000	1471177.68200000000	9.73300000000	10/18/07 04:04:17pm

APPENDIX K

PHOTOGRAPHIC LOG
(Available on CD only)

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APPENDIX K

PHOTOGRAPHIC LOG

Frame	Date	Time	Location/ Grid No.	Description/Work No.	Link
P3090051	3/9/2007	13:51	Site 1	Temporary wind fence with berm in background	photo
P3130067	3/13/2007	10:56	Site 1	Cat Front End Loader, 950G, additional buckets	photo
P3140069	3/14/2007	8:48	Site 1	Setting up geophysical survey base station	photo
P3140072	3/14/2007	10:34	Site 1	Berm; shows radioshack, radio tower, and tree that was removed	photo
P3140080	3/14/2007	13:01	Site 1	Removing surface scrap iron (UXO) with Cat backhoe 430D	photo
P3140085	3/14/2007	13:09	Site 1	RAD scanning area	photo
P3140089	3/14/2007	13:13	Site 1	Removing metal debris with Cat backhoe 430D	photo
P3140092	3/14/2007	13:16	Site 1	Debris area	photo
P3140094	3/14/2007	13:17	Site 1	Metal debris	photo
P3160099	3/16/2007	10:34	Site 1	Rad equipment	photo
P3160101	3/16/2007	15:52	Site 1	Dump truck#1	photo
P3190107	3/19/2007	6:31	Site 1	Hitachi Excavator 350	photo
P3190115	3/19/2007	8:42	Site 1	Final stockpile area	photo
P3190118	3/19/2007	8:49	Site 1	Hitachi Excavator 350, Cat roller CS-563E	photo
P3190119	3/19/2007	8:50	Site 1	Paving screening pad	photo
P3190120	3/19/2007	8:51	Site 1	Paving screening pad	photo
P3190121	3/19/2007	8:51	Site 1	Paving screening pad	photo
P3200125	3/20/2007	8:22	Site 1	Final stockpile area	photo
P3200127	3/20/2007	8:25	Site 1	Installing curb around screening pad	photo
P3200129	3/20/2007	8:25	Site 1	Installing curb around screening pad	photo
P3200131	3/20/2007	14:14	Site 1	Trommel 725 delivery	photo
P3200135	3/20/2007	14:47	Site 1	Trommel 725	photo
P3230142	3/23/2007	7:17	Site 1	Trommel 725 conveyor	photo
P3230146	3/23/2007	13:23	Site 1	Final stockpile area	photo
P3230148	3/23/2007	13:28	Site 1	Bird nest and eggs	photo
P3240151	3/24/2007	8:08	Site 1	Kawasaki cart, 315215, taking supplies to the field	photo
P3240154	3/24/2007	8:08	Site 1	Kawasaki cart, 315215	photo
P3240155	3/24/2007	9:10	Site 1	Rad surveying	photo
P3240156	3/24/2007	9:19	Site 1	Rad surveying	photo
P3280169	3/28/2007	9:02	Site 1	Agency site work, crew heading out to the field	photo
P3290172	3/29/2007	8:58	Site 1	Paving screening pad	photo
P3290173	3/29/2007	8:58	Site 1	Paving screening pad	photo
P4020181	4/2/2007	7:47	Site 1	Excavator at work	photo
P4020184	4/2/2007	9:25	Site 1	Excavating berm	photo
P4020185	4/2/2007	9:26	Site 1	Excavating berm	photo
P1010209	4/3/2007		Site 1	Loading into Trommel	photo
P1010210	4/3/2007		Site 1	View of Site 1, looking North	photo
P4040201	4/4/2007	8:21	Site 1	Trommel	photo
P4040203	4/4/2007	8:22	Site 1	Excavating berm	photo
P4040208	4/4/2007	13:11	Site 1	Office trailers #1, #2	photo
P4090001	4/9/2007	12:53	Site 1	Excavating berm	photo
P4100004	4/10/2007	8:56	Site 1	UXO blast shield, Excavator filling dump truck	photo
P4100007	4/10/2007	9:11	Site 1	Trommel working	photo
P4100010	4/10/2007	9:14	Site 1	Stock pile of screen material	photo
P4170018	4/17/2007	11:23	Site 1	Rad surveying berm	photo
P4170019	4/17/2007	11:49	Site 1	Trommel working	photo
P4170020	4/17/2007	11:51	Site 1	Canadian Geese and goslings	photo
P4170021	4/17/2007	11:57	Site 1	Agencies, Personal rad survey, coming out of work area	photo
P4170025	4/17/2007	15:31	Site 1	View from shoreline of excavated berm	photo
P4170027	4/17/2007	15:32	Site 1	View from shoreline of excavated berm	photo
P1010002	4/19/2007		Site 1	14H Motorgrader	photo
P1010006	4/19/2007		Site 1	Excavator and trommel at work.	photo
P1010008	4/19/2007		Site 1	Berm	photo
P1010001	4/24/2007		Site 1	Dust Monitor	photo
P4250009	4/25/2007	10:34	Site 1	excavator and barrels at screening pad	photo

APPENDIX K

PHOTOGRAPHIC LOG

Frame	Date	Time	Location/ Grid No.	Description/Work No.	Link
P4250015	4/25/2007	10:43	Site 1	testing for rad at end of screening pad, FRB confirmation pits	photo
P1010002	5/1/2007	9:51	Site 1	1/4" screen	photo
P1010026	5/2/2007		Site 1	RAD and UXO survey; testing for rad and metal in the debris pit	photo
P1010032	5/2/2007		Site 1	sorting through debris at the screening pad	photo
P1010033	5/2/2007		Site 1	barrels at the screening pad	photo
P1010037	5/2/2007		Site 1	hawk in the tree	photo
P1010048	5/2/2007		Site 2	View of wetlands	photo
P1010002	5/3/2007		Site 1	barrels at radioactive materials area	photo
P1010004	5/3/2007		Site 1	Loader moving soil to screening pad	photo
P1010005	5/3/2007		Site 1	Stockpile area	photo
P5080010	5/8/2007	15:55	Site 1	Trommel running	photo
P5220002	5/22/2007	13:04	Site 1	20mm embedded in concrete	photo
P5230002	5/23/2007	9:40	Site 1	rad testing barrels	photo
P5230013	5/23/2007	11:27	Site 1	Inspecting Chieftain 1400	photo
P5240024	5/24/2007	14:09	Site 1	Excavator and trommel at work.	photo
P5300030	5/30/2007	9:01	Site 1	UXO drum of 20mm	photo
P5310032	5/31/2007	9:20	Site 1	Chieftain at work	photo
06050706	6/5/2007	8:02	Site 1	Concrete rubble	photo
06050707	6/5/2007	8:03	Site 1	Concrete free release work	photo
06050708	6/5/2007	8:03	Site 1	Wood debris	photo
06050709	6/5/2007	8:04	Site 1	DOA - driveover array	photo
06050715	6/5/2007	8:08	Site 1	Field and RAD crews at disposal trench location	photo
06050717	6/5/2007	8:18	Site 1	Mechanical screening operation - MSO	photo
P6060018	6/6/2007	9:18	Site 1	Drum handler moving drums	photo
P6060033	6/6/2007	15:10	Site 1	Spreading impacted soil on survey pad	photo
P6120021	6/12/2007	13:52	Site 1	Stock pile waste characterization sample	photo
DSC00485	6/22/2007	7:22	Site 2	UXO tech inventory MPPEH	photo
DSC00489	6/29/2007	8:59	Site 1	Former firing range berm confirmation pit	photo
DSC00491	6/29/2007	9:00	Site 1	Debris pit area with timber debris	photo
DSC00492	6/29/2007	9:00	Site 1	Debris pit excavation pit	photo
DSC00497	6/29/2007	9:02	Site 1	20mm MPPEH embedded in concrete at debris pit	photo
DSC00501	6/29/2007	9:04	Site 1	Metal Debris and RAD concrete survey	photo
DSC00502	6/29/2007	9:05	Site 1	Site equipment sorting C&M debris	photo
DSC00503	6/29/2007	9:05	Site 1	Concrete and site debris undergoing free release survey	photo
07050705	7/5/2007		Site 1	Equipment screening at CMZ	photo
P7180039	7/18/2007	9:03	Site 1	Metal recycling bin	photo
P7180040	7/18/2007	9:03	Site 1	Free release drums in metal recycling bin	photo
DSC00608	7/27/2007	8:15	Site 1	Intermodal bins being prepared for site use	photo
DSC00609	7/27/2007	8:15	Site 1	Soil stock piles	photo
DSC00627	7/31/2007	8:01	Site 1	Site Sample, RAD equipment	photo
DSCF0459	8/8/2007	13:17		Excavator loading debris into intermodal bins	photo
P8150046	8/15/2007	14:04	Site 10	Air tank storage area scheduled for demolition	photo
P8220056	8/22/2007	10:16	Site 1	UXO metal debris removed from DT	photo
P9120002	9/12/2007	8:15	Site 2	Drums containing MPPEH at IR Site 2 Magazine	photo
P9180024	9/18/2007	13:02	Site 2	Bobcat with brush hog, vegetation clearance	photo
P9180031	9/18/2007	14:55	Site1	Anomalous location with backhoe	photo
DSC00717	9/19/2007	12:51	Site 2	UXO 55 gallon drums prepared for offsite disposal	photo
DSC00732	9/25/2007	13:46	Site 2	DOA	photo
DSC00763	9/27/2007	8:15	Site 1	Intermodal bins inside RMA	photo
PA030001	10/3/2007	10:43	Site 1	HPGe with operator	photo
PA090005	10/9/2007	15:03	Site 1	HPGe in operation	photo
DSC00784	10/17/2007	12:55	Site 1	Characterization sampling	photo
DSC00790	10/17/2007	12:58	Site 1	Staking sample locations	photo
DSC00836	10/24/2007	10:02	Site 1	DOA	photo
DSC00846	10/24/2007	10:12	Site 1	RCT with backpack	photo

APPENDIX K

PHOTOGRAPHIC LOG

Frame	Date	Time	Location/ Grid No.	Description/Work No.	Link
DSC00848	10/24/2007	11:58	Site 1	RCT with backpack/GPS equipment	photo
PA250008	10/25/2007	7:42	Site 1	DT excavation with orange fencing prior to backfill	photo
PB060040	11/6/2008	9:55	Site 1	Truck Scale for T&D	photo
DSC00901	11/7/2007	8:50	Site 1	T&D operations for hazardous non RAD impacted soils	photo
DSC00902	11/7/2007	8:50	Site 1	T&D operations for hazardous non RAD impacted soils	photo
DSC00905	11/7/2007	8:52		Manifest preparation for T&D	photo
DSC00938	12/7/2007	8:23	Site 32	Anomalous location	photo
DSC00942	12/7/2007	8:31	Site 32	Anomalous location excavation	photo
DSC01026	3/5/2008	11:31	Site 32	Gravel stock pile	photo
P4150022	4/15/2008	13:51	Site 32	Backfill gravel area	photo
P4150025	4/15/2008	13:53	Site 32	Backfill gravel area	photo
P1010030	4/21/2008		Site 1	Relocated Site 32 gravel inside Site 1	photo
P4230033	4/23/2008	10:13	Site 2	South shoreline road after major storm event	photo
P4230040	4/23/2008	10:19	Site 2	Goose nest with eggs	photo

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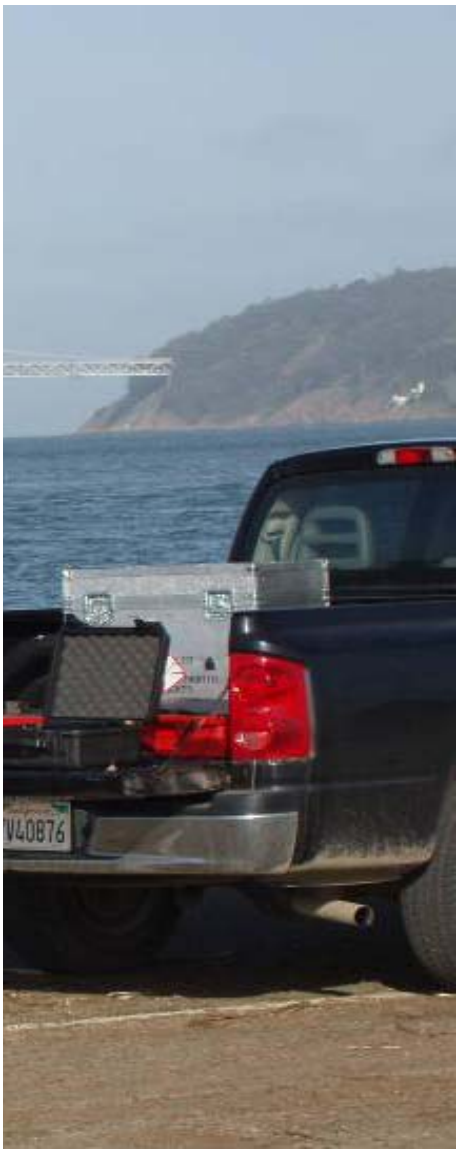

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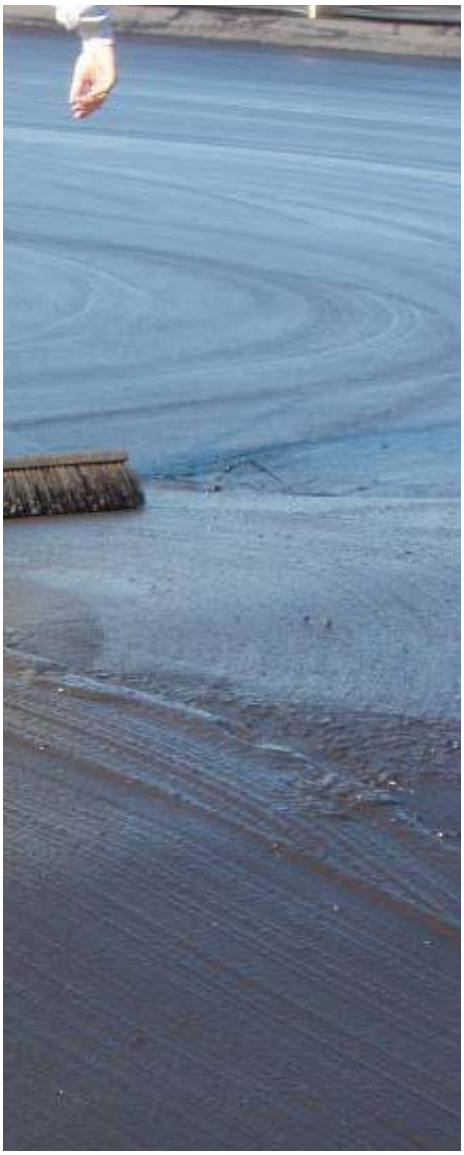

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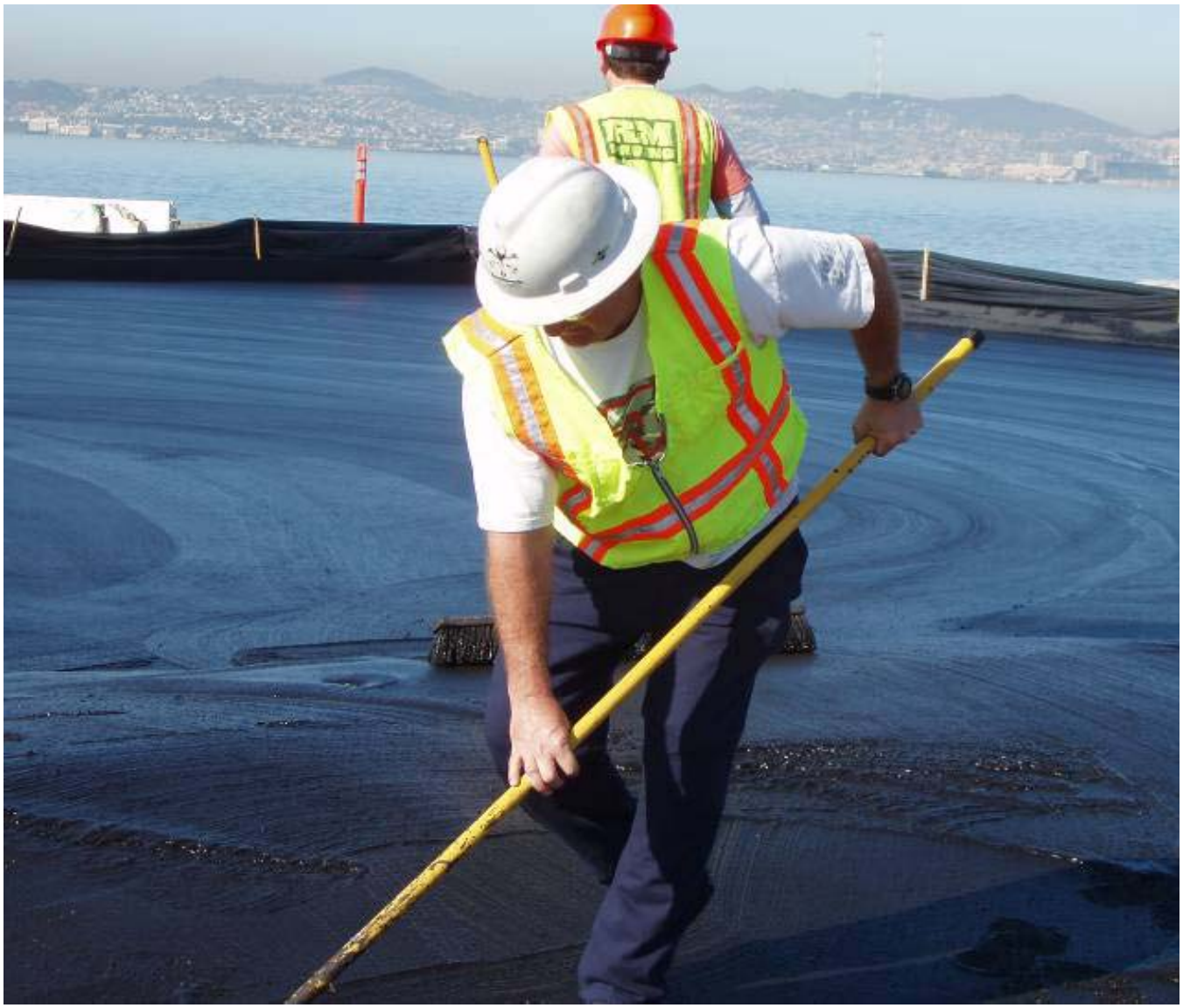
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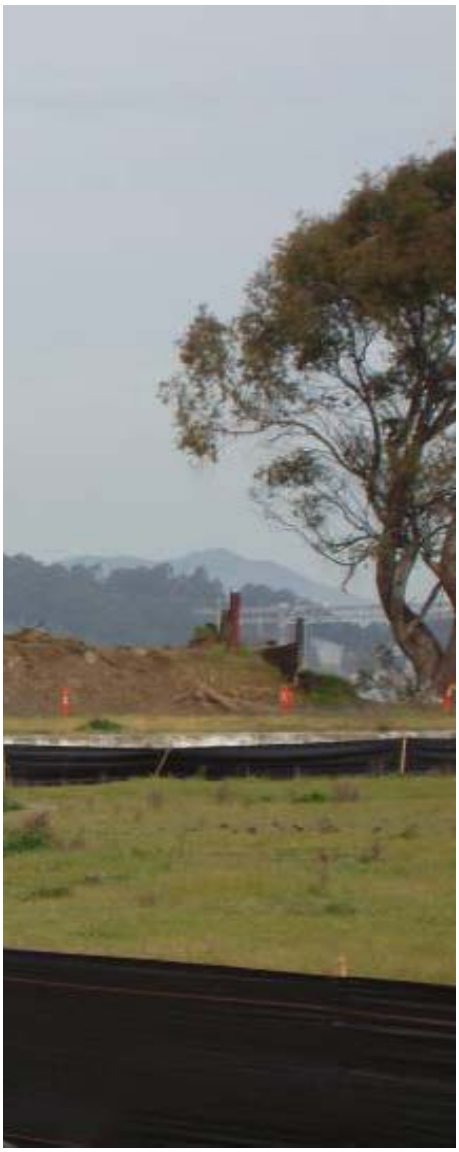

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SENSITIVE RECORD

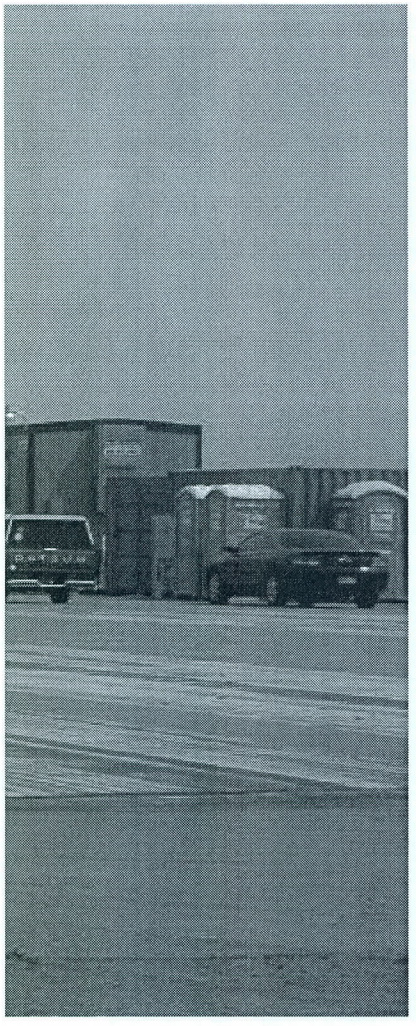
PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

POTENTIAL PRIVACY ACT INFORMATION

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil



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ALAMEDA POINT

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

POTENTIAL PRIVACY ACT INFORMATION

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
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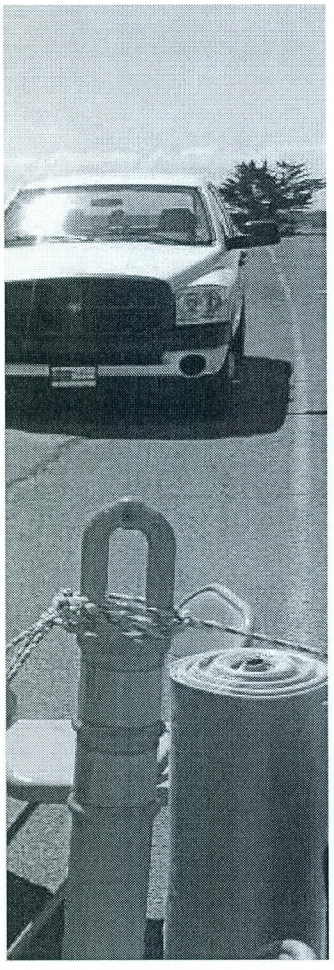
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil



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APPENDIX L

FIELD CHANGE REQUEST FORMS

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-001
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		3-09-07

RE: Drawing No. _____ Title _____

Specification Section Explosive Safety Submission Title SOP-1

Other _____

Description (items involved, submit sketch, if applicable)

Remove the Standard Operating Procedures from the Explosives Safety Submission

Upon a final review of the project's final (Revision 1) Explosive Safety Submission (ESS), the Naval Ordnance Safety and Security Activity (NOSSA) requested that Standard Operating Procedure One (SOP-1) be removed from the ESS before the document is forwarded to the Department of Defense Explosives Safety Board (DDESB)for their review and approval

Reason for Change

NOSSA reviewers felt that attaching SOP-1 to the ESS would hinder a DDESB review of the ESS because the SOP, which is larger than the ESS, would essentially double the effort for the document review. Additionally, the SOP does not contain any information that supplements elements of the ESS or pertains to the site approval request.

Recommended Disposition (submit sketch, if applicable)

Remove SOP-1 as an attachment to the ESS, renumber the attachments in the ESS, and resubmit it to NOSSA for approval and forwarding.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-001
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		3-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
Lance Hopley	3/9/07	TTECI UXO Coordinator		3-22-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	3.27.07
TtEC PESM (signature) (if health and safety related) Roger N Margotto, CIH	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	3-22-07
TtEC QC Program Manager (signature)	Date		
☐ Comments (attached) ☒ No Comments			
Navy RPM (signature)	Date	Navy ROICC (signature)	Date
	4/18/2007	Gregory J. Grace	4/18/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

ract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-001
ition		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-09-07
tional Details		

this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

arer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
ec Hayden	3/9/07	TTECI UXO Coordinator		3-22-7

osition

☐ Approved.

☐ Not approved (give reason).

Engineer (signature) ngineering related)	Date	TtEC Project Manager (signature)	Date
Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	3.27.0
PESM (signature) ealth and safety related) Jeffrey M Margotta, CIH	Date	TtEC Scientist (signature) (if science related)	Date
Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	3-22-0
QC Program Manager (signature)	Date		
Comments (attached) ☒ No Comments			
y RPM (signature)	Date	Navy ROICC (signature)	Date

ibution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-002
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		3-20-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.4

Description (items involved, submit sketch, if applicable)

Construct 75' x 75' screening pad with asphalt.

Substitute the double lined 20-mil PVC liner system with an asphalt pad .surrounded with an 8-inch high curb and the entire surface sealed with a waterproof sealer.

Reason for Change

The screening pad must be used for screening material excavated soil from the shooting range. This soil, which may contain greater than six inch sized debris, needs to be placed on the pad in a maximum six inch lift and screened for radiation and materials of explosive concerns before being removed and placed in the trommel screen. The process of placing the soil and then removing it from the pad presents a significant risk of damaging the liner system.

The existing site had a large surface area with existing asphalt used as a basketball court and extending this with additional asphalt and a curb provides an opportunity to create a pad that can be subjected to earth moving equipment without inflicting the type of damage that would normally occur on a PVC liner. The asphalt surface is smooth and allows operators to lay a near 6-inch lift and assures that the entire layer can be removed before the next lift for screening is placed.

Recommended Disposition (submit sketch, if applicable)

Allow the use of an asphalt pad with a curb and the surface area sealed with a waterproof sealer. Prior to beginning screening operations TtEC will conduct a radiological survey of the pad to establish background levels.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-002
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 3-20-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/20/07 ~~3/9/07~~	TTECI PQCM		3/20/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☑ Comments (attached) ☒ No Comments	Date: 3/20/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Project PH. ☐ Comments (attached) ☒ No Comments	Date: 3/20/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date		
Navy RPM (signature)	Date	Navy ROICC (signature)	Date: 5/7/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

ract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-002
ition		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-20-07

tional Details

this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

arer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/20/07 ~~3/9/07~~	TTECI PQCM		3/20/07

osition

☐ Approved.

☐ Not approved (give reason).

Engineer (signature) gineering related) Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☑ Comments (attached) ☒ No Comments	Date 3/20/
PESM (signature) ealth and safety related) Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Project PH. ☐ Comments (attached) ☒ No Comments	Date 3/20/07
QC Program Manager (signature) Comments (attached) ☒ No Comments	Date		
RPM (signature) Comments (attached) ☒ No Comments	Date 5/1/2007	Navy ROICC (signature)	Date

ibution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

ract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-002
ition		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-20-07
tional Details		

this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

arer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/20/07 ~~3/9/07~~	TTECI PQCM		3/20/0

osition

☐ Approved.

☐ Not approved (give reason).

Engineer (signature) ngineering related)	Date	TtEC Project Manager (signature)	Date
Comments (attached) ☐ No Comments		☒ Comments (attached) ☒ No Comments	3/20/
PESM (signature) ealth and safety related)	Date	TtEC Scientist (signature) (if science related) Project PH.	Date 3/20/07
Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
QC Program Manager (signature)	Date		
Comments (attached) ☒ No Comments			
RPM (signature)	Date	Navy ROICC (signature)	Date

ibution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC INC

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-003
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 3-23-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.1

Description (items involved, submit sketch, if applicable)

Delete first three paragraphs on page 6-14.

"Following the removal of the radiological anomaly, remaining soils within the 1.5-meter (5-foot) radius surrounding the anomaly will be excavated in 6-inch lifts and surveyed directly in the excavator bucket prior to being removed from the excavation location. The assigned RCT will perform a scan survey of the contents of each bucket of material. If a point source is present, it will be removed along with the remaining soil in the bucket and packaged for eventual off-site disposal by a certified waste broker consistent with the requirements specified in Section 7.4.5. If a bucket of soil is identified that exhibits elevated levels of radiation, but no specific point source can be identified, the soil in the bucket will be placed directly into a roll-off container for storage and subsequent disposal by a certified waste broker through the DON's LLRW Program. If a bucket of excavated material does not exhibit levels of radiation, it will be placed into a dump truck for subsequent screening at the screening pad.

At the screening pad, the soil will be spread across the pad in a 6-inch layer and a radiological screening survey of the material will be performed. The radiological survey will consist of a 100 percent surface scan survey scan using the LARADS survey system in accordance with SOP 2 (Appendix D-2). Any locations where a radioactive anomaly (greater than 3-sigma above background) is identified, will be investigated and associated point sources and/or contaminated soil/debris will be removed. The construction of the screening pad is discussed in Section 6.8.4.

Each 6-inch soil lift will be excavated, surveyed, and sampled to ensure that radioactive soil is properly disposed off site. Radiologically contaminated material identified during surveys or sample analysis will be placed in storage containers, pending disposal. Radioactive materials recovered during field activities will be controlled and managed under the TtEC NRC license. Once TtEC demobilizes from the site, radioactive material will be turned over to the DON and managed under the DON NRC license."

Reason for Change

The additional 12 inch over excavation accounts for the potentially contaminated surrounding soil. It is not necessary to excavate the other soil in the 1.5 meter radius. This change has been discussed with the Radiological Affair Support Office and they concur with the change.

Recommended Disposition (submit sketch, if applicable)

Remove text from Plan

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-003
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 3-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3/24/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	3.26.07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	3/26/07
TtEC QC Program Manager (signature)	**Date**		
☐ Comments (attached) ☐ No Comments			
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
			5/7/07

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FIELD CHANGE REQUEST FORM

tract No.	CTO No.	Field Change Request Form No.
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ation		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-23-07

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this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

arer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3/26/07

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☐ Approved.

☐ Not approved (give reason).

Engineer (signature) ngineering related)	Date	TtEC Project Manager (signature)	Date
			3.26.07
Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
PESM (signature) ealth and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
			3/20/07
Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
QC Program Manager (signature) Mary Schmidt	Date		
Comments (attached) ☒ No Comments			
RPM (signature) Andrew J. Laughman	Date 5/1/2007	Navy ROICC (signature)	Date

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Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

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2473-06-D-2201	0015	FCR-15-003
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RA for IR Sites 1, 2 and 32, Alameda Point		3-23-07
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this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

arer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3/26/0

osition

☐ Approved.

☐ Not approved (give reason).

Engineer (signature) ngineering related)	Date	TtEC Project Manager (signature)	Date
			3.26.0
Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
PESM (signature) ealth and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
			3/26/07
Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
QC Program Manager (signature)	Date		
Comments (attached) ☒ No Comments			
RPM (signature)	Date	Navy ROICC (signature)	Date

bution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

FCR 4

CANCELLED

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-004
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		3-23-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.1

Description (items involved, submit sketch, if applicable)

Revise page 2-13, third paragraph as follows:

"The Supervisor of Shipbuilding, Conversion and Repair, ~~Portsmouth~~ Vallejo (SSPORTS) Environmental Detachment conducted a more comprehensive radiological survey at IR Sites 1 and 2 in 1998 and 1999."

Cancelled per Cliff Stykel 3/30/07

Reason for Change

The SSPORTS detachment was from Vallejo, CA not Portsmouth, VA.

Recommended Disposition (submit sketch, if applicable)

Revise text

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-004
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 3-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3-26-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 3.26.07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☐ No Comments	Date 3/26/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date		
Navy RPM (signature)	Date	Navy ROICC (signature)	Date 5/7/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH

FIELD CHANGE REQUEST FORM

tract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-004
ıtion		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-23-07

itional Details

this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

ɔarer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3-26-

ıosition

☐ Approved.

☐ Not approved (give reason).

: Engineer (signature) ngineering related) Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 3.26.0
: PESM (signature) ealth and safety related) Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☐ No Comments	Date 3/26/07
: QC Program Manager (signature) Comments (attached) ☐ No Comments	Date		
y RPM (signature)	Date	Navy ROICC (signature)	Date

ibution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH

FIELD CHANGE REQUEST FORM

tract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-004
ation		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-23-07

itional Details

this change result in a contract cost or time change? ☐ Yes ☒ No

nate of contract cost or time charge (if any)

parer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/23/07	TTECI PHP		3-26-

osition

☐ Approved.

☐ Not approved (give reason).

Engineer (signature) ngineering related)	Date	TtEC Project Manager (signature)	Date
Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	3.26.0
PESM (signature) ealth and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	3/26/07
QC Program Manager (signature) Mary Schneider	Date		
Comments (attached) ☐ No Comments			
y RPM (signature) Andrew J. Laughman	Date 5/11/2007	Navy ROICC (signature)	Date

ibution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-005
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		3-29-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.1

Description (items involved, submit sketch, if applicable)

Section 6.8.1 does not provided information as to how point sources will be managed once they are recovered.

Reason for Change

Provide clarification of how each point source will be managed.

Recommended Disposition (submit sketch, if applicable)

Revise page 6-13, add the following text to the end of the first paragraph of 6.8.1:

"Following removal the point source will be placed into an appropriately sized clear plastic bag, photographed, logged, packaged for placement into metal storage container, and stored in a designated and posted radioactive material storage area for subsequent disposal."

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-005
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 3-29-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/29/07	TTECI PQCM		

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 3/29/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 3/29/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date		
Navy RPM (signature)	Date	Navy ROICC (signature)	Date 5/7/07

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TETRA TECH EC INC

FIELD CHANGE REQUEST FORM

tract No.	CTO No.	Field Change Request Form No.
2473-06-D-2201	0015	FCR-15-005
ation		Date
RA for IR Sites 1, 2 and 32, Alameda Point		3-29-07

itional Details

this change result in a contract cost or time change? ☐ Yes ☒ No

mate of contract cost or time charge (if any)

parer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	3/29/07	TTECI PQCM		

position

☐ Approved.

☐ Not approved (give reason).

C Engineer (signature) ngineering related) Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 3/29/07
C PESM (signature) ealth and safety related) Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 3/29/07
C QC Program Manager (signature) Comments (attached) ☒ No Comments	Date		
y RPM (signature) Andrew J Bagliano	Date 5/1/2007	Navy ROICC (signature)	Date

ribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-006
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5/5/07

RE: Drawing No. N/A Title N/A

Specification Section _____ Title _____

Other Work Plan Appendix D SOP-11

Description (items involved, submit sketch, if applicable)

SOP-11 in the Final Work Plan (WP) has been revised to meet the requirements of Final Explosives Safety Submission. (ESS) Revision 2 document.

Reason for Change

The Final WP, which includes SOP 11, provides general guidelines for the excavation of soil and debris from the 3 excavation sites, and also discusses how the material will be processed, inspected and stored. The Final ESS, Revision 2 document gives permission for the project to proceed, grants site approval for the various explosives operations that take place on the project site, promulgates the explosives safety standards for the project, establishes the ESQD arcs, and discusses the procedures for the processing, storage and demilitarization of Material Potentially Presenting an Explosives Hazard (MPPEH). Although the three primary governing documents all discuss the same field activities, they are not uniform in the way the guidance in them is presented. Additionally, existing site conditions varied from anticipated conditions and the procedures and the methods to accomplish the definable features of work were modified in reaction to the changed conditions.

The Final ESS Revision 2 document is considered the cardinal document governing the safe conduct of activities in the field, and inconsistencies in the other documents defer to guidance in the Final ESS Revision 2, which when approved, gave the project authorization to proceed. The next senior document in the triad, is SOP-11, which is included in Appendix D of the Final WP and addresses the explosives safety aspects of the project. SOP-11 must be current with existing procedures (as they have evolved), reflect the guidance and milestones as written in the Final WP, and be in compliance with the explosives safety standards provided in the Final ESS Revision 2 document.

Recommended Disposition (submit sketch, if applicable)

Replace the existing SOP-11 in the Final WP with SOP-11 Revision 1 in its entirety. Updated figures for the Final ESS Revision 2 document that illustrates the current site configuration will also be submitted.

Strike out ("red line") sections in the Final WP will be used to denote the FCR changes and sections that are superceded by the Final ESS Revision 2 document.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-006
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-05-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any): None

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
Lance Hopkey	5/5/07	TTECI UXO Coordinator		5-7-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) Sarah S ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/5/07
TtEC PESM (signature) (if health and safety related) NA ☐ Comments (attached) ☐ No Comments	Date 5/5/07	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☐ No Comments	Date 5/4/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date		
Navy RPM (signature)	Date 5/9/2007	Navy ROICC (signature)	Date 5/9/07

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Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-007
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 5.6.4.5

Description (items involved, submit sketch, if applicable)

The work plan allows the use of both the towed array and backpack based LARADS system. However, the calculation of the *Scan MDC* only utilizes the survey efficiency ($p = 0.7$) for the towed array. For conservatism the surveyor efficiency ($p = 0.5$) for the backpack needs to be utilized in the *Scan MDC* calculation in the work plan. The Scan MDC for the backpack LARADS is calculated to be 3.78 pCi/g which is approximately 18% greater than the Scan MDC of 3.19 pCi/g calculated for the towed array.

Reason for Change

Provide clarification of the surveyor efficiency (p) for both the towed array and the backpack based LARADS.

Recommended Disposition (submit sketch, if applicable)

Revise Section 5.6.4.5 as show on the attached page.

FIELD CHANGE REQUEST FORM

5.6.4.5 MDC for Gamma Scans of Surface Areas

The scan MDC (in pCi/g) is based on the area of elevated activity, depth of contamination, and the radionuclide (energy and yield of gamma emissions.) To establish the scan MDC, the relationship between the detector's net count rate to net exposure rate must be established first. This is accomplished by determining the MDCR using Equation 5-4, then applying a surveyor efficiency factor p to get the $MDCR_{Surveyor}$ as show below in Equation 5-8 below:

Equation 5-8

$$MDCR_{Surveyor} = MDCR / \sqrt{p}$$

The surveyor efficiency factor p is set at 0.7 for the towed array based LARADS and at 0.5 for the backpack based LARADS. The $MDCR_{Surveyor}$ is then converted into the corresponding minimum detectable exposure rate (MDER) by use of the manufacturer-provided count rate to exposure rate ratio for the detector. For example, the manufacture-provided count rate to exposure rate ratio for the Ludlum Model 44-10 2-inch by 2-inch NaI scintillation detector is 900 cpm/μR/hr (5.4×10^{10} counts/R). This value can be used to determine the ratio of cpm to μR/hr, as shown in Equation 5-9 below:

Equation 5-9

$$MDER\ (\mu R / hr) = \frac{MDCR_{Surveyor} * 6 \times 10^{7}}{cc}$$

Where:

$MDCR_{Surveyor}$ = as calculated in Equation 5-8
$6x10^{7}$ = a conversion factor accounting for differences in time and activity units [(μR-min)/(R-hr)]
cc = 5.4×10^{10} [(counts)/(R)], calibration constant

Next, the relationship between the radionuclide concentration and exposure rate is established. This is accomplished by modeling (using Microshield) to determine the net exposure rate produced by the radionuclide at a distance above the ground. The factors considered in modeling include:

- The dose point above the surface
- The density of material in grams per cubic centimeter (g/cm^3)
- DCGL of the radionuclide of concern in pCi/g
- The depth of detection for the DCGL
- The circular dimension of the cylindrical area of detector capability (square meters [m^2])

The concentration of the radionuclide of concern (scan MDC) necessary to yield the MDER may be calculated by taking the ratio of the MDER to the exposure rate calculated by Microshield, as shown in Equation 5-10 below:

Equation 5-10

$$Scan\ MDC\ (pCi / g) = \frac{DCGL\ pCi / g * MDER\ \mu R / hr}{Microshield\ Exposure\ Rate\ \mu R / hr}$$

For gamma scans using a NaI 2"x2" detector and a measured background of 4,433 cpm the *MDCR* is calculated as follows.

$$MDCR = 3.28 \sqrt{73.9} \times \left(\frac{60}{1} \right) = 1{,}692\ cpm$$

Where:

d' = 3.28
b_i = 4,433/60 = 73.9 (count)
i = 1 (s)

FIELD CHANGE REQUEST FORM

Using the calculated value of the MDCR and a surveyor efficiency factor $p = 0.5$ (i.e., backpack based LARADS) the $MDCR_{surveyor}$ is calculated as follows.

$$MDCR_{Surveyor} = \frac{1{,}692}{\sqrt{0.5}} = 2{,}393\,cpm$$

The corresponding MDER is calculated using the $MDCR_{surveyor}$ as follows.

$$MDER\,(\mu R/hr) = \frac{2{,}393 \times 6 \times 10^{7}}{5.4 \times 10^{10}} = 2.66$$

Where:

$MDCR_{Surveyor}$ = 2,393 cpm
$6x10^{7}$ = a conversion factor accounting for differences in time and activity units [(μR-min)/(R-hr)]
cc = 5.4 x 10^{10} [(counts)/(R)] a calibration constant

Using Equation 5-10 from above, the concentration of the radionuclide of concern (scan MDC) necessary to yield the MDER may be calculated by taking the ratio of the MDER to the exposure rate calculated by Microshield. The scan MDC for ^{226}Ra is calculated below:

$$Scan\ MDC\,(pCi/g) = \frac{1 \times 2.66}{0.7043} = 3.78\,pCi/g$$

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-007
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PM		5/9/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-007
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/9/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 5/7/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 5/10/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-007
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/07/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) Gregory D Joyce ☐ Comments (attached) ☒ No Comments	Date 5.10.07	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature) Andrew J Bayhurst	Date 5/21/07	Navy ROICC (signature) Gregory J. Joyce	Date 6/7/07

Distribution: Original to Project File, Copy to Site File, Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-008
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Sections 6.10, Appendix B Table B.3.1, Appendix B Section 5.1, Appendix B Table B.7-1 footnote "e"

Description (items involved, submit sketch, if applicable)

3-sigma above background is improperly used as a screening limit for radium-226 concentration in soil samples. The screening limit to be used is 1 pCi/g above background.

Reason for Change

Revise the text by replacing "3-sigma above background" with "1 pCi/g above background"

Recommended Disposition (submit sketch, if applicable)

Revise page 6-24, second paragraph: "… 1) the initial post-excavation sample results from sidewall sample are ~~3 sigma~~ 1 pCi/g …"
Revise Appendix B Table B.3.1 Step 2 Item 1 "… detected ~~3 sigma~~ 1 pCi/g ..."
Revise Appendix B Table B.3.1 Step 5 "…reported ~~3 sigma~~ 1 pCi/g ..." and "… below ~~3 sigma~~ 1 pCi/g ..."
Revise Appendix B Section 5.1, page 5-1 last paragraph "…If ^{226}Ra is found ~~3 sigma~~ 1 pCi/g above background in a confirmation sample, additional excavation will be conducted and another post-excavation sample will be collected. This process will continue until ^{226}Ra is less than ~~3 sigma~~ 1 pCi/g above background or until…"
Revise Appendix B Table B.7-1, footnote e: "Action limit is defined as ~~3 sigma~~ 1 pCi/g above background value. Above background is defined as any detection above the calculated background value. During previous investigations, background values have been established by TtEC, which is 0.365 pCi/g, at the sites."

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-008
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 5/10/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-008
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	5/9/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**	**Navy RASO (signature)**	**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	5.10.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	5/21/07		

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-008
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☒ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-008
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	5/9/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**	**Navy RASO (signature)**	**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	5.10.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
☐ Comments (attached) ☐ No Comments	5/21/07	Gregory J. Joyce ☐ Comments (attached) ☐ No Comments	6/7/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-009
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.6

Description (items involved, submit sketch, if applicable)

The presence of 45-cal and smaller lead bullets in the berm soil requires a second screening of the soil excavated from the berm to remove these lead bullets. The approach is to change out the screen on the trommel or bring in a separate screening system with a smaller screen to remove items greater than ¼--inch.

Reason for Change

Revise work plan to include the second mechanical screening of the berm soil.

Recommended Disposition (submit sketch, if applicable)

Revise Section 6.8.6 page 6-20, last paragraph as follows:
"The "fines" will be screened a second time to remove lead bullets (e.g., 45-cal) that have been found in the soil. This screening will be performed by changing out the screen on the trommel with a smaller mesh screen (i.e., ¼-inch) or by using a separate screening system with a smaller mesh screen. The "fines" will be processed thorough the second screen.

Once the material has been screened through this smaller mesh, a bulldozer or loader (or other EMM) will be used to spread 100 yds3 "batches" of the material into an approximately 6-inch-thick layer. RCTs will then survey the layered soil with the towed array or hand instruments. When each "batch" of soil has been completely rad-surveyed, it will be loaded and transported to the stockpile area and segregated for later characterization sampling. BMPs used for stockpile maintenance are discussed in the SWMP (Appendix E)."

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-~~007~~ 009 CJS 5/10/07
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/07/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 5/10/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-009 9
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/07/07	PHP		5/08/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	5/9/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**	**Navy RASO (signature)**	**Date**
Gregory D Joyce	5.10.07		
☐ Comments (attached) ☒ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
Andrew J Bayha	5/21/07		

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-009 (1)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/07/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature) Gregory J. Grace	Date 9/20/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-010
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-09-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Sections 6.8.1, 6.11, 7.5, Appendix B Section 5.3

Description (items involved, submit sketch, if applicable)

Section 6.8.1 specifically calls out a B-25 box.

Section 6.11 calls out B-25 boxes or bins.

Section 7.5 calls out B-25 boxes and 55-gallon drums

Section 5.3 of Appendix B calls out B-25 boxes or similar

Reason for Change

Provide clarification as to what type of container will be used to store excavated material.

Recommended Disposition (submit sketch, if applicable)

All references to B-25 boxes or bins and 55-gallon drums will mean a metal box/bin that has a water tight closure or a drum with a water tight closure.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-010
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PM		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 5/10/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-010
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PM		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	5/9/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**	**Navy RASO (signature)**	**Date**
Gregory D Soyer ☐ Comments (attached) ☒ No Comments	5.10.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	5/21/07		

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-010
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/09/07	PHP		5/09/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 5/9/07
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date 9/20/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-011
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-23-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan – ESS Revision 2 Section 6.5

Description (items involved, submit sketch, if applicable)

The soil generated from the excavation of the Firing Range Berm and Debris Pits within the IR Site 1 area is mechanically screened through the trommel operation and produces a rock product sized between ¾-inch and 6-inches. During the process to create the product, the soil material is 100% surveyed by the UXO and Radiation Groups a total of three times IAW the Work Plan and associated Explosive Safety Submission (ESS) Revision 2. The final rock product contains only trace soil material. The current disposition of the rock product would be to test it for waste characterization purposes and transport the product to an approved off-site landfill location for disposal.

Under the current scope of work approved by the Navy, there are no provisions to remove any UXO or radiological impacted soil materials within the 1A disposal area of IR Site 1 except for the two specific areas referenced above and several surface point source locations. The intent of the Navy is to cover the area at a later date under a separate landfill capping contract. The Disposal Trench area is located in the 1B area of IR Site 1. After the trench is removed under this contract, the Navy is scheduled to completely excavated the 1B area to groundwater at a future date as part of the IR Site 1 Final Remedy.

In IR Site 1 there are and will be depressions in the Firing Range Berm, the Debris Pit and Disposal Trench areas due to the excavation work. These depressions will be backfilled to grade as part of the work activity. Any material imported from an offsite location requires radiation and chemical testing to meet the Navy's requirements.

Based on these data and the survey information that indicates the ¾-inch to 6-inch material is "UXO" free and does not exhibit radioactivity above the investigation level, TtEC has determined that the rock product should be used as backfill material for the three referenced areas. As indicated the rock material will (1) fill depressions in the existing 1A area which will eventually be re-covered with soil and (2) be contained in a former trench in the 1B area which will be re-excavated and removed from the site.

Reason for Change

Provide the Navy value engineering. TtEC will be able to show a cost savings from (1) no additional laboratory analysis on the rock product for waste characterization purposes, (2) no engineering or procurement time or laboratory testing in order to find a suitable import backfill material, (3) no T&D cost associated with removing the ¾-6-inch rock material from the site, and finally (4) no cost for the transportation and the purchase of a suitable import back fill material.

Recommended Disposition (submit sketch, if applicable)

Allow the use of on site "UXO" free ¾-inch to 6-inch rock material that does not exhibit radioactivity above the investigation level as a backfill for depressions in the Firing Range Berm, Debris Pit and Disposal Trench areas.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-011
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07	PQCM		5-30-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) PHP ☐ Comments (attached) ☒ No Comments	Date 5/30/07	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	 ☒ Comments (attached) ☐ No Comments	Date 5/30/07
Navy RPM (signature)	Date 6/7/07	Navy ROICC (signature)	Date 6/15/07

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Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-011
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07	PQCM		5-30-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
PHP ☐ Comments (attached) ☒ No Comments	5/23/07	☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
N/A ☐ Comments (attached) ☐ No Comments		N/A ☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	5.31.07	☒ Comments (attached) ☐ No Comments	5/30/07
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

Distribution: Original to Project File, Copy to Site File,
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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-011
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 5-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07	PQCM		5-30-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
PHP ☐ Comments (attached) ☒ No Comments	5/30/07	☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-011
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 5-23-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) $190,000.00

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07			

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	Navy RASO (signature) ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-012
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-29-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other SAP – Section 5.3 Title **Waste Characterization Sampling**

Description (items involved, submit sketch, if applicable)

Correct fourth sentence in section to read:

"All samples collected from stockpiles generated from the former Firing-range Berm and from the debris pits will be analyzed for gamma spectroscopy and metals and ten percent of the samples will be analyzed for, ^{90}Sr, explosives, VOCs, SVOCs, polynuclear aromatic hydrocarbon (PAHs), pesticides, PCBs, Title 22 metals, TPH-purgeable, and TPH-extractable."

Originally this section had included the gamma spectroscopy testing as part of the ten percent analysis.

Reason for Change

This section must match Section 6.11 in the Work Plan.

Recommended Disposition (submit sketch, if applicable)

Require all samples from the waste characterization stockpiles to be analyzed for gamma spectroscopy.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-012
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-23-907

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07	PQCM		5-30-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
PHP ☐ Comments (attached) ☒ No Comments	5/30/07	☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
N/A ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	5/30/07	☐ Comments (attached) ☒ No Comments	5/31/07
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	6/7/07	Gregory J. Grace	6/15/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-012
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		5-23-907

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07	PQCM		5-30-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
PHP ☐ Comments (attached) ☒ No Comments	5/30/07	☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-012
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 5-23-907

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	5/23/07			

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-013
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		6-01-07

RE: Drawing No. n/a Title n/a

Specification Section _____ Title _____

Other TCRA Work Plan Section 6.8.6 Title **Third Screeing**

Description (items involved, submit sketch, if applicable)

The work plan requires a third radiological survey of the excavated soil after it has passed through the mechanical soil screening process.

CANCELLED

Reason for Change

The third radiological survey is unnecessary and the purpose of the third survey has been questioned by both the Navy and the regulatory agencies.

Recommended Disposition (submit sketch, if applicable)

Revise the last paragraph of Section 6.8.6 as follows:

The material/soil from each excavation will be stockpiled separately and later individually characterized for waste characterization purposes. ~~Initially, these stockpiles will be allowed to increase in size to approximately 100 cubic yards on laydown pads. When that size is reached, a bulldozer or loader (or other EMM) will be used to spread the soil into an approximately 6 inch thick layer. RCTs will then survey the layered soil with the towed array or hand instruments. When the soil has been completely screened, it will be loaded and transported to the stockpile area for later characterization sampling.~~ BMPs used for stockpile maintenance are discussed in the SWMP (Appendix E).

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-013
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 6-12-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	6-14-07	PM		6-14-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	6.14.07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-013
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 6-12-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	6-14-07	PHP		6-14-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	6-14-07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	6-14-07
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-013
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		6-12-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	6-14-07	PM		6-14-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	6-14-07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		Clifford Hoyt ☐ Comments (attached) ☒ No Comments	6-14-07
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce Gregory D Joyce ☐ Comments (attached) ☒ No Comments	6.15.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

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Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-014
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		6-01-07

RE: Drawing No. n/a Title n/a

Specification Section Title

Other TCRA Work Plan Section 6.8.6@ 61 Title **Soil Stockpiles**

Description (items involved, submit sketch, if applicable)

Change 2nd sentence of 1st paragraph from: "The stockpile containment pad will be constructed of two layers of 20-mil HDPE or PVC liner."

Change to: The stockpile containment pad will be constructed of one layer of 20-mill PVC and overlain with 6 to 8-inches of fine sand"

Reason for Change

The design offers better protection to the actual liner. The original design would have allowed site soil, known to contain angular sediment fragments, to come in direct contact with the PVC liner. Even with two sheets the PVC would have been susceptible to damage whem material were added or removed from the stockpiles using heavy equipment. Adding the layer of fine sand provides a buffer layer and helps assure the liners integrity throughout the project.

Recommended Disposition (submit sketch, if applicable)

Allow design modification.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-014
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 6-01-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	6/1/07	PQCM		6/1/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☒ No Comments	6-7-07	☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) **(if health and safety related)** N/A ☐ Comments (attached) ☒ No Comments	**Date**	**TtEC Scientist (signature)** **(if science related)** N/A ☐ Comments (attached) ☒ No Comments	**Date**
TtEC QC Program Manager (signature) ☐ Comments (attached) ☒ No Comments	**Date**	☐ Comments (attached) ☐ No Comments	**Date**
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	6/7/07		6/15/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-014
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 6-01-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Offad Shoft ☐ Comments (attached) ☒ No Comments	Date 6/1/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC INC

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-014
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 6-01-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

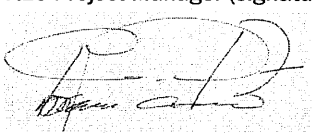
Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature)  ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-014
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 6-01-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Offsal Hoyt ☐ Comments (attached) ☒ No Comments	Date 6/1/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-015
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 6-09-07

RE: Drawing No. Figure 2-1 Title IR Site 1 and 32 Site Detail Map

Specification Section _____ Title _____

Other _____ Title _____

Description (items involved, submit sketch, if applicable)

Create Drawing 2-1A that will diagram the Radiation Material Areas

Reason for Change

The drawing indicates where the RMA fence and the RMA storage areas, including stockpiles are located. This provides regulators a diagram that can be referred to when the areas need to be released at the end of the project.

Recommended Disposition (submit sketch, if applicable)

Allow drawing modification.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-015
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 6-09-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	7/18/07	PHP		7-18-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	7/18/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		, CHP ☐ Comments (attached) ☒ No Comments	7/18/07
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Soyce ☐ Comments (attached) ☒ No Comments	7.24.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	7/25/2007	Gregory J. Grace	7/25/07

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N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

FIGURE 2-1A – RMA BOUNDARY

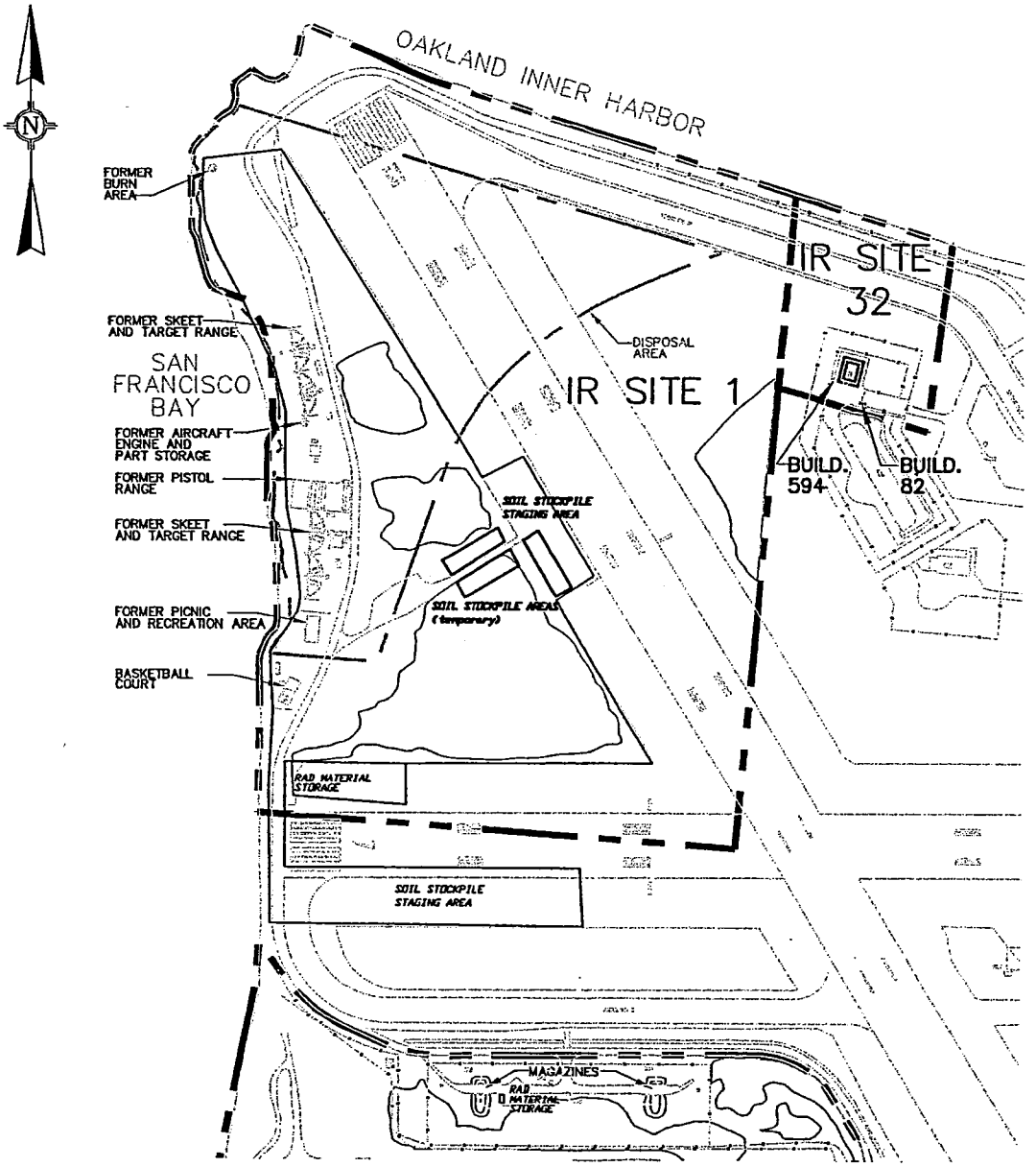
FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

DRAWN BY: MD	CHECKED BY: VR	APPROVED BY: AE	DCN: ECSD-RACIV-07-0232
DATE: 07/18/07	REVISION: 0		CTO: #0015

DRAWING NO: 07023221A.DWG



LEGEND

- IR SITE 1 AND 32 BOUNDARIES
- DISPOSAL AREA BOUNDARY
- SEASONAL WETLAND BOUNDARY
- RMA BOUNDARY

500 250 0 500

SCALE IN FEET

Figure 2-1A
RMA BOUNDARY

IR SITE 32 AND THE SHORELINES OF IR SITES 1 AND 2
ALAMEDA POINT – ALAMEDA, CA

TETRA TECH EC, INC.

P:\3210-RAC IV\CTO-0015\DWG\070232\FIGS FOR VINNIE-07-18-07\07023221A.DWG
PLOT/UPDATE: JUL 19 2007 10:05:36

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		7-23-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other Final Work Plan Title **6.8.6 Soil Stockpiles**

Description (items involved, submit sketch, if applicable)

The screening operation for the excavated material from the Firing Range Berm and Debris Pit created approximately 700 cy of a material that is ¾-inch to 6-inch in size . The Work Plan currently prescribes the material to be characterized for off site waste disposal purposes. The Navy, with regulatory agency approval, has agreed to allow this selected material to be used as backfill in the 1A Disposal Area.

Reason for Change

The material described above has been characterized as containing predominately gravel to boulder sized sedimentary and igneous rocks mixed with some minor debris (i.e. trace amounts of wood and metal with concrete and asphalt). Due to the size and characterization of the material it was not feasible to conduct representative chemical sampling for waste characterization purposes and off-site disposal. In addition, due to the mix of material, representative sampling for gamma radiation was considered unfeasible by the RASO and TtEC's radiation group.

Prior to creating the segregated material, the exposed surface soils at the Firing Range Berm and Debris Pit excavations (source of the material) was initially surveyed for UXO and RAD objects or impacted soil. Any materials of concern discovered in the excavation face were removed. The cleared material was removed in six inch lifts then taken to the survey pad and placed in a 6-inch lift. The process continued until the laydown pad contained $\leq$ 100 cy of material. The material was surveyed again for RAD and UXO objects and if found, any referenced objects where removed. The soil material was then mechanically screened separating the referenced product (3/4-inch to 6-inch) from oversized material > 6-inches and soil < ¾-inch in size. As in the case for each material size, the referenced material was spread out in a six inch lift, inspected and eventually certified as free of UXO debris once any munitions debris if applicable, were removed. The material was surveyed again for RAD and UXO objects and if found, any referenced objects where removed. In addition if the anomaly was RAD, soil in a one foot radius from the anomaly was also removed.

Due to the inability to certify the referenced material free of radiological contamination, as discussed above, the Navy was left with the option of transporting the material off site as radiological impacted soil. This option presents a major economic burden on the project. TtEC suggested that the material should be allowed as backfill for the test pits in the former Firing Range Berm and the Debris Pit areas. These areas are within the 1A disposal area which contains known radiological anomalies that will remain in place as part of the Remedial Action. This decision is based on the knowledge that the RA will place a 4-foot soil cover over the entirety of 1A.

Recommended Disposition (submit sketch, if applicable)

Without conducting any further characterization work, allow the referenced material to be placed in the 1A disposal area.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	7/23/07	PQCM	[signature]	8-8-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☒ Comments (attached) ☐ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Cliff Story, CHP ☒ Comments (attached) ☐ No Comments	Date 8/2/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☒ Comments (attached) ☐ No Comments	Date
TtEC QC Program Manager (signature) Gregory D Joyce ☐ Comments (attached) X☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location TCRA for IR Sites 1, 2 and 32, Alameda Point		Date 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date 08/4/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC PESM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	Date		Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-016
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	7/23/07	PQCM		8-8-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	8/8/2007	Gregory J. Lance	8/16/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-017
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 7-31-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other Final TCRA Work Plan Title 6.8.2. Excavation of Disposal Trench

Description (items involved, submit sketch, if applicable)

Add additional radiological controls to Section 6.8.2., Excavation of Disposal Trench, of the Final TCRA Work Plan.

Reason for Change

The radiological contamination encounter at the disposal trench is greater than originally expected and requires additional radiological controls that are currently not included in the work plan

Recommended Disposition (submit sketch, if applicable)

Add the attached text to Section 6.8.2., Excavation of Disposal Trench, of the Final TCRA Work Plan

FIELD CHANGE REQUEST FORM

Replace 2nd paragraph of Section 6.8.2 Excavation of Disposal Trench with:

The excavation will commence at the boundary of an excavation area and proceed inward. During the performance of the surface surveys, different radiological and geophysical instrumentation will be used to detect the radioactive material and various forms of MPPEH that may be present in the top 6 inches of soil that constitute the first lift to be excavated. Radiological material identified at greater than 3-sigma above background and that exhibits characteristics of a "point source" and any MPPEH detected in upper 6 inches of soil will be flagged. All flagged areas will be investigated to determine the source of the radiation and/or MPPEH to remove it. After each source of elevated activity reading is removed, an additional 12 inches of soil around the soil around the source will also be removed. If gamma radiation levels greater than 3-sigma above background levels persist after identifiable point source items are removed, additional soil excavation will be required in those areas to expose, locate, and remove the contamination.

Radiological material identified at greater the 3-sigma above background and that exhibits characteristics of a "distributed source" will be excavated as follows:

Preparation\Staging-
The area surrounding the trench and area where the disposal bins are staged will be controlled as a contamination area and will have a separate entry/exit location with a step off pad.

A sufficient width of plastic or liner material will be placed on both sides of trench and waste container to contain spillage of material.

Waste container will be staged to northeast of trench, not downwind of prevailing West\Northwest wind direction.

Loader bucket (transfer vehicle) will be lined with plastic. This liner will extend beyond the sides of the bucket allowing a "burrito wrap" of material once loaded.

Backhoe will excavate from north or south end of trench. Loader will approach trench from western direction.

Water truck will be outfitted with "fog spray" nozzle and staged upwind of trench outside of CA with hose ran into CA.

Water will be "fog sprayed" to eliminate visible dust. If wind conditions are such that visible dust cannot be eliminated excavation activities will cease.

Operations -
Backhoe will carefully remove trench material in 6" lifts and transfer material to the plastic lined loader bucket. Materials will be transferred over the trench footprint or side "liner". Both equipment operators will use appropriate care to prevent spillage of material.

All material will be misted using fog spray nozzle with water or soil fixative during operations.

When loader bucket is full the loader operator will back the loader away from trench, taking care to keep bucket over "side liner".

Workers will wrap material in loader bucket and secure plastic wrap using tape or other means.

Once wrapping is complete, loader will transport wrapped material to waste container from western direction and transfer load with as little disturbance as possible.

Safe Condition Actions at End of Ops (lunch break, end of day, or if work suspended)

The trench will to covered with plastic or liner material and the cover material secured to prevent it from being removed by the wind.

In the event material must be left in loader, this material will be fully covered with plastic or liner material.

FIELD CHANGE REQUEST FORM

Waste container opening to be covered with plastic and secured or material wrapped and lid closed.

Other Precautions

Continuous RCT job coverage while material is being handled.

Operation will be suspended if there is potential likelihood for loss of "contamination control" due to wind or other factors.

Workers will perform their actions from upwind of source material to the maximum extent possible.

Equipment operators, laborer, and RCT to wear lapel air samplers.

Excavator and loader buckets to be surveyed by RCT on a routine periodic basis. If levels exceed 20,000 dpm removable the equipment will be dry deconned (maslin or other wipes, etc) to < 2,500 dpm or fully wrapped in plastic and left in area for decon at later time prior to resuming operations.

RCT will periodically perform LAW survey of work area liner material. This liner will be deconed using masslin wipes or replaced if gross contamination noted. "Old" liner will be carefully folded or rolled in such a way to contain contamination, taped closed, and disposed of in appropriate waste container and new liner material placed in work location.

A windsock will be located upwind of trench and clearly visible from work location.

Low volume air samples to run both up and down wind during all operations. Periodic high volume workplace samples taken at location of highest potential for re-suspension of airborne material, this is most likely to be located downwind near excavation activity.

Minimum PPE is one pair coveralls, boots, shoe covers, booties, and double gloves.

Trench CA step off pad to be located on south side of work area. RCT to survey workers PPE and assist in doffing of PPE if contaminated. Coveralls and outer booties to be doffed at this step off pad. Workers will be whole body surveyed, don new (or previously surveyed) outer booties, and new (or previously surveyed) outer gloves before traveling to main RMA exit on runway.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-017
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	8-8-07	PHP	[signature]	8-8-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☒ Comments (attached) ☐ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	 ☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-017
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	8/8/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	8/8/07
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☒ No Comments	8.9.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015	FCR-15-017
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 7-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (If any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (If engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	8/8/07
TtEC PESM (signature) (If health and safety related)	**Date**	**TtEC Scientist (signature) (If science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	8/8/07
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☒ No Comments	8.9.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	8/14/2007		8/16/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-16 (2)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Section 6.11** Title **Stockpile Characterization**

Description (items involved, submit sketch, if applicable)

Add additional text to Section 6.11, Stockpile Characterization, of the Final TCRA Work Plan for the handling of the bedding sand.

Reason for Change

The work plan did not address the disposition of the bedding sand that was placed over the PVC liners at the trommel, Laydown Pad B and the bulk stockpiles locations

Recommended Disposition (submit sketch, if applicable)

Add the attached text to Section 6.11, Stockpile Characterization, of the Final TCRA Work Plan.

The bedding sand used to protect the PVC liner at the former bulk stockpile areas, the former trommel area and the former laydown pad area will be surveyed for radiological material and sampled for waste characterization purposes in accordance with the SAP. The material will be collected and placed in the asphalt survey pad in no more than 100 cy lots. The material will be spread in a 6-inch lift and surveyed for radiological anomalies in accordance with the work plan. If the survey does not result in measurements above the investigation level the sand will be removed from the pad and placed in 100cy stockpile and sampled for waste characterization purposes.

In the event the survey identifies areas above the investigation level (i.e., a radiological anomaly is found) the anomaly and surrounding soil will be removed in accordance with work plan. The entire soil layer will then be flipped and re-surveyed for radiological material. This process will continue if anomalies are found for a third time if necessary (Note: if an anomaly is found during third survey the RPM and RASO will be contacted for additional direction) Once the RCT approves that the sand is free of radiological material, the sand will be removed from the pad and placed in 100cy stockpile and sampled for waste characterization purposes.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-18 (2)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	8/23/07	PQCM	[signature]	8-23-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	Date		Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-18
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature) Gregory D. Joyce ☐ Comments (attached) ☐ No Comments	Date 8/28/07	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-18 (2)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Cyndi Stoyle ☒ Comments (attached) ☐ No Comments	Date 8/24/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-18 (2)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) NA

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
Vince R. per Phone			Bob Wells per phone	

Disposition

☐ Approved.

☐ Not approved (give reason).

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA			8/27/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC PQCM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	
NA Required		Cliff Stephan per V. Richards	
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	Date		Date
		NA	
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-~~28-01~~ 15-18 (2)
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) NA

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
Vince R. per Phone			Bob Walls per phone	

Disposition

☐ Approved.

☐ Not approved (give reason).

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA			8/27/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC PSSM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	
NA Required		Cliff Stephan per V. Richards	
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	Date		Date
		NA	
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date
	8/30/07	Gregory J. Bruce	9/5/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-19
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 8-30-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Section 6.8** Title **Excavation Activities**

Description (items involved, submit sketch, if applicable)

Clarify in the Final TCRA Work plan that Area 1B is included in the 1A Disposal Area as indicated on Figure 1-1 and is excluded from excavations of previously identified radiological anomalies.

Reason for Change

The removal of previously identified radiological anomalies from IR Sites 1, 2, and 32, described in the Final TCRA Work Plan, did not specifically state that area 1B is within the 1A area. The Navy has specified that except for the removal of the materials from the Firing Range Berm, the Debris Pit and Disposal Trench, no other removal of material is required in the 1A and 1B area

Recommended Disposition (submit sketch, if applicable)

Add the following text as the second sentence to Section 6.8:

The removal of previously identified radiological anomalies from IR Site 1 excludes the 1A disposal area which incorporates the 1B area as shown in Figure 1-1.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-19
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 8-30-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	8/30/07	PQCM	[signature]	8/30/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Official Style, CHP ☒ Comments (attached) ☐ No Comments	Date 9/11/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-19
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-30-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA		[signature]	9/10/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA		NA	
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce	9/10/07		
☐ Comments (attached) ☒ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
[signature]	9-19-2007	Gregory J. Joyce	9/20/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-20
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-30-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP Section 6.8.2 Title **Excavation of Disposal Trench**

Description (items involved, submit sketch, if applicable)

Collect two waste characterization samples for each 10 cy of excavated soils from the Disposal Trench that has been identified as soils that are below the investigative limit.

Reason for Change

Due to the unexpected high percentage of soils in the Disposal Trench that exceed the investigative levels for radiation, the RASO has directed TtEC to adjust the sampling frequency for the soils that do not exceed the investigative levels for radiation as a precaution.

Recommended Disposition (submit sketch, if applicable)

Revise the first sentence of Section 6.8.2, Excavation of Disposal Trench, of the Final TCRA Work Plan as follows:

When each dump truck has reached *a 10cy* capacity, the excavated soil and debris will be transported to ~~a~~ *the* screening pad. It is important to understand that the requirement is two samples per dump truck, which is currently 10 cy. If for some reason larger trucks are used (i.e., 14 cy) only two samples are required. ~~located adjacent to the Trommel-type screening plant...~~

Revise the sixth sentence and add new seventh sentence of Section 6.8.2, Excavation of Disposal Trench, of the Final TCRA Work Plan as follows:

Once all anomalies have been removed, if any, *two random samples for characterization purposes will be collected from the 10 cy of* ~~screened~~ *surveyed* soil. ~~stockpiled, characterized, and disposed off site at a CERCLA-approved TSDF~~ The soil may then be placed in 100 cy stockpiles after concurrence from RASO, based on the review of the soil sample results, has been received to consolidate the 10 cy of soil into 100 cy stockpiles. The soil will then be disposed off site at a CERCLA-approved TSDF.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-20
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	8/23/07	PQCM	[signature]	8/23/07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		[signature], CHP ☒ Comments (attached) ☐ No Comments	9/11/07
TtEC QC Program Manager (signature)	Date		Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-20
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 8-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	9/10/07
TtEC PESM (signature) (if health and safety related) NA ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) NA ☒ Comments (attached) ☐ No Comments	Date
TtEC QC Program Manager (signature) Gregory D Joyce ☐ Comments (attached) ☒ No Comments	Date 9.10.07	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date
		Gregory J. Joyce	9/20/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-21
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		9-19-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Appendix D-12, SOP-12** Title **Air Sampling and Sampling Analysis**

Description (items involved, submit sketch, if applicable)

Allow us of last four digits of SSN or employee number as identification on the Personal Air Monitoring Log

Reason for Change

The SOP had requested the persons full SSN on the Personal Air Monitoring Log and employees had objected to having to release personal information

Recommended Disposition (submit sketch, if applicable)

Change the following text in Section 4.3.3 of SOP-12 (**change in bold**):

7. Prior to issuing any equipment to a worker, enter the following information on Attachment 2, Personal Air Monitoring Log:
    - Wearers' Name
    - Wearers' social security number **(last four digits of SSN or employee number)**
    - Sampler ID number
    - Date

See attached revised log sheet

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-21
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 9-19-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	9/19/07	PQCM	[signature]	9-19-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA		[signature]	9/26/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA			
☐ Comments (attached) ☐ No Comments		☒ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

ATTACHMENT 2
PERSONAL AIR MONITORING LOG

Project/Location: _____ Page ____ of ____

Name of Wearer	Employee # or last Four Digits of SSN#	Date	Work Location	Start Time	Stop Time	Sampler ID	Sample Volume (ft3)	Alpha Results (uCi/ml)	Alpha %DAC	Beta Results (uCi/ml)	Beta %DAC	Counter ID	RCT Initials

uCi\ml = ((netcpm) / (Ei * SR * ST)) * K

Where:
Ei - Instrument Efficiency
ID - identification number
SR - Air Sample Rate (cfm)
ST - Air Sample Time (min)
K - Conversion factor for dpm/cpm to uCi/ml = $1.59 * 10^{-10}$

DAC - derived air concentration
uCi/ml - microcurie per milliliter

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-21
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		9-19-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	9/19/07	PQCM	[signature]	9-19-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA ☐ Comments (attached) ☐ No Comments		[signature] ☐ Comments (attached) ☐ No Comments	9/26/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA ☐ Comments (attached) ☐ No Comments		[signature], CHP ☒ Comments (attached) ☐ No Comments	9/27/07
TtEC QC Program Manager (signature)	**Date**		**Date**
[signature] ☐ Comments (attached) ☒ No Comments	9.27.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
[signature]	10/25/07	Gregory J. Grace	10/25/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-22
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 9-25-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **RMA Figure** Title

Description (items involved, submit sketch, if applicable)

Allow expansion of the RMA that is used to contain the intermodal bins.

Reason for Change

The additional RAD impacted soil encountered during the work activities has required the use of additional intermodal bins at the site.

Recommended Disposition (submit sketch, if applicable)

Allow expansion in accordance with the attached sketch.

N00236_003440
ALAMEDA POINT

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

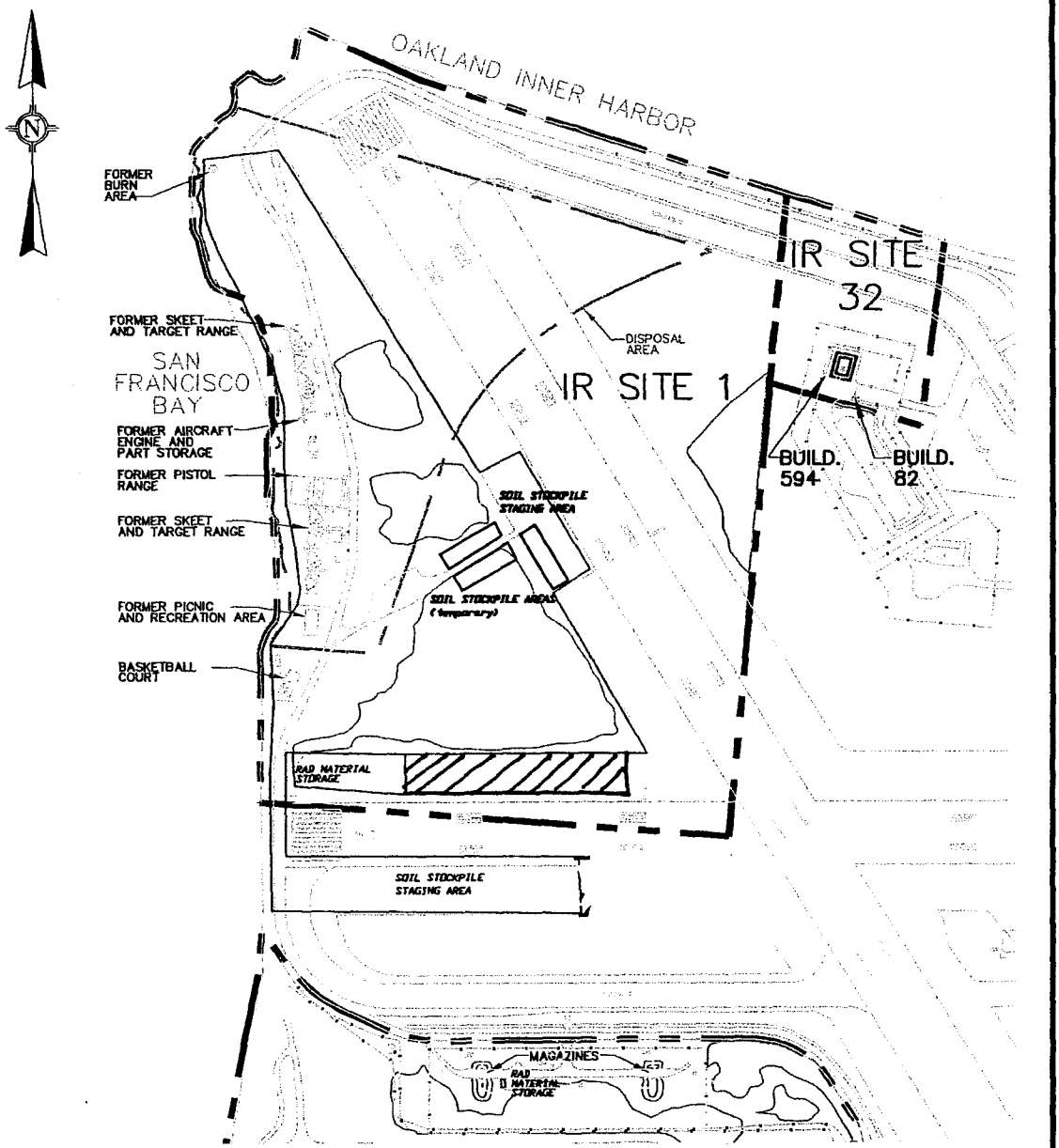
FIGURE 2-1A – RMA BOUNDARY

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

DRAWN BY: MD	CHECKED BY: VR	APPROVED BY: AE	DCN: ECSD-RACIV-07-0232	DRAWING NO: 07023221A.DWG
DATE: 07/18/07	REVISION: 0		CTO: #0015	



LEGEND

- IR SITE 1 AND 32 BOUNDARIES
- DISPOSAL AREA BOUNDARY
- SEASONAL WETLAND BOUNDARY
- RMA BOUNDARY

500 250 0 500

SCALE IN FEET

EXPAND RMA AREA FOR INTERMODALS

Figure 2-1A
RMA BOUNDARY

IR SITE 32 AND THE SHORELINES OF IR SITES 1 AND 2
ALAMEDA POINT – ALAMEDA, CA

TETRA TECH EC, INC.

P:\3210-RAC IV\CTO-0015\DWG\070232\FIGS FOR VINNIE-07-18-07\07023221A.DWG
PLOT/UPDATE: JUL 19 2007 10:05:36

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-22
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 9-25-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
	9/25/07	PQCM		9-25-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	9/26/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA ☐ Comments (attached) ☐ No Comments		CHP ☐ Comments (attached) ☐ No Comments	9/26/07
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☒ No Comments	9.27.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	10/25/07		10/25/07

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0028	FCR-15-22
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 9-23-07

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
[signature]	9/25/07	PQCM	[signature]	9-25-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA		[signature]	9/26/07
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA			
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-023
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		11-3-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title _____

Final TCRA WP **Section 6.8.1** **Removal of Radioactive Material**

Description (items involved, submit sketch, if applicable)

Implement a change in remedial excavation guidance that currently relies on field NaI readings to an approach based on a combination of field NaI readings and characterization sampling.

Reason for Change

Several of the identified remedial excavations locations exhibit field gamma readings that are greater than the project Investigation Level (defined as count rate greater than 3-sigma above background) and these elevated count rates don't diminish as lifts of soil are removed.

The sites also have several areas with gravel atop soil; this gravel material consistently exhibits a higher gamma count rate than the surrounding soil matrix. On the whole, the gamma count rate measured on the gravel exceeds the project Investigation Level.

The potential exists that the gamma emission background count rate, measured with a 2x2 NaI detector at the Background Reference Sites, is not representative of all materials within the IR sites. The revised characterization sampling will be conducted in accordance with the amended SAP.

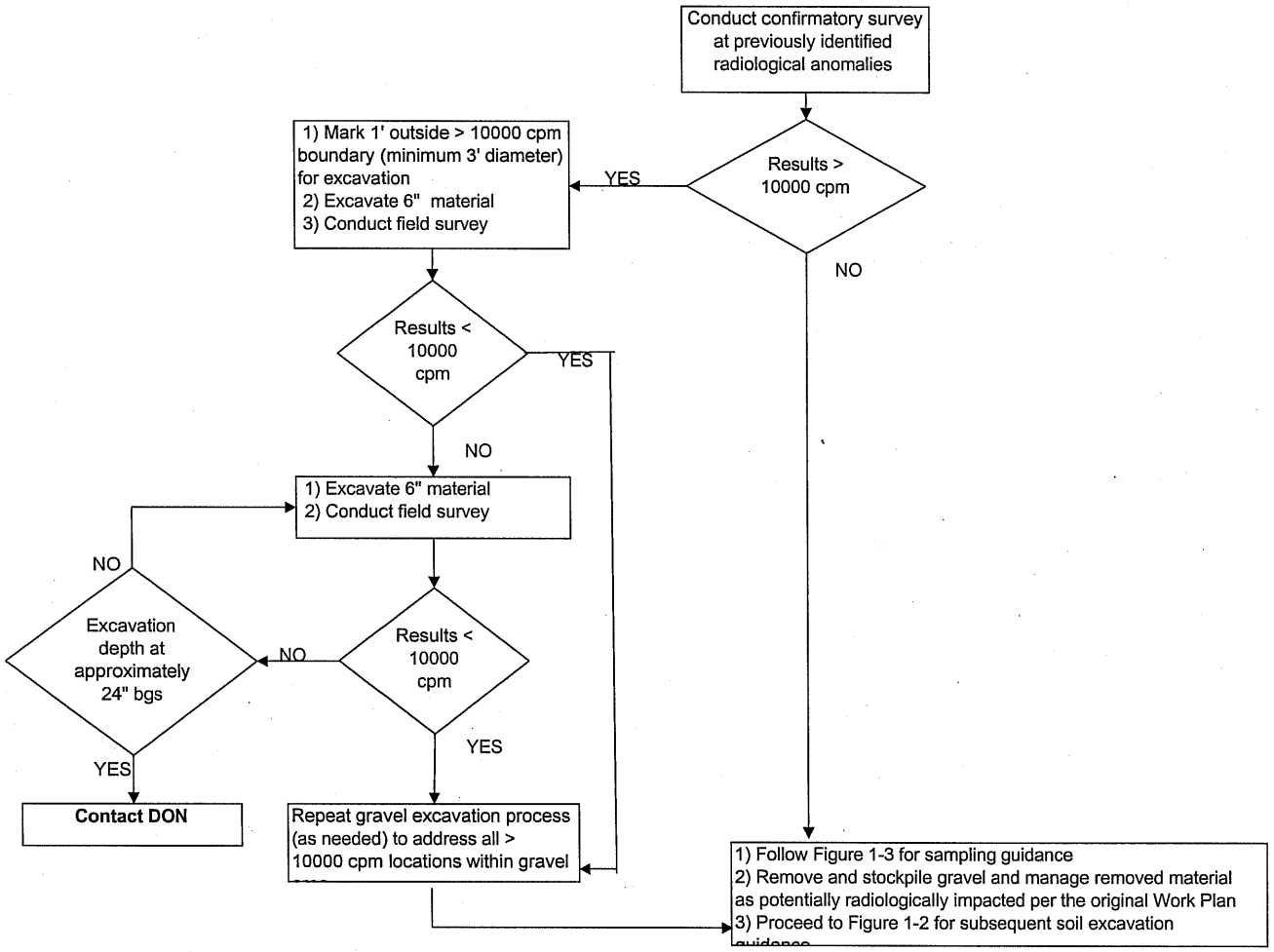
Recommended Disposition (submit sketch, if applicable)

Add the following text after 3rd paragraph of Section 6.8.1:

Several of the identified remedial excavations locations exhibit field gamma readings that are greater than the project Investigation Level (defined as count rate greater than 3-sigma above background) and these elevated count rates don't diminish as lifts of soil are removed. The sites also have several areas with gravel atop soil; this gravel material consistently exhibits a higher gamma count rate than the surrounding soil matrix. On the whole, the gamma count rate measured on the gravel exceeds the project Investigation Level.

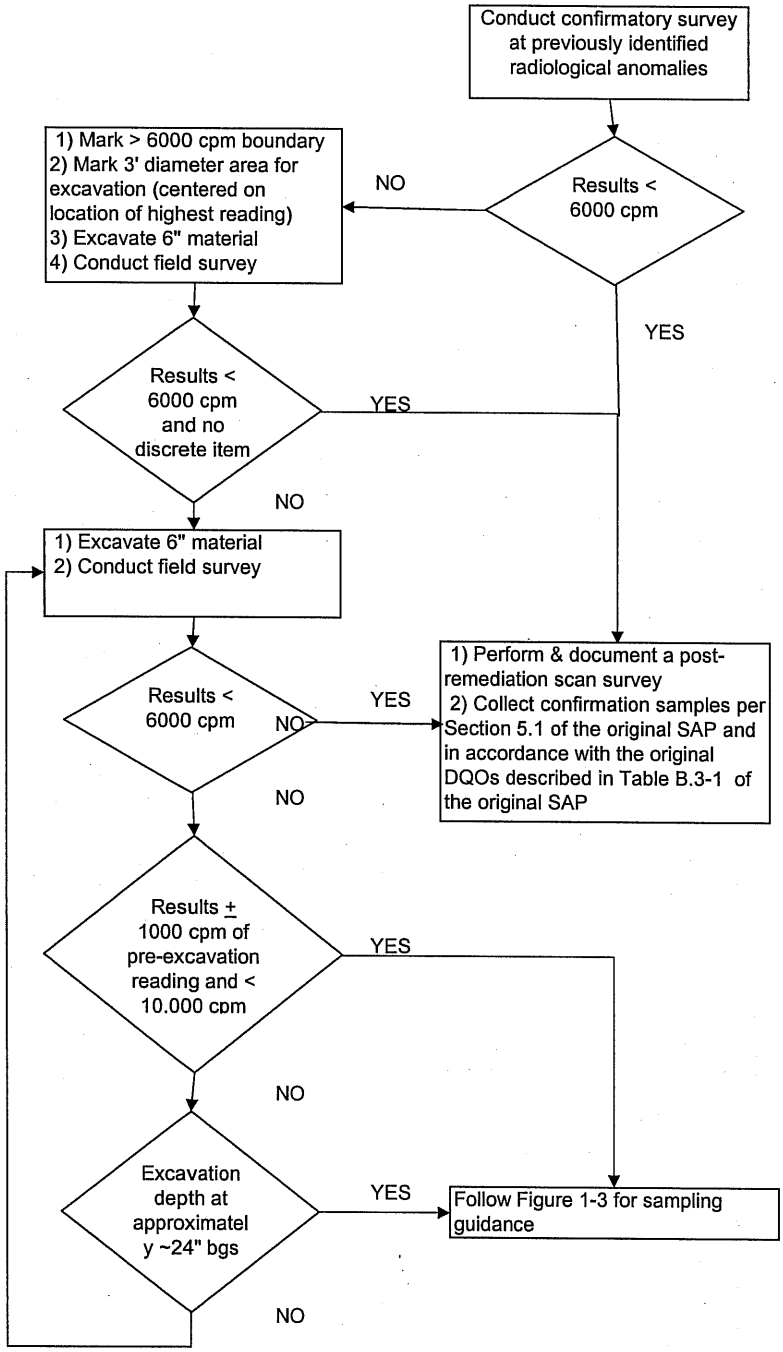
The potential exists that the gamma emission background count rate, measured with a 2x2 NaI detector at the Background Reference Sites, is not representative of all materials within the IR sites. To further evaluate these areas TtEC will perform characterization sampling in accordance with the attached work flow process diagrams and the amended SAP.

Figure 1-1
Gravel Excavation Guidance



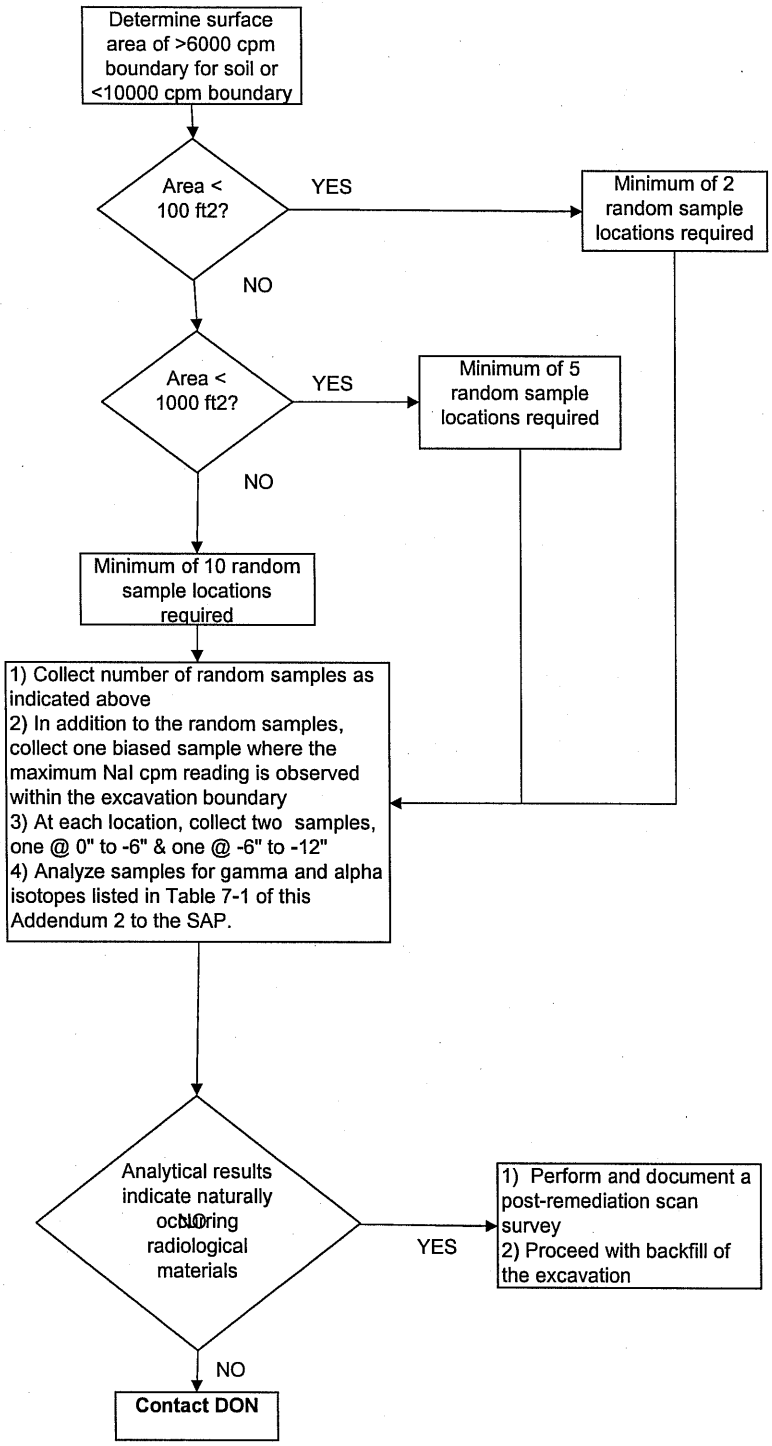
Notes: Segregation and removal of discrete items will proceed as identified in the original Work Plan. Also per the original Work Plan, removal of an additional 1' of material in all directions from discrete item location(s) will be performed. This additional material will be handled and disposed of as radiologically impacted.
10000 cpm = level for gravel measured with 2x2 NaI.
bgs = below ground surface

Figure 1-2
Soil Excavation Guidance



Notes: Segregation and removal of discrete items will proceed as identified in the original Work Plan. Also per the original Work Plan, removal of an additional 1' of material in all directions from discrete item location(s) will be performed. This additional material will be handled and disposed of as radiologically impacted.
6000 cpm = investigative level for soil measured with 2x2 NaI
bgs = below ground surface

Figure 1-3
Sampling Guidance



Notes: Segregation and removal of discrete items will proceed as identified in the original Work Plan. Also per the original Work Plan, removal of an additional 1' of material in all directions from discrete item location(s) will be performed. This additional material will be handled and disposed of as radiologically impacted.
6000 cpm = investigative level for soil measured with 2x2 NaI
10000 cpm = level for gravel measured with 2x2 NaI.
bgs = below ground surface

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-023
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 11-3-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
	11/3/07	Sr. Health Phyiosist		11-12-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
N/A ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	11/15/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
N/A ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	11/9/07
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory Joyce ☐ Comments (attached) ☒ No Comments	11.15.07	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	11/28/07	Gregory J. Joyce	12/7/07

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TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-024
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		12-5-07

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Section 6.8.1** **Removal of Radioactive Material**

Description (items involved, submit sketch, if applicable)

Reduce number of samples needed in location(s) that exhibit high field radiological readings.

Reason for Change

FCR15-023 addressed sampling when field readings indicate a high potential for enhanced naturally occurring gamma emitters (in comparison with the background reference sites).

FCR15-24 addresses identifying a single biased sample location in areas that exhibit elevated count rates consistent with "man-made" contaminants.

This change is expected to yield adequate radiological information about specific geographic areas at a reduced cost.

Recommended Disposition (submit sketch, if applicable)

Insert the attached flow chart (Sheet 1) into Sec. 6 of the work plan –

TETRA TECH EC INC

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-024
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 12-5-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
		Sr. Health Physicist		12-12-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☐ No Comments	Date
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

7.7

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-024
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 12-5-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
		Sr. Health Physicist		12-12-07

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) Clifford Stoyl ☐ Comments (attached) ☐ No Comments	Date 12/12/07
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-024
Location		**Date**
TCRA for IR Sites 1, 2 and 32, Alameda Point		12-5-07

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
		Sr. Health Physicist		

Disposition

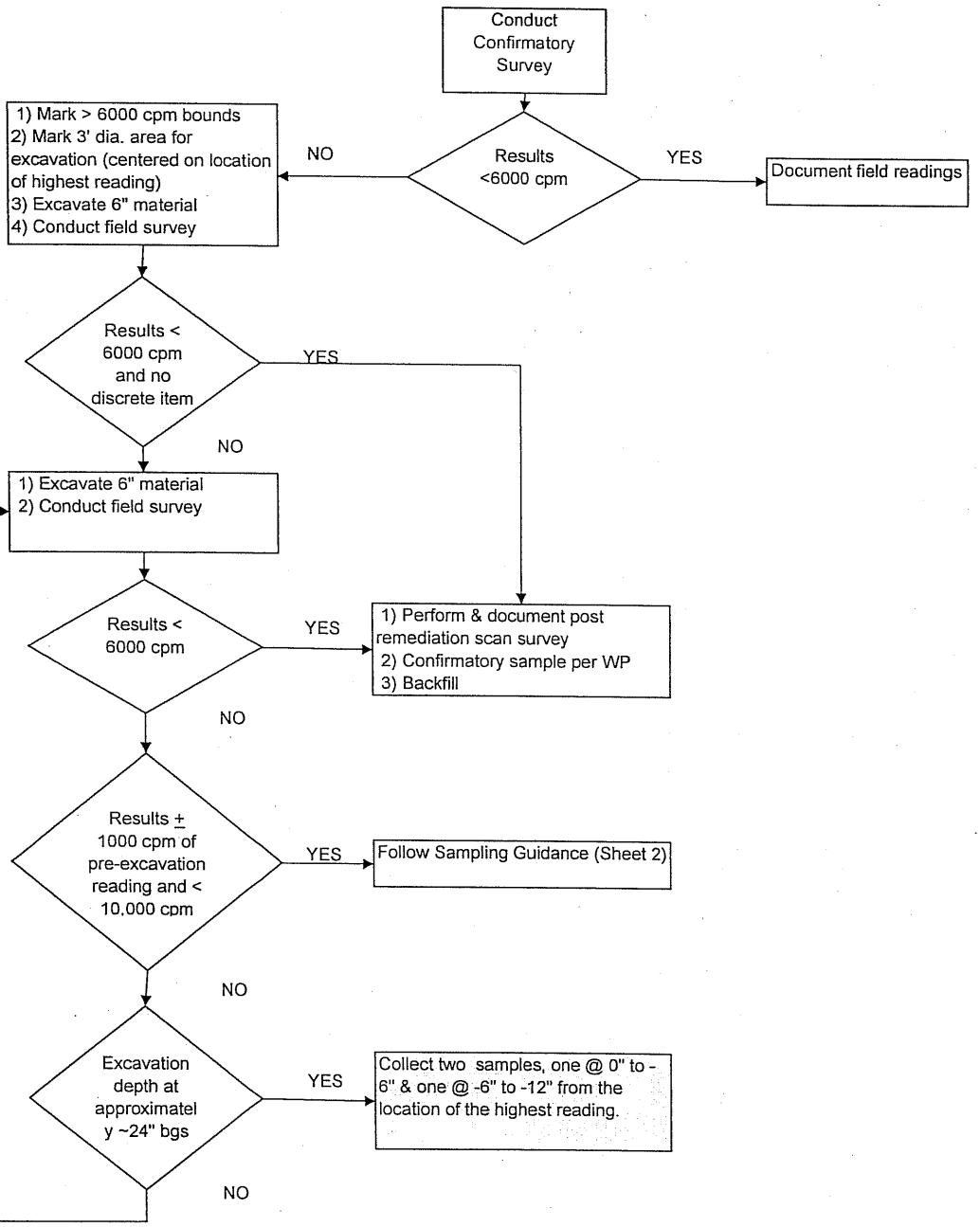
☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	12/12/07
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
☒ Comments (attached) ☒ No Comments	12.17.07	☐ Comments (attached) ☒ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	1/17/08		1-31-08

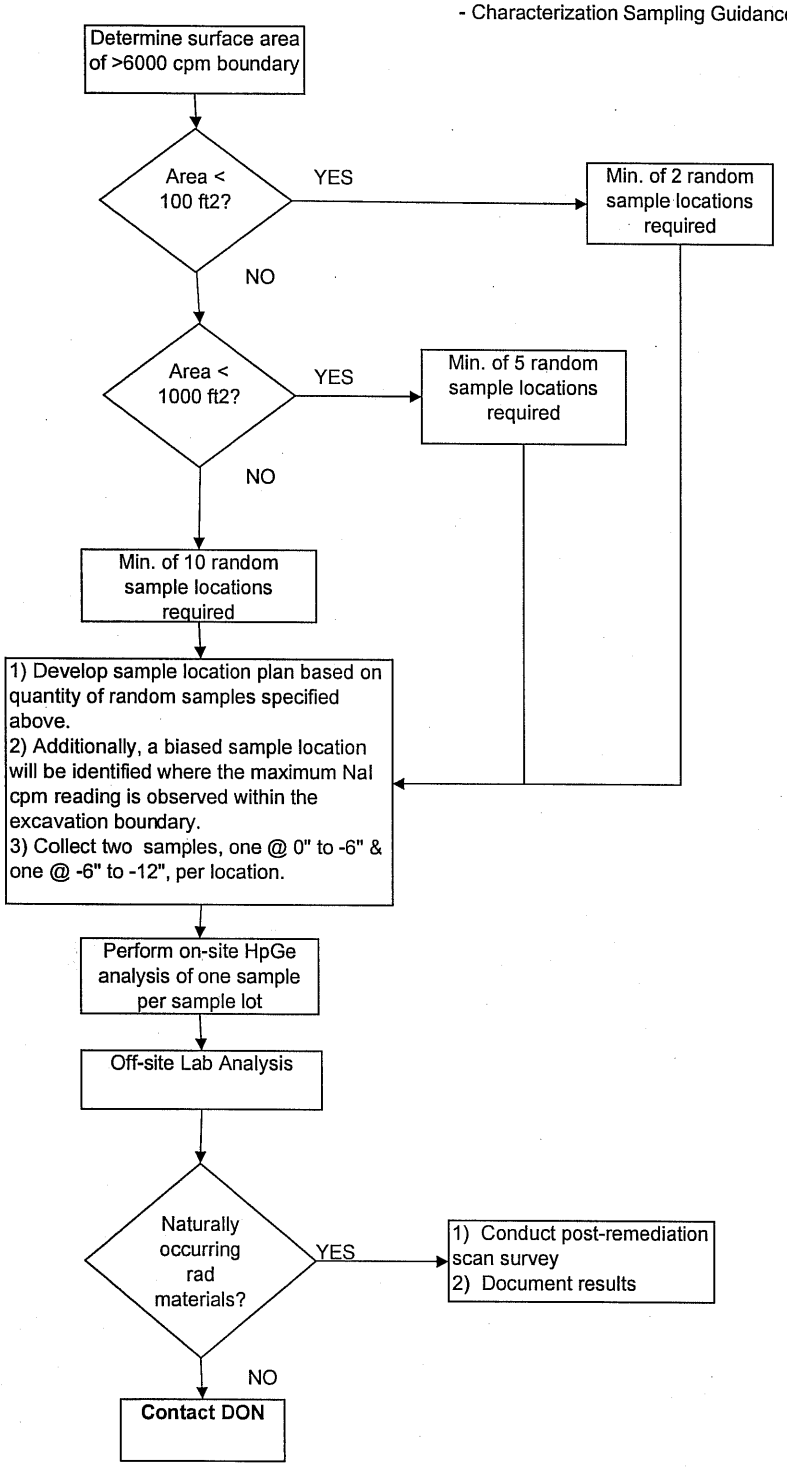
Distribution: Original to Project File, Copy to Site File, Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

ALAMEDA CTO-015(28)
RAD. ANOMALY REMOVAL
WORK FLOW PROCESS
- Soil Excavation Guidance -



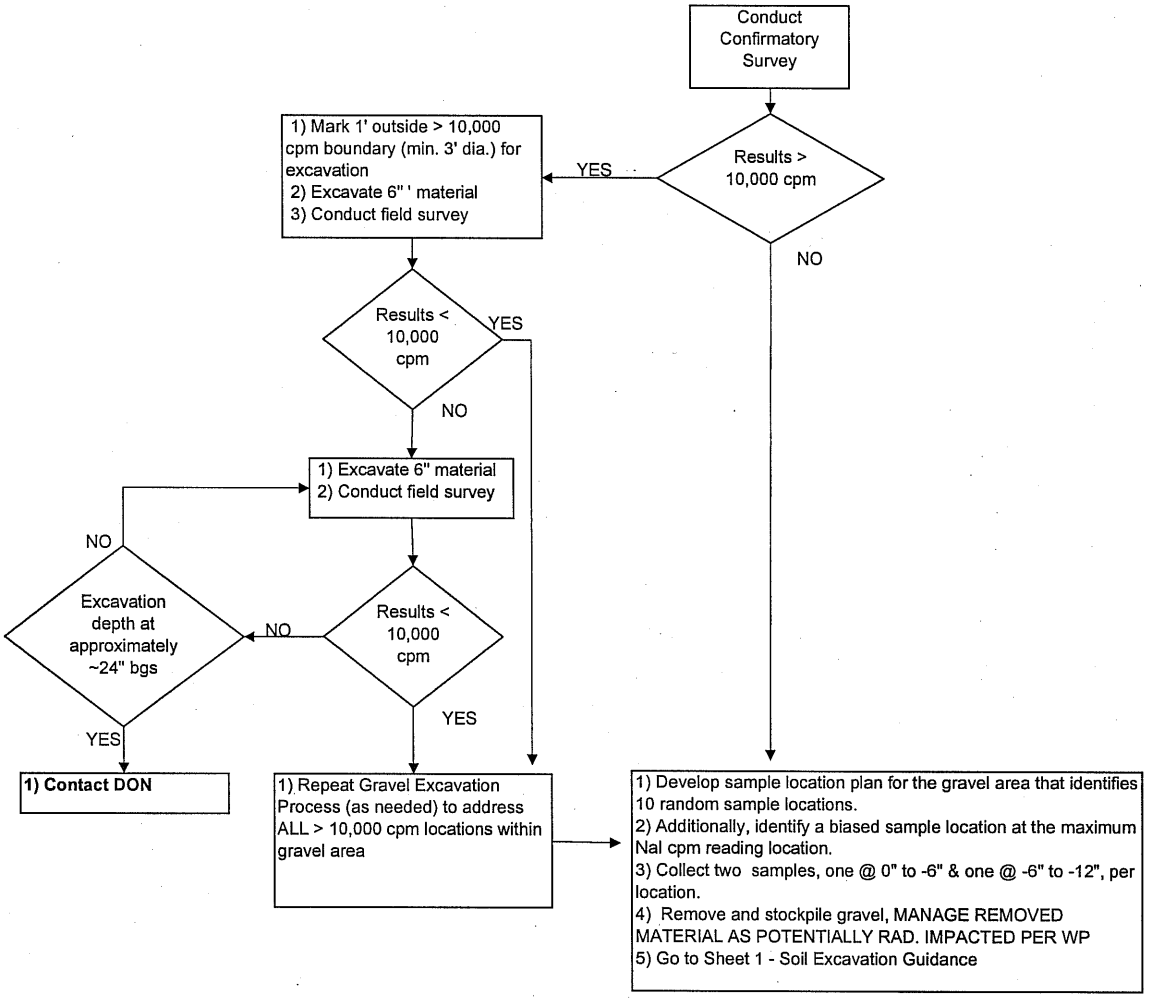
Notes: We will continue to segregate and remove discrete items per WP.
Also, per WP, we will remove an additional 1' of material in all directions from discrete item location(s).
This additional material will be handled and disposed of as radiologically impacted.
Sampling and analytical protocols to be addressed in Sampling and Analytical Plan Addendum
6000 CPM = Investigative Level (IL) for soil, measured with 2x2 Na detector
bgs = below ground surface

ALAMEDA CTO-015(28)
RAD. ANOMALY REMOVAL
WORK FLOW PROCESS
- Characterization Sampling Guidance -



Notes: We will continue to segregate and remove discrete items per WP.
Also, per WP, we will remove an additional 1' of material in all directions from discrete item location(s).
This additional material will be handled and disposed of as radiologically impacted.
Sampling and analytical protocols to be addressed in Sampling and Analytical Plan Addendum
6000 CPM = Investigative Level (IL) for soil, measured with 2x2 Na detector
bgs = below ground surface

ALAMEDA CTO-015(28)
RAD. ANOMALY REMOVAL
WORK FLOW PROCESS
- Gravel Excavation Guidance -



Notes: We will continue to segregate and remove discrete items per WP.
Also, per WP, we will remove an additional 1' of material in all directions from discrete item location(s).
This additional material will be handled and disposed of as radiologically impacted.
Sampling and analytical protocols to be addressed in Sampling and Analytical Plan Addendum
6000 CPM = Investigative Level (IL) for soil, measured with 2x2 Na detector
bgs = below ground surface

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-025
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		1-4-08

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Section 7.6** **Waste Transportation**

Description (items involved, submit sketch, if applicable)

Revise current workplan and include as a requirement in future workplans to incorporate requirements that ensure that where RCRA wastes may be generated, during transportation, only transporters with Federal EPA ID numbers may transport RCRA hazardous waste.

Reason for Change

California laws require that to ship RCRA waste, transporters must use their Federal EPA ID number on the manifest in lieu of the California issued ID #

Recommended Disposition (submit sketch, if applicable)

Add the following text as last sentence to paragraph 1:

"When RCRA wastes is generated, during transportation, only transporters with Federal EPA ID numbers may transport RCRA hazardous waste. This is indicated by the presence of the prefix 'CAR' in front of their EPA ID number. Transporters with the State-issued EPA ID number prefix of 'CAL' may transport non-RCRA hazardous waste but may not transport RCRA hazardous waste."

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-025
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 1-4-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature)	Date	Preparer's Title	Site Superintendent (Signature)	Date
Gita Neuman	1/8/08	Sr. Regulatory Compliance Officer	R. Mella	1-8-08

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
NA			1/08/08
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
NA		NA	
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Soyce	1.9.08		
☐ Comments (attached) ☒ No Comments		☐ Comments (attached) ☒ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
ECM · CSO	1/17/08 1/22/08		1/31/08

Distribution: Original to Project File, Copy to Site File, Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-026
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		1/8/08

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other FCR15-24 Title **Bias Soil Sampling for Gamma Emitters**

Description (items involved, submit sketch, if applicable)

Deviate from FCR15-24 for location(s) in IR Site 32 that exhibit high field radiological readings and require the collection of bias samples only within excavation limits.

Reason for Change

FCR-15-024 addressed biased sampling when field readings indicate a high potential for "man-made" gamma emitters (in comparison with the background reference sites).

IR-32 has shown characteristics consist with what would be expected of Ra-226 contamination from past Naval Operations and not characteristics of distributed natural gamma emitters.

This change is expected to maximize the efficiency to collect adequate radiological information about specific geographic areas for future site disposition decisions.

Recommended Disposition (submit sketch, if applicable)

Perform a gamma survey within the excavated IR Site 32 areas on attached list, identify and document location of maximum cpm reading within each excavation, and collect two samples (0" to -6" and -6" to -12") from these locations. On Sheet 1 of FCR15-24, disregard action to follow Sheet 2 and perform only bias sampling.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-026
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 1-8-08

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
	1-8-08	Sr. Health Physicist		1-8-08

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	1/10/08
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	1/10/08	☐ Comments (attached) ☒ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	1/17/08		1/31/08

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

IR-32 Biased Soil Sampling Locations

Label	Notes	Label	Notes
B-32IR-1		B-32IR-103	
B-32IR-2		B-32IR-104	
B-32IR-3		B-32IR-105	
B-32IR-4A		B-32IR-106	
B-32IR-4B		B-32IR-107	
B-32IR-5		B-32IR-108	108-109
B-32IR-6		B-32IR-111	
B-32IR-7		B-32IR-112	
B-32IR-36		B-32IR-113	
B-32IR-37	37-40	B-32IR-114	
B-32IR-41	41-42	B-32IR-115	
B-32IR-43	43-45	B-32IR-116	116-117
B-32IR-47		B-32IR-118	
B-32IR-48	48-49	B-32IR-119	
B-32IR-50		B-32IR-120	
B-32IR-51		B-32IR-121	
B-32IR-54	54,55	B-32IR-126	126-128
B-32IR-56	56,57	B-32IR-129	129-130
B-32IR-60		B-32IR-131	131-132
B-32IR-61		B-32IR-133	
B-32IR-62		B-32IR-134	
B-32IR-63	63,77	B-32IR-135	
B-32IR-65		B-32IR-136	
B-32IR-66		B-32IR-137	
B-32IR-67		B-32IR-138	
B-32IR-69	69-70	B-32IR-139	
B-32IR-71	71-72	B-32IR-140	
B-32IR-73	73-74	B-32IR-141	
B-32IR-75	76-77	B-32IR-142	
B-32IR-80	80-82	B-32IR-143	
B-32IR-84	83-84	B-32IR-144	144-145
B-32IR-85		B-32IR-149	
B-32IR-86		B-32IR-150A	
B-32IR-87		B-32IR-150B	
B-32IR-88		B-32IR-151	151-152
B-32IR-89		B-32IR-157	
B-32IR-90		B-32IR-158	
B-32IR-91		B-32IR-159	
B-32IR-92		B-32IR-172	
B-32IR-93		B-32IR-173	
B-32IR-94		B-32IR-G5	
B-32IR-95		B-32IR-G6	
B-32IR-96		B-32IR-G7	
B-32IR-97	97-98	B-32IR-G8	
B-32IR-99		B-32IR-G9	
B-32IR-100		B-32IR-G10	
B-32IR-101		B-32IR-G11	
B-32IR-102		B-32IR-G12	
		B-32IR-32X	
		B-32IR-75A	
		B-32IR-80A	

* Note: All remedial excavations are not complete as of 1/10/08. This list could change depending on field conditions.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-027
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		1-15-08

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other Final TCRA WP Appendices Title Appendix D-3, SOP-3, Gamma Spectroscopy System

Description (items involved, submit sketch, if applicable)

Procedural clarification

Reason for Change

Appendix –D, SOP #3 Operation of the Gamma Spectroscopy System, has been re-written to enhance clarity and ease of understanding.

Recommended Disposition (submit sketch, if applicable)

Replace entire current SOP #3 with attachment

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-027
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 1-15-08

Additional Details

Will this change result in a contract cost or time change? ☒ Yes ☐ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Marc Wendling	Date	Preparer's Title	Site Superintendent (Signature)	Date
	1-15-08	Sr. Health Phyicsist		01-15-08

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4/28/08
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
TtEC QC Program Manager (signature)	**Date**		**Date**
Gregory D Joyce ☐ Comments (attached) ☒ No Comments	4-28-08	☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date**	**Navy ROICC (signature)**	**Date**
	5/6/08	Gregory J. Grace	5/27/08

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

APPENDIX D-3
STANDARD OPERATING PROCEDURE (SOP) 3
GAMMA SPECTROSCOPY SYSTEM

1.0 PURPOSE AND SCOPE

This procedure describes the application, configuration, and operation of the mobile gamma spectroscopy system at the Former Alameda Point Naval Air Station's restoration (remediation) project. The purpose is to provide qualitative radionuclide information from gamma scans of site samples. Samples include discrete items and soil in 500 ml containers. Gamma scans for retrieved samples may be conducted at a centrally located temporary laboratory near the site's IR1 construction trailers. For large or heavy items, scans may be performed at storage areas or *in situ*. Quantitative or volumetric analysis cannot be performed using this procedure. The qualitative information provided is limited to the detection of gamma radiation.

The extent of the gamma spectroscopy support is to scan suspect radioactive samples to provide assurance that radioactivity is from the presence of the primary contaminant Radium-226 (Ra-226), or from natural background soil radiations such as potassium 40 (K-40) and naturally occurring thorium and uranium and their decay products.

2.0 PRECAUTIONS/REQUIREMENTS

2.1 Personnel Precautions/Requirements

Personnel potential risks are from electrical shock; radiation and contamination exposure; and from Liquid Nitrogen (LN_2). LN_2 can be both an asphyxiation and severe frostbite hazard.

2.1.1 Electrical Shock

The detector operates by maintaining a bias of 4800 volts – external power is supplied either by battery or generator. Though the equipment is insulated, caution is advised whenever working on or adjusting an energized detector or when connecting or disconnecting extension cords – especially during field operations during inclement weather.

2.1.2 Liquid Nitrogen (LN_2) Exposure

The primary hazard from LN_2 exposure is frost bite and frost burns. The extremely low temperature of LN_2 (-77° Kelvin, -320° Fahrenheit, -196° Celsius) requires the use of protective equipment (e.g. full face shield, safety glasses or goggles, and thermal gloves) while filling the dewar with LN_2 to prevent contact from fill splatter. No open or cuffed clothing is to be worn. In case of contact with LN_2 the site's safety representative should be immediately notified. Dewar filling activities should be performed in an open area to minimize the potential of creating a low oxygen environment in the event a spill occurs.

2.1.3 LN_2 Storage

LN_2 supply tanks should not be stored in small, enclosed areas. Off-gassing nitrogen can displace oxygen and cause an enclosed space to be deficient in oxygen.

2.1.4 Contamination/Radiation Control

The designated gamma scan area shal be posted, at a minimum, as a Radioactive Materials Area (RMA).

Eating, drinking and use of tobacco products is prohibited in the RMA.

No un-surveyed, unsealed or unpackaged samples shall be delivered to the gamma scan area.

Samples or items to be scanned shall be stored in a locked secure area – the area should be located to not affect the spectroscopy equipment's background measurements.

Dosimetry is required when within the RMA.

Sample packaging rips tears and spills are to be treated as potential contamination and responded to appropriately.

Sources shall be stored in designated locked and secured areas – use is to be recorded using a login/logout sheet.

2.2 Equipment Precautions/Requirements

Equipment potential risks include loss of signal, degraded gamma peak resolution, and damage or failure of the detector.

Though the gamma spectroscopy equipment is designed for field work, it is a measurement instrument that should not be exposed to continuous rain, or impact.

Cable connectors are easily damaged. Careful handling and storage of cables will prolong their usefulness.

LN_2 is vital to the HPGe detector - ORTEC provides recommendations for fill intervals. Missed or late filling can result in either warming of the detector, activation of the protective High Voltage (HV) cutout circuit or detector failure.

Note: Detector LN_2 usage may change with conditions –cryostat temperatures should be monitored using the digiDart's menu selection "SOH" (statement of health).

Warming of the detector. Warming can cause degradation of detector resolution and affect calibrations. Corrective action requires "Thermal Cycling". Thermal Cycling is de-energizing the detector and warming the Dewar to room temperature – verifying the Dewar is empty and then re cooling the detector using vendor suggested cool down times.

HV cutout and Detector failure. Energizing an empty or insufficiently cooled detector can result in detector failure. The manufacturer has provided protective circuitry designed to minimize damage. However under certain conditions, attempts to energize the detector with an empty Dewar - the circuitry may fail and resulting in damage to the detector's electronics. Indication of a failed protective circuit is the illumination of a small red light – the light is located on the cold finger end of the detector.

Corrective action for an HV cutout requires "Thermal cycling." Corrective action when a red failure light is lit. There is no field corrective action. The detector must be returned to the vendor – for repairs – time estimate for repairs is two weeks to two months.

Note: The ORTEC system shall not be operated unless the detector Dewar has been filled with LN2 and the manufacturer's required cool down time has been observed. Specifically no attempt shall be made to energize the detector unless the above has been satisfied.

3.0 DEFINITIONS

Background Count – A spectrum collected while all samples or items of interest are absent from the detector's field of view. During background counts, the radiation detector responds to radiation from sources other than the samples or items to be measured. The energies and intensities of background radiation in a background count are assumed to be present during subsequent measurements of samples, items, or containers.

Calibrate – To determine, by measurement or comparison with a standard, the correct value of each scale reading of a meter or the correct value for each setting of a control knob or switch.

Full Width at Half-Maximum – The width of a peak at half of the maximum peak height with the baseline removed.

Quality Control (QC) Count – An energy spectrum collected to quantitatively assess the response of the Gamma Spectroscopy System to known radiations emitted from a radiation check source.

Sample Count – An energy spectrum collected with the sample, item, or container of interest that is appropriately placed in the detector's field of view.

4.0 PROCEDURE

4.1 System Overview

Basic components and their functions in gamma spectroscopy systems.

Analog signals generated by a detector are pre-amplified (to enhance the signal to noise ratio and provide impedance matching). Signals are then shaped and converted from an analog to a digital signal by an Analog to Digital Converter (ADC). The ADC sorts the pulses and pulse heights into a specific numbers of "bins": spectrum channels. A Multi-Channel Analyzer (MCA) scans

the whole energy range and records the number of pulses and pulse heights counted in each of the channels. The MCA output is sent to a computer which stores, displays, and analyzes the data. The computer uses software packages which includes spectrum analysis tools such as libraries, energy calibration, peak area and net area calculation, and resolution.

4.2 System Components and Component Settings

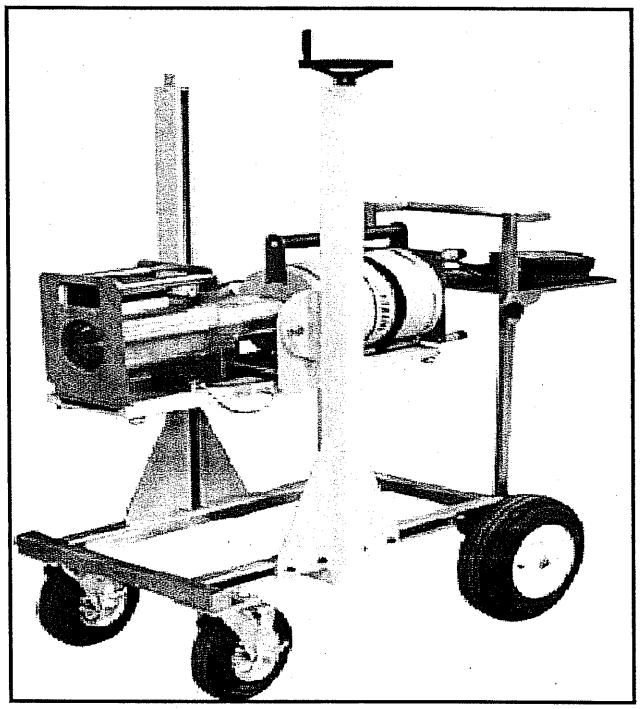


Figure 1

A picture of the mobile gamma spectroscopy system is provided above in Figure 1. The system consists of a cart, a detector assembly, a collimator, and a portable MCA. The system also includes an external laptop computer and an external printer (not shown). The detector/cryostat assembly consists of a three (3) liter Dewar, a high purity Germanium detector (HPGe) and a portable MCA (ORTEC *didgi*Dart). The system in use at the NAS uses a GEM (P-Type) HPGe detector. Built into the detector head is the power supply (HV), and the amplifiers. The *didgi*Dart contains a battery with a 9 to 12 hour battery life, an ADC and a MCA. The *digi*Dart can be used without a computer to collect and display spectral data. However it will not allow manipulation of the data. For NAS applications, an external laptop computer will generally be interfaced with the *digi*Dart to ensure the capability to acquire and analyze multiple spectral data.

4.3 System Operations

4.3.1 Operational Support: LN_2 Concerns, Startup/Shutdown, System Setup, Calibrations, and QA/QC:

LN_2 Concerns: Gamma Gage Dewar LN_2 specifications, recommendations, dewar fill guidance, and dewar fill records.

Capacity: 3 liters;

Static holding time (maximum duration of detector use between fills): 48 hours – for NAS applications, refills should be between 36 hours and 48 hours;

Cool down time: (time to cool a de-energized, previously emptied dewar for return to operational use) 12 to 24 hours.

Warm-up time: suggested wait interval for de-energized Dewar prior to detector maintenance, or as part of thermal cycling process prior to refill. (72 hours)

Attachment 7.1 provides guidance for filling the cart's cryostat/dewar.

Attachment 7.5 LN_2 Dewar fill record: provides an example fill record -- all LN_2 fills are to be recorded

4.3.2 System Startup/ HV /Shut down

Note: The ORTEC system shall not be operated unless the detector dewar has been filled with LN_2 and the manufacturer's required cool down time has been observed - Specifically no attempt shall be made to energize the detector unless the above has been satisfied –

Startup

Fill or verify last fill of detector dewar.

For refilled previously empty dewar verify that sufficient cool down time has elapsed.

Ensure *digi*Dart is connected to detector.

Ensure *digi*Dart is not connected to the external laptop computer.

To start system:

Plug in eternal power source (recommended if power source available). Start *digi*Dart from its keyboard using the following sequence; press (off/on) button, press (Menu/Enter) button, press (#6 Adjust Controls);

From the Adjust Controls menu location, settings may be observed, verified or adjusted – available menu settings are Amplifier, Presets, ADC and Stabilizer[1].

Note 1: A design feature of the digiDart system is that previously entered settings are retained.

For NAS applications, a display of pertinent settings is provided in attachment 7.7 - when laptop is connected, these menu settings are also available for observation and adjustment in the menu "acquire/ MCB Properties.

[1] The settings menus are also available using the laptop computer : Isotopic supervisor/ Acquire/ MCB properties

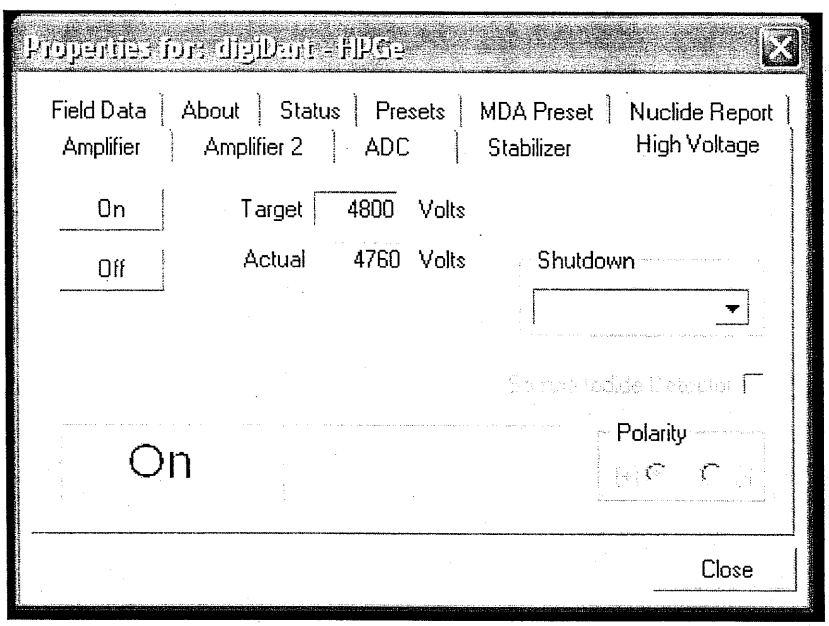
Proceed from settings menu, press (#1 HV settings) and then selection (#5 View HV SOH) (SOH is an abbreviation for Statement of health).

Ensure parameters are in the "OK" mode, ensure temperature is < *100*° K.

Connect the *digi*Dart to the laptop computer.

HV Enable

Verify that the detector has sufficient LN_2 and that sufficient cool down time has elapsed prior to energizing the detector. Turn on the laptop. From the desktop display - locate and click on the icon "Isotopic Supervisor". When the "MCB Didgi" menu and spectrum screen is displayed, locate and click on the header selection "Acquire", then click on MCB properties. The MCB properties menu is displayed below.



To enable the HV, click the upper "On" button- observe and verify the "Actual volts" value increasing to normal operating range of 4720 to 4800.

HV Disable

Locate and click on the "MCB properties" – MCB properties menu is displayed above.

To disable HV, click the "Off" button- "Actual "voltage value should begin a gradual decrease to "0".

System Shutdown

Disable HV –see above.

Disconnect the *digi*Dart from the Laptop.

To turn off the *digi*Dart from its keyboard press (off/on) button. Acknowledge the *digi*Dart inquiry "proceed with shutdown" by pressing (#1).

Turn off all external equipment. Note time of system shutdown in the log.

Optional, if connected to an eternal power source –power source may be disconnected.

4.3.3 System Configuration

System setup and operational parameters require electronic and physical settings and adjustments.

Electronic settings provide energy range, peak quality, and the peak resolution to meet the project's scope. The electronic settings coincide with energy calibrations. Attachment 7.7 tabulates the settings and presets used for the current NAS scope.

Physical settings and adjustments involve field of view, count duration, distance and shielding (collimator). Physical settings use of collimator to reduce background influence , adjusting the carts distance from a sample to maintain a dead time of less than 7%, and adjusting the angle of the detector to the sample.

4.3.4 Energy/Efficiency Calibrations

Energy Calibration – A guidance.

Attachment 7.2 Energy Calibration is provided to assist in energy calibrations or to adjustments.

Efficiency Calibrations:

For current NAS applications no quantitative gamma spectroscopy measurements are performed – no efficiency calibrations are required.

4.3.5 QA/QC checks:

For NAS applications, Quality Control (QC checks) consists of:

- Energy Response checks and a check of Background Spectra.
- Energy Response Checks.

Energy Response checks are be obtained prior to and after all scan series (a typical scan is 4 to 8 hour period). In addition, discretionary response checks may be performed at any time. A response check consists of a five (5) minute scan of Ba-133, Co-60, and Cs-137 check sources. Peak locations for the respective nuclide energies of 81 keV, 661.5 keV, and 1332.5 keV are monitored for alignment using button sources from source set RS-008. The sources are positioned about 1 foot from the detector face.

The response check process consists of placing the sources, acquiring a 5 minute count. The acquisition process is discussed in section 4.4 below.

Energy Response Check Sampling Criteria

Count times	300(seconds)
File Labeling	AM[2] ENG CHK MM_DD_YY (suggested format)
File Directory	USER/ Spectra / Energy Check
Library	Energy Check REV 2
Scanning Position	Same as samples to be monitored – sources are placed one foot (12 inches) from detector face.
Acceptance Criteria	QC Pass acceptance for Ba-133 ± 1.0 keV of referenced peak energy.
	QC Pass acceptance for Cs-137 and Co-60 is ± 1.3 keV of referenced peak energies.

Interpretation, Response

Response check data is tracked and trended using updated Excel charts. Examples of charts for Ba-133 is provided in Attachment 7.6.

As found conditions are applied to scans after the last passing response check. Data collected prior to a failed energy check is considered suspect. Corrective action a missed response check is to reproduce the scan, if drift is confirmed in excess of 1.3 keV - super fine gain may be adjusted. Failure to re-align may require re-calibration or may indicate system degradation. The additional scope of diagnostics and correction actions are not addressed in this procedure.

Background Measurements

Background Measurements at NAS are ambient background spectra collected prior to and after all scan series. In addition, discretionary spectra may be collected at any time. Background spectra are acquired as 15 minute scans of the counts locations. At NAS, where the scope of work is verify the presence of radium and to monitor for unexpected nuclides – background measurements examine the spectra for unexpected nuclides, elevated background and dead time.

Dead time (< 2 %) – Instead of the traditional practice of monitoring the sum total counts over a preset energy range of a spectra, for NAS applications with its variety of backgrounds, Detector Dead Time is used- basically dead time is the interval of missed pluses between recorded events.

The background measurement process consists of acquiring a 15 minute count of an empty sample shelf or area. The acquisition process is discussed in section 4.4 below.

---

[2] AM,MIDDAY, or PM (for energy response checks time of day)

Background Measurements (Spectra) Sampling Criteria

Count times	900 (seconds)
File Labeling	AM[3] BKG CHK MM_DD_YY (suggested format)
File Directory	USER/ Spectra /Background
Library	Alameda NAS REV 2
Scanning Position	Same as sample to be monitored
Interpretation Method	An energy peak is determined to be present if total uncertainty $\leq$ 40% 3 δ (sigma).
Acceptance Criteria	Radon Progeny & K-40 present No Radium, Am-241, CS-137, and Co-60 peaks.
	Background Dead Time < 2%
	Examine spectra and peak energy summary reports. If results indicate no unexpected nuclides and dead time < 2%.- the count has passed – print and file the background peak summary reports

4.4 Sample Spectrum Acquisition, Analysis and Reports

4.4.1 Overview

For current NAS acquisitions ORTEC's "ISOTOPIC Supervisor" software is used. Given the variety of size, location, and potential activities of samples to be scanned, the decision was made to use the "Supervisor" option rather than the more automated and less flexible ISOTOPIC Operator.

This section addresses and provides guidance for acquiring a gamma spectrum and generating a peak energy summary report. This acquisition instruction is applicable for response checks, background measurements and samples.

Count times, file labeling, file directories, result interpretation and response for QC's are addressed in the above QC section and tables.

Samples include "Discrete Items" and "Soil Containers (soil in 500 ml containers). Sample positioning, count times, file labeling, file directories, result interpretation and response are addressed in the tables below. Scanned large items both retrieved or in situ (in place) use the discrete sample table naming criteria and libraries.

---

[3] AM, MIDDAY, or PM (for background time of day)

Acquisition

Starting assumptions: gamma spectroscopy unit's detector has sufficient volume of LN_2 and sufficient cool down time has elapsed.

HV is enabled.

If not already connected, connect the *digi*Dart laptop computer. If not already on, turn on the laptop and select the ORTEC Supervisor icon.

For energy response checks, place the sources in a jig 1 foot in front of the detector.

For background counts scan the empty shelf or empty area prior to placing the sample.

For sample counts, place the sample in the detector's field of view. If necessary, for high activity sample counts, which ever is more convenient, move the cart or the sample to keep dead time below 7%.

To scan, from the Isotopic Supervisor spectrum/menu display, erase previous existing spectrum using the "clear" selection from the header "Acquire" menu and then the empty spectrum is saved as a ".spc" file using the file/save header option. The file naming protocols are shown in the appropriate sample or QC tables.

Next, a new spectrum is acquired by returning to the Acquire header and select "Acquire" and then responding to the file description and count duration inquiry – count times are listed in the appropriate tables. After an acquisition, save the file.

Next to analyze, select the header menu option Analyze/Analyzer Settings/sample type to select libraries- as an example for energy response checks use "Energy Check Rev 2. Analyze the file, by selecting "Analyze/ Entire spectrum in memory".

The spectrum will automatically be analyzed and a peak summary report will be generated. Print the report. Next use the file/save menu to save the analyzed file. Next review, sign and file. In the appropriate tables are listed the specific count times, file labeling, file directories, libraries, interpretation, and acceptance criteria.

Discrete Items Sampling Criteria

Count times (seconds)	900
File Labeling	SMP HS ### MM_DD_YY
File Directory	USER/ Spectra / HS
Library	Alameda NAS REV 2
Scanning	Position as appropriate to have sample in field of view, but to keep dead time

Position	below 7% - consider increasing distance of detector cart away from sample item or sample away from cart to lower dead time. Detector/assembly is aimed by releasing lock pins, and pivoting the assembly on the cart's central dual vertical supports.
Review Criteria	Examine on screen spectrum. Examine peak summary report. Examine the report's unidentified peaks. To consider a peak present its Uncertainty at 3 $\delta \leq 40\%$. When necessary, to ensure a nuclide's presence, confirm by observing its subsequent peak energies. For 186 keV radium peak, ensure Bi-214, Pb-214 peaks are present. Attachment 7.3 illustrates a radium peak spectrum and expected attendant peaks. Attachment 7.4 displays the partial peak summary report of the radium spectrum. Ensure Dead time was less than 7%. Ensure no Am-241, Cs-137, and Co-60 peaks.
Response	For unexpected contaminates, verify, confirm, then notify RCT lead or supervision – who will then notify the client.

Soil Container (500 ml) Sampling Criteria

Count times (seconds)	3600 seconds
File Labeling	SMP OSS ### MM_DD_YY
File Directory	USER/ Spectra / OSS
Library	Alameda NAS REV 2
Scanning Position	The collimator/detector assembly is pivoted to a 45^0 up angle from the horizontal. The container is bagged and placed on the detector face in the 4 inch collimator recess.
Review Criteria	Examine on screen spectrum. Examine peak summary report. Examine the report's unidentified peaks. To consider a peak present, its Uncertainty at 3 $\delta \leq 40\%$. When necessary, to ensure a nuclide's presence confirm by observing its subsequent peak energies. For 186 keV radium peak, ensure Bi-214, Pb-214 peaks are present. Attachment 7.3 illustrates a radium peak spectrum and expected attendant peaks. Attachment 7.4 displays the partial peak summary report of the radium spectrum. Ensure Dead time was less than 7%. Ensure no Am-241, Cs-137, and Co-60 peaks.
Interpretation/Response	If unexpected contaminates are found, verify and confirm – then notify RCT supervisor or lead- who will then notify the client.

5.0 RECORDS

Documents, reports and electronic files deemed relevant to reproduce measurements and results shall be maintained in accordance with the Time Critical Action Work Plan. Examples include but are not limited to Signed Peak Summary Reports, LN2 Fill records, and Logbooks.

6.0 REFERENCES

Tetra Tech Project Orientation, Rules and Safety Guidelines Handbook, Tetra Tech Inc, September 2006.

Time-Critical Removal Action Work Plan Installation Restoration Sites 1,2, and 32 Alameda Point, Alameda, California. January 2007.

ORTEC GEM Series HPGE (High-Purity Germanium Coaxial Detector System ORTEC Part Number 8003406 manual Revision "G: 12/04.

ORTEC digiDart Digital portable MCA Operator Manual ORTEC Part No. 783610 Manual Revision E, March 2005.

ORTEC ISOTOPIC Supervisor, ISOPLUS-B32 Software User's Manual ORTEC Part No. 783610 Manual Revision E, April 2004.

Title, Kocher, David, Radioactive Decay Tables, Oak Ridge National Laboratory 1981 DOETIC11026.

7.0 ATTACHMENTS

- 7.1 LN_2 Dewar Fill Guidance
- 7.2 Guidance Energy Calibration
- 7.3 Gamma Spectrum Example
- 7.4 Peak Search Summary Report Example
- 7.5 LN_2 Fill Record Sheet
- 7.6 QA chart BA-133 Example
- 7.7 Pertinent Electronic Settings

ATTACHMENT 7.1

LN_2 FILL GUIDANCE

Overview

The ISO CART (Cart) dewar is filled from a 230 liter storage tank supplied by the client.

Note: Notify the client when the storage tank is 3/4 empty to allow enough lead time to obtain a replacement storage tank.

Note: If a situation should arise that the detector cannot be filled and there is a possibility that it may warm up the HV should be switched off as a precaution. The automatic high temperature cut-out safety feature should never be relied on in this situation.

Fill Method

Read section 2.1 LN_2 fill precautions and requirements.

Place the ISO Cart's (cart) cryostat/detector assembly in the horizontal position – as displayed in the section 4.2.

Locate the required PPE and the ORTEC funnel/fill tube assembly.

Move the cart; fill tube assembly and the required PPE to the 230 Liter storage tank.

Don required PPE.

Remove the vented plug[4] from the cart's dewar fill port. The fill port and plug are located on the non-detector end of the cart's dewar.

Insert the funnel fill tube assembly into the fill port (funnel in the upright vertical position) – secure the assembly to the ports threaded end using the white nylon retaining nut tightened finger tight.

Position the *digi*Dart/detector connector and cable away from potential LN_2 stream or splatter.

To limit movement of hose during fill, secure the storage tank's fill hose to the funnel and the cart.

Open the storage tank supply valve slowly until a soft hissing sound is heard.

Allow the hose time to cool – when cooled LN_2 will discharge out hose.

Using the storage tanks discharge, control flow to the funnel to maintain a level of about 25%.

The cart's dewar is full when LN_2 begins to flow freely out the gap between the fill tube and the fill port.

---

[4] ORTEC's name for the vent plug is "bayonet/pressure fill adapter"

When full, shut the supply tank's discharge valve and allow any remaining LN_2 in the funnel to flow out.

Remove the fill tube assembly and replace the vented plug.

Remove PPE and return it and the fill tube assembly to their storage areas.

Note the time and date of fill on the LN_2 Fill Record sheet.

Return the cart to service.

ATTACHMENT 7.2 GUIDANCE

ENERGY CALIBRATIONS

Overview

Provided below is a brief review of the energy calibration process- detailed description of method is provided in the ISOTOPIC Supervisor Software user's manual.

Energy calibration consists of establishing an energy range of interest (# of MCA channels). Next known energy peaks are aligned with the channels.

For NAS purposes, the energy range set with amplifier controls is 4096 channels.

Known energy peaks are obtained using a Ba-133 source for low energies and a Co60 source for the higher energies. These sources are counted long enough to establish good counting statistics that result in Gaussian shaped peaks. ORTEC's energy calibration software automatically adjusts and establishes a best fit for alignment of the two reference peaks.

Process

To calibrate the system for energy:

Rotate the detector/collimator to point down toward the ground.

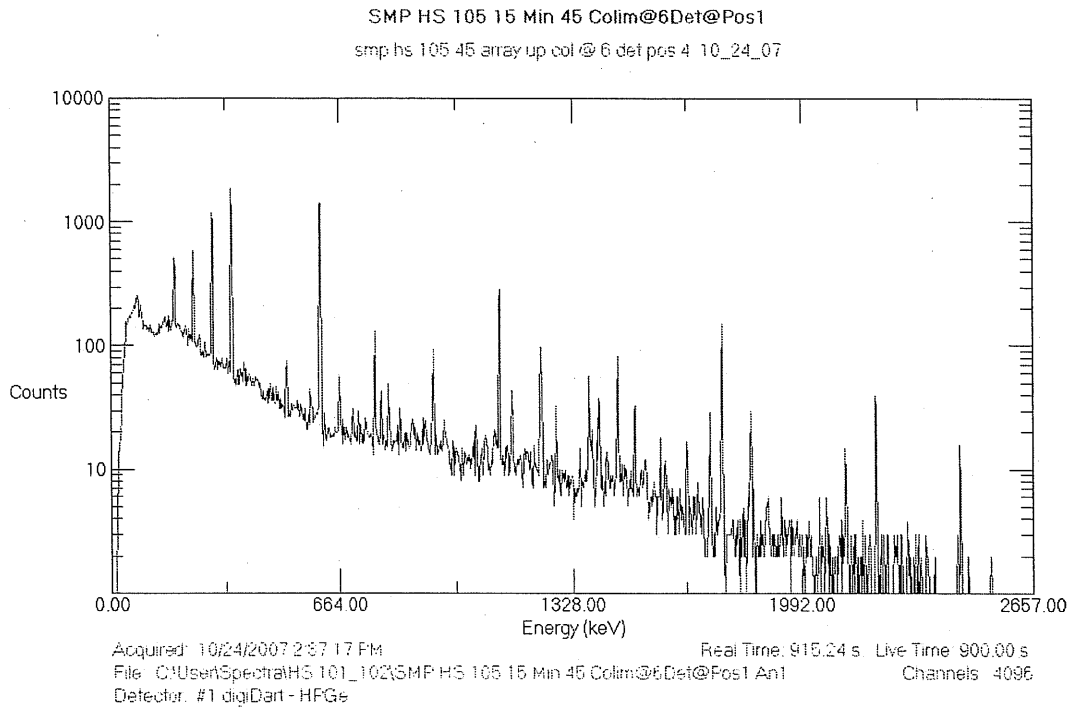
Ba-133 and Co-60 sources are under the detector, a count stared, and a spectrum collected. Using the keyboard controls locate the cursor in the channel that the most number of counts for both the high and low energy gamma ray and record the channel number. Stop the count and calculate the difference in energy between the two sources and the difference in channel numbers. The quotient of energy divided by channel is the gain of the system. Adjust the amplifier coarse and fine gain control until the desired energy per channel is observed.

This Instrument has been set up such that the energy range covered is approximately 3000keV and the number of channels in the MCA is approximately 4000. Any amplifier gain value is acceptable as long as the energy/channel works for the desired energy range and number of channels available in the MCA.

Once the desired settings are achieved the sources are counted again, this time using the calibration features of the software. The resulting spectrum is saved as a calibration file. This file will be used to calculate the energy of every channel or peak in all future spectra, until replaced by another energy calibration file.

ATTACHMENT 7.3

GAMMA SPECTRUM (EXAMPLE)



ATTACHMENT 7.4

PEAK SUMMARY REPORT (EXAMPLE)

Summary

Edited Energy Peak Report for Above Spectrum illustrating Radium and Decay Products (K-40 and ANNIL peaks also listed)

Spectrum Filename: C:\User\Spectra\HS 101_102\SMP HS 105 15 Min 45 Co lim@6Det@Pos1.Anl
Calibration
Filename: BaCo_Energy_Cal0ct12007.Clb
BaCo_Pt_Source Energy_Cal_Oct012007

Energy Calibration
Created: 01-Oct-2007 12:52:44
Zero offset: 0.016 keV
Gain: 0.648 keV/channel
Quadratic: 2.167E-07 keV/channel^2

Library Files
Main analysis library: Alameda NAS rev 2.Lib
Library Match Width: 0.500

********** I D E N T I F I E D P E A K S U M M A R Y **********

Nuclide	Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncertainty 3 Sigma	FWHM * keV
RA-226	287.37	186.21	1301.	639.	0.710	26.71	1.285D
PB-214	373.43	241.98	872.	1185.	1.317	13.70	1.321D
PB-214	455.57	295.21	935.	2857.	3.175	7.22	1.356D
PB-214	542.60	351.61	730.	5460.	6.067	4.81	1.837s
Anih pk	786.97	510.00	205.	154.	0.171	46.33	1.509D
BI-214	939.60	608.94	297.	4555.	5.061	4.88	1.915s
BI-214	1185.49	768.36	132.	364.	0.405	20.64	1.714D
BI-214	1440.75	933.88	168.	246.	0.274	35.12	1.641
BI-214	1727.81	1120.05	170.	993.	1.103	12.25	2.135
BI-214	1909.50	1237.90	91.	376.	0.418	20.80	2.471
BI-214	2124.55	1377.42	62.	248.	0.276	26.10	2.590
BI-214	2171.66	1407.98	56.	149.	0.166	32.40	2.330D
K-40	2253.08	1460.81	86.	282.	0.314	22.62	2.388D
BI-214	2667.10	1729.48	23.	137.	0.153	32.71	3.116
BI-214	2721.32	1764.67	32.	667.	0.741	12.93	2.706
BI-214	2849.20	1847.67	6.	100.	0.112	32.85	1.584s
BI-214	3266.87	2118.82	4.	74.	0.082	38.94	1.438s
BI-214	3398.72	2204.43	4.	197.	0.219	22.35	2.949
BI-214	3774.24	2448.30	0.	70.	0.078	35.86	1.786s

Laboratory: RTS - Alameda Naval Air Station

ATTACHMENT 7.5

LN_2 FILL RECORD SHEET (EXAMPLE)

LIQUID NITROGEN FILL Record

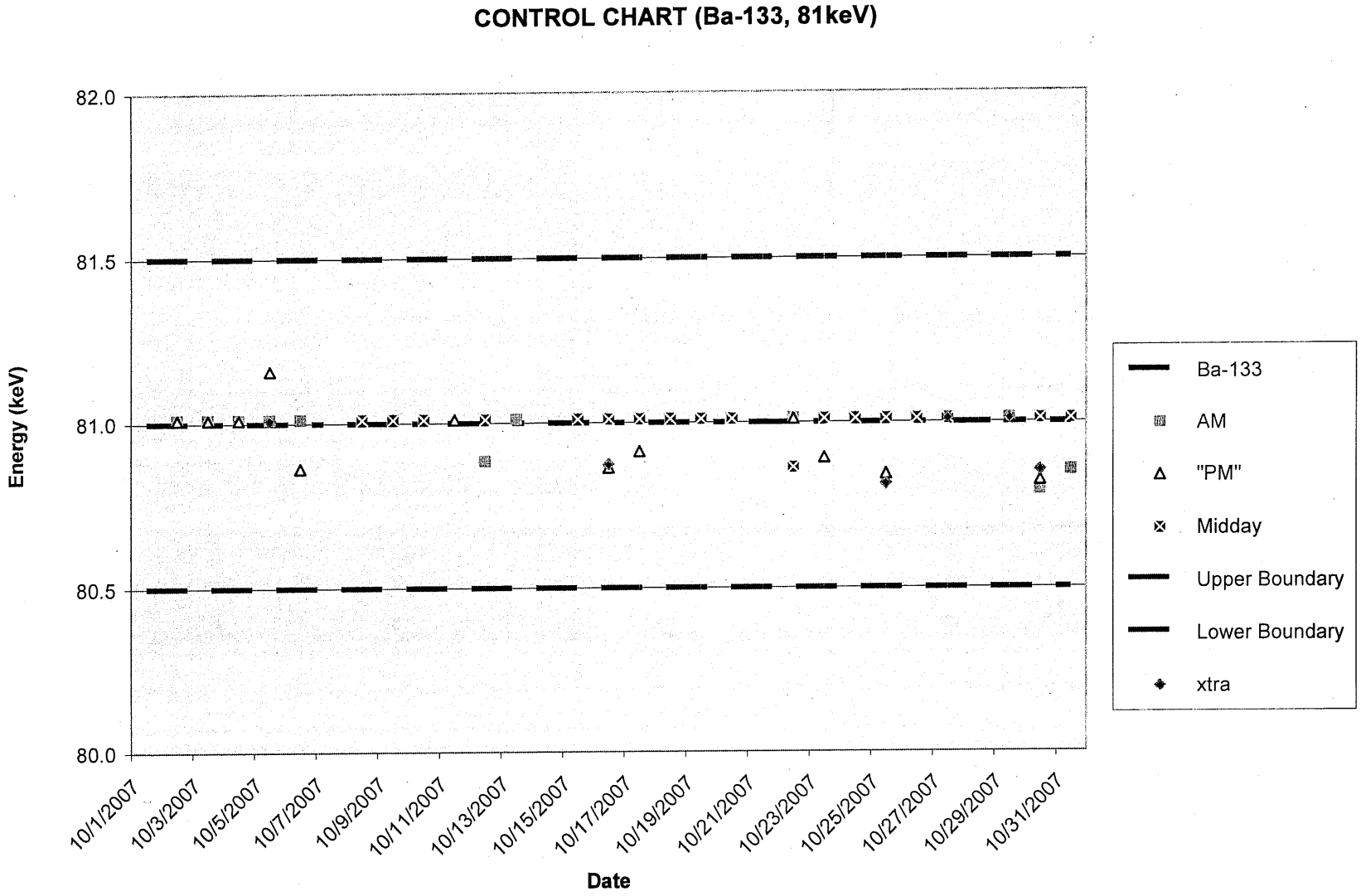
Suggested fill interval for the 3 liter ISO-Cart Dewar <2 days: (36 to 48 hours)

DATE	TIME	INTIIALS	COMMENTS/TEMP[5]		DATE	TIME	INTIIALS	COMMENTS/TEMP

[5] To observe cryostat/detector temperature: enable *digi*Dart display, then press the following button sequence (Menu/Enter); menus election (#6 Adjust Controls);Menu selection (#1 HV settings); then menu selection (#5 View HV SOH) Note temperature < 100^0 K

ATTACHMENT 7.6

EXAMPLE QA CHART: Ba-133 (81 keV)



ATTACHMENT 7.7

PERTINENT ELECTRONIC COMPONENT SETTINGS

ADC	Gate	On		Amplifier	Gain	2.31	
	Conversion Gain	4096 (Channels)			Fine	0.5772	
	Lower Level Discriminator	15			Coarse	X4	
	Upper Level Discriminator	4000			Baseline restore	Auto	
					Pre amplifier	Resistor feedback	
HV	On/Off						
(as shown in section 4.2					Input polarity	+	
Analysis Parameters	**Report**						
	Soil Container		Uncertainty	Total and percent		Confidence level	3 sigma
			Reporting options				
				Unknown peaks			
				Library peaks			
	Options			Library peak matrix			
				Nuclide abundance			
	Analysis			Display			
			Output				
				analysis results			

TETRA TECH INC

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-028
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		04-09-08

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other _____ Title

Final TCRA WP **Section 6.8.1** **Removal of Radioactive Material**

Description (items involved, submit sketch, if applicable)

Section 5.3 of the Work Plan and Section 7.4 of the Health and safety Plan have a subtle inconsistency. Section 5.3 of the Work Plan explicitly requires the issuance of dosimeters to workers. Section 7.4 of the Health and Safety Plan states that dosimeters may be used.

Reason for Change

The change is being made to eliminate the inconsistency between Section 5.3 of the Work Plan and Section 7.4 of the Health and Safety Plan.

Recommended Disposition (submit sketch, if applicable) Replace the first paragraph in Section 7.4 with the following text:

"To support the monitoring, tracking, and recording of occupational whole-body radiation exposure, any personnel working directly with impacted material, including equipment operators, under this Work Plan will be issued and required to wear dosimeters. Only National Voluntary Laboratory Accreditation Program (NVLAP)-approved dosimeters from a NVLAP-certified provider will be used. Personnel issued dosimetry must complete an NRC Form 4. The original Form 4 will be maintained by the organization issuing the dosimetry with a copy or the original kept at the project field office."

E-MAILED APR 14 2008

DW

TETRA TECH

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-028
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		04-09-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Cliff Stephan	Date	Preparer's Title	Site Superintendent (Signature)	Date
	04/09/08	Consulting Scientist		

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4-14-08
TtEC PESM (signature) (if health and safety related) Roger N Margotta ☐ Comments (attached) ☒ No Comments	4/17/08	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	4-14-08
TtEC QC Program Manager (signature) ☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	5/8/08	Navy ROICC (signature) Gregory J. Lorne	5/27/08

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-028
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 04-09-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Cliff Stephan	Date	Preparer's Title	Site Superintendent (Signature)	Date
	04/09/08	Consulting Scientist		

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Project Manager (signature) ☐ Comments (attached) ☐ No Comments	Date 4-14-08 4/14/08
TtEC PESM (signature) (if health and safety related) ☐ Comments (attached) ☐ No Comments	Date	TtEC Scientist (signature) (if science related) ☐ Comments (attached) ☒ No Comments	Date 4-14-08
TtEC QC Program Manager (signature) ☐ Comments (attached) ☒ No Comments	Date	☐ Comments (attached) ☐ No Comments	Date
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-028
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 04-09-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) Cliff Stephan	Date	Preparer's Title	Site Superintendent (Signature)	Date
	04/09/08	Consulting Scientist		

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4-14-08
TtEC PESM (signature) (if health and safety related)	Date	TtEC Scientist (signature) (if science related)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	4-14-08
TtEC QC Program Manager (signature)	Date		Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	Date	Navy ROICC (signature)	Date

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-029
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		04-21-08

RE: Drawing No. _____ Title _____

Specification Section _____ Title _____

Other FCR15-23 Title Additional Sampling of the Gravel Area

Description (items involved, submit sketch, if applicable)

Gravel material removed from the bunker area in accordance with the guidelines established in FCR15-23, will be placed in a designated location in Area 1A within IR Site 1.

Reason for Change

The sub-grade the gravel was placed upon is RAD impacted and needed to be covered with a less permeable material than the gravel. The gravel needed to be moved from the stockpile liner it was stored on in order to complete the work in IR Site 32. The gravel can not be free-released from the area and needs to be placed in a designated RMA.

Recommended Disposition (submit sketch, if applicable)

Allow the placement of the gravel from the bunker area to be placed in the designated location in IR Site 1. See attached figure for location. The location is within the 1A area of IR Site 1 and in an area free of RAD excavations. Area 1A will be covered with soil in future site work.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-029
Location: TCRA for IR Sites 1, 2 and 32, Alameda Point		Date: 04-21-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) ~~Marc Wendling~~ Nathan Smith	Date	Preparer's Title	Site Superintendent (Signature)	Date
	04/09/08	Consulting Scientist		4-22-08

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4/22/08
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4/22/08
TtEC QC Program Manager (signature) Gregory Joyce	**Date** 4-30-8		**Date**
☐ Comments (attached) ☒ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date** 5/8/08	**Navy ROICC (signature)** Gregory J. Bruce	**Date** 5/27/08

Distribution: Original to Project File, Copy to Site File,
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

TETRA TECH

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	15(28)	FCR15-030
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		04-21-08

RE: Drawing No. Title

Specification Section Title

Other **TCRA Work Plan Section 5.7.9** Title **Gamma Spectroscopy Measurement Techniques**

Description (items involved, submit sketch, if applicable)

Remove the requirement to analyze soil samples with the HPGe system

Reason for Change

The primary intent of the HPGe analysis was to help characterize discrete items before off site disposal. Select soil samples had been characterized with the HPGE system prior to being shipped to a laboratory for full analysis but since the lab results will characterize radiation the Navy feels the additional work is redundant and unnecessary. The WP should be clarified to state that the RASO and PHP will be allowed to select what samples need HPGe analysis.

Recommended Disposition (submit sketch, if applicable) Change the referenced section in WP as follows.

5.7.9 Gamma Spectroscopy Measurement Techniques

Gamma energy analysis using a portable HPGe system will be performed to characterize subsurface point sources and to quantitatively identify the presence of ^{226}Ra in ***selected*** ~~collected~~ soil samples. Specific locations ***and selected soil samples*** for in situ gamma energy analysis will be determined by the PHP with concurrence from the RASO based on a review of the radiological survey data collected. Selected ~~S~~soil samples collected will have a gamma energy analysis preformed on them prior to being released and shipped to the contract laboratory for ^{226}Ra analysis.

TETRA TECH EC, INC.

FIELD CHANGE REQUEST FORM

Contract No.	CTO No.	Field Change Request Form No.
N62473-06-D-2201	0015(28)	FCR-15-030
Location		Date
TCRA for IR Sites 1, 2 and 32, Alameda Point		04-21-08

Additional Details

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

Preparer (signature) ~~Mark Wendling~~ Nathan Smith	Date	Preparer's Title	Site Superintendent (Signature)	Date
	04/09/08	Consulting Scientist		4-22-08

Disposition

☐ Approved.

☐ Not approved (give reason). _____

TtEC Engineer (signature) (if engineering related)	Date	TtEC Project Manager (signature)	Date
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☒ No Comments	4/27/08
TtEC PESM (signature) (if health and safety related)	**Date**	**TtEC Scientist (signature) (if science related)**	**Date**
☐ Comments (attached) ☐ No Comments		☐ Comments (attached) ☐ No Comments	4/22/08
TtEC QC Program Manager (signature) Gregory Joyce	**Date** 4.30.08		**Date**
☐ Comments (attached) ☒ No Comments		☐ Comments (attached) ☐ No Comments	
Navy RPM (signature)	**Date** 5/05/08	**Navy ROICC (signature)** Gregory J. Grace	**Date** 5/27/08

Distribution: Original to Project File, Copy to Site File.
Project Manager, Navy RPM, Navy ROICC, PQCM, QCM, Site Superintendent

APPENDIX M

NOSSA AUDIT

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DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.vcw/0018
July 16, 2007

From: Director, BRAC Program Management Office West
To: Commanding Officer, Naval Ordnance Safety and Security Activity (NOSSA) (Attention: N71)

Subj: BRAC PMO WEST RESPONSE TO THE NAVAL ORDANCE SAFETY & SECURITY ACTIVITY (NOSSA) AUDIT REPORT FOR THE TIME-CRITICAL REMOVAL ACTION (TCRA) AT INSTALLATION RESTORATION (IR) SITES 1, 2, AND 32, ALAMEDA POINT, ALAMEDA, CA

Ref: (a) NOSSA letter Ser N539/823, 22 May 2007

Encl: (1) BRAC PMO West Response to the NOSSA Audit Report for the TCRA at IR Sites 1, 2, and 32, Former Naval Air Station Alameda, Alameda, CA

1. Reference (a) describes NOSSA's findings during the audits of the Time-Critical Removal Action (TCRA) for IR Sites 1, 2, and 32 at the Former Naval Air Station Alameda, Alameda, CA. Enclosure (1) summarizes the BRAC PMO West responses to the discrepancies raised. All discrepancies have been corrected.

2. The Navy point of contact for this action is Mr. Andrew L. Baughman, Remedial Project Manager. Should you have any questions on this issue or if you need additional information, please contact Mr. Baughman at (619) 532-0902 or andrew.baughman@navy.mil.

Laura Duchnak
LAURA DUCHNAK
Director

BRAC PMO West Response to the Naval Ordnance Safety & Security Activity (NOSSA) Audit Report for the Time-Critical Removal Action Installation Restoration Sites 1, 2, and 32, Alameda Point, Alameda, CA

The Naval Ordnance Safety & Security Activity (NOSSA) conducted an audit on May 9-10, 2007 for the Time-Critical Removal Action (TCRA) at Installation Restoration (IR) Sites 1, 2, and 32, Alameda Point, Alameda, CA. The subject NOSSA Audit Report was dated 22 May 2007 (8020 Ser N539/823) from Pamela G. Clements of NOSSA. The NOSSA point of contact for this audit is Mr. Douglas Murray. Documents audited included primarily the March 2007 Explosive Safety Submission (ESS), and the Final Time-Critical Removal Action Work Plan for IR Sites 1, 2, and 32, Former Naval Air Station Alameda, Alameda Point, Alameda, CA, dated March 2007.

This document provides a consolidated response to the NOSSA Audit Report in the form of comment responses. Each comment response discusses the root cause and appropriate corrective action for each discrepancy and observation noted in the NOSSA Audit Report in order for NOSSA to verify that the munitions response actions were adequately completed and for adequate protection of human health and the environment (per Section 9 of the Audit Report).

References:

(a) OPNAVINST 8020.15

(b) NOSSAINST 8020.15A

(c) NAVSEA OP 5

(d) Final Explosives Safety Submission (ESS), Revision 2 of 9 March 2007, for Installation Restoration (IR) Site 1, Former Naval Air Station Alameda, Alameda Point, Alameda, California

(e) Final Time-Critical Removal Action Work Plan, of 2 March 2007, for IR Sites 1, 2, and 32, Former Naval Air Station Alameda, Alameda Point, California

(f) DoD Instruction 4160.21M

Responses to the Discrepancies from NOSSA Final **Audit Report**

7.a. Not all metal parts of Magazine M353 were properly grounded/bonded because the grounding wire was broken. Reference (c) pertains.

Magazine maintenance and electrical testing required by Reference (a) and (c) ceased circa April 1997 when the base closed, and electrical power to the magazine was shut off. Given the nature of the MPPEH being stored in Magazine M353, and it's very low susceptibility to static electricity, the magazine grounding system was not restored for this project. In addition, Magazine M353 will not be used for electric blasting caps or any electric initiated devices; therefore, a grounding system is not required.

7.b. The potential hazards associated with MEC were not identified in the Health and Safety Plan. Reference (e), Appendix A pertains.

The Navy agrees with the comment, and the potential hazards associated with MEC have been added to the Site Health and Safety Plan (SHSP), Reference (e) Appendix A.

7.c. Recovered MPPEH were not being photographed. Reference (d) and Reference (e), Appendix D-11 pertain.

The Navy agrees with the comment, and Reference (d) has been corrected to not require photographs of every MEC item recovered. A correction to the ESS, Reference (d), was made, and the changed pages are included in a separate transmittal.

7.d. The Trommel 6-in grizzly was broken, allowing up to 14-in material to enter. (Corrected during audit.) Reference (d) and Reference (e), Appendix D-11 pertain.

The Navy agrees and in accordance with Reference (d) and (e), the Trommel was welded to repair and restore the spacing to 6-inches, and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.e. Non-conforming conditions reported in Daily QC Reports were not reflected in the QC Acceptance Sampling Log. (Corrected during audit.) Reference (e), Appendix C pertains.

The Navy agrees, and in accordance with Reference (d), Appendix C, the log was corrected to reflect the conditions noted in the Daily QC reports, and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.f. No method was in place to identify debris lots for QC acceptance or rejection. (Corrected during audit.) Reference (d) and Reference (e), Appendix C pertain.

A method to identify debris lot acceptance or rejection was created per Reference (d) and (e), and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.g. The risks associated with recovering MEC had not been assessed. (Corrected during audit.) Reference (d) pertains.

As suggested, the risks associated with recovering MEC have been assessed in accordance of Reference (d), and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.h. Access protocols for authorized visitors did not comply with Reference (d) requirements. Reference (d) and Reference (e), Appendix A pertain.

The Navy agrees with the comment, and the Site Health and Safety Plan (SHSP), Reference (e), Appendix A, has been updated to make the document compliant with visitor access protocols in reference (a).

7.i. UXO technicians were not able to monitor all of the oversize material as it exited the Trommel and the screening plant configuration was not in accordance with the approved ESS. (Corrected during audit.) Reference (d) pertains.

The screening plant configuration was altered in order for the UXO technicians to monitor all of the oversized material as suggested by Mr. Murray, and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.j. The Exclusion Zone was not being managed in accordance with the ESS. Specifically, a patrol boat was not being used to prevent recreational boaters from entering the EZ, and the limits of the EZ on land are not clearly marked; however, site personnel were aware of EZ requirements. References (d) and Reference (e), Appendix D-11 pertain.

The requirement for the patrol boat was removed from the ESS, Reference (d), and a procedure where work is halted when recreational boats enter the EZ was enacted. A correction to the ESS, Reference (d), was made, and the changed pages are included in a separate transmittal.

7.k. The explosives transportation vehicle did not have all required equipment. (Corrected during audit.) Reference e, Appendix D-11 pertains.

All equipment required by Reference (e) was added to the explosives transportation vehicle, and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.l. High-security locks were not being used to secure Magazines M353 and M354. (Corrected during audit.) Reference (d) pertains.

New locks were acquired and installed to be consistent with Reference (d), and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

7.m. The document to be used to record the MPPEH demilitarization certification was not in accordance with the Defense Demilitarization Manual. Reference (d) pertains.

The *safe* certification/verification form was corrected to include the statement required by Reference (d). A correction to the ESS, Reference (d), was made, and the changed pages are included in a separate transmittal.

7.n. Vegetation cutting occurred during the 1 April through 31 August peak nesting season of susceptible wildlife species. Reference (d) pertains.

The vegetation around the magazines was cut to be compliant with requirements in Reference (a). A sweep was conducted by the site biologist in and around the magazine compound to ensure there were no nests on the ground prior to the cutting. Vegetation trimming around the magazines is performed on an as-needed basis to remain in compliance with Reference (a), and biological surveys of the areas are completed prior to moving to ensure no active nests are present. A correction to the ESS, Reference (d), was made, and the changed pages are included in a separate transmittal.

7.o. The keys for Magazines M353 and M354 were not being maintained exclusively by the SUXOS. (Corrected during audit.) Reference (d) pertains.

In accordance with Reference (d), the keys are now being maintained exclusively by the SUXOS, and, as noted in NOSSA's Final Audit Report, this item was corrected during the audit.

END OF DOCUMENT

DEPARTMENT OF THE NAVY
NAVAL ORDNANCE SAFETY & SECURITY ACTIVITY
FARRAGUT HALL BLDG D-323
23 STRAUSS AVENUE
INDIAN HEAD MD 20640-5555

8020
Ser N539/823
22 May 07

From: Commanding Officer, Naval Ordnance Safety and Security Activity
To: Director, Base Realignment and Closure Program Management Office West

Subj: AUDIT REPORT FOR INSTALLATION RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Ref: (a) OPNAVINST 8020.15
(b) NOSSAINST 8020.15A
(c) NOSSA ltr 8020 Ser N539/641 of 17 Apr 07

Encl: (1) Audit Report

1. In accordance with references (a) and (b), and as announced by reference (c), the Naval Ordnance Safety and Security Activity (NOSSA) conducted an audit of the subject munitions response project on 9-10 May 2007. The purpose of the audit was to assess compliance with applicable explosives safety requirements. The NOSSA auditor reviewed project documentation and observed field activities.

2. While the Unexploded Ordnance (UXO) contractor is generally executing operations in a safe and effective manner, the audit disclosed several discrepancies (see enclosure (1) for details). Each finding is of concern to NOSSA and requires that the addressee analyze the root causes, direct the contractor to take appropriate corrective actions, and identify both in a response to NOSSA.

3. The NOSSA point of contact for this audit is Mr. Douglas Murray, who can be reached at DSN 354-4450 or commercial (301) 744-4450.

PAMELA G. CLEMENTS
By direction

Copy to: (See next page)

SUBJ: AUDIT REPORT FOR INSTALLATION RESTORATION SITE 1, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Copy to:
CNO (N45C1)
NOSSA (N54)
NOSSA ESSOPAC (N5P)
NAVEODTECHDIV (N512J)

AUDIT REPORT

Ref (a) OPNAVINST 8020.15
(b) NOSSAINST 8020.15A
(c) OP5
(d) Final Explosives Safety Submission (ESS), Revision 2 of 9 March 2007, for Installation Restoration (IR) Site 1, Former Naval Air Station Alameda, Alameda Point, Alameda, California
(e) Final Time-Critical Removal Action Work Plan, of 2 March 2007, for IR Sites 1, 2, and 32, Former Naval Air Station Alameda, Alameda Point, Alameda, California

1. Purpose: As part of its oversight authority delegated by reference (a), NOSSA audits munitions response projects in accordance with references (b) and (c) to assess the extent to which the projects comply with applicable explosives safety and environmental requirements related to the management of Munitions and Explosives of Concern (MEC) and Material Potentially Presenting an Explosive Hazard (MPPEH). NOSSA auditors also assess the contractor quality control (QC) and government quality assurance (QA) programs.

2. Audited MRP Project: IR Site 1 at the Former Naval Air Station Alameda, Alameda Point, Alameda, California.

3. Audit team:

Name	Title	Agency/Activity
Douglas Murray	Lead Auditor	NOSSA (N539)

4. Key audit components:

a. Personnel contacted:

Name	Title	Agency/Activity
Andrew Baughman	Remedial Project Manager	BRAC PMO West
Abram Eloskof	Project Manager	TetraTech EC, Inc.
Bob Wells	Site Manager	TetraTech EC, Inc.
George Bridgeman	Senior UXO Supervisor (SUXOS)	TetraTech EC, Inc.
Bill Dickson	UXO QC and UXO Health and Safety Officer	TetraTech EC, Inc.
Jay Johnson	UXO QA Specialist (under contract to BRAC PMO West)	Engineering/ Remediation Resources Group, Inc.

b. Documents audited: References (d) and (e).

c. Areas audited:

(1) MEC/MPPEH removal operations;

(2) Data management;

(3) Environmental protection;

(4) Explosives safety practices;

(5) Explosives storage;

(6) Explosives transportation;

(7) Geophysical instrument operations;

(8) Mechanical excavation and screening;

(9) Occupational health and safety;

(10) Worker qualifications;

(11) Worker training;

(12) Contractor QC program; and

(13) Government QA program.

d. Areas not audited due to inactivity while the audit team was on site:

(1) Certification and verification of MPPEH.

5. Audit plan and checklist: (see enclosure (6) of reference (b)).

6. Methodology: Audits follow procedures similar to those outlined in "Guidelines for Auditing Quality Systems" and "Guidelines for Environmental Auditing—General Principles", both published by the American Society for Quality, and the "Guidance on Technical Audits and Related Assessments for Environmental Data Operations" published by the U.S. Environmental Protection Agency.

7. Discrepancies:

a. Not all metal parts of Magazine M353 were properly grounded/bonded because the grounding wire was broken. Reference (c) pertains.

b. The potential hazards associated with MEC were not identified in the Health and Safety Plan. Reference (e), Appendix A pertains.

c. Recovered MPPEH were not being photographed. Reference (d) and Reference (e), Appendix D-11 pertain.

d. The Trommel 6-in grizzly was broken, allowing up to 14-in material to enter. (Corrected during audit.) Reference (d) and Reference (e), Appendix D-11 pertain.

e. Non-conforming conditions reported in Daily QC Reports were not reflected in the QC Acceptance Sampling Log. (Corrected during audit.) Reference (e), Appendix C pertains.

f. No method was in place to identify debris lots for QC acceptance or rejection. (Corrected during audit.) Reference (d) and Reference (e), Appendix C pertain.

g. The risks associated with recovering MEC had not been assessed. (Corrected during audit.) Reference (d) pertains.

h. Access protocols for authorized visitors did not comply with Reference (d) requirements. Reference (d) and Reference (e), Appendix A pertain.

i. UXO technicians were not able to monitor all of the oversize material as it exited the Trommel and the screening plant configuration was not in accordance with the approved ESS. (Corrected during audit.) Reference (d) pertains.

j. The Exclusion Zone (EZ) was not being managed in accordance with the ESS. Specifically, a patrol boat was not being used to prevent recreational boaters from entering the EZ, and the limits of the EZ on land are not clearly marked; however, site personnel were aware of EZ requirements. References (d) and Reference (e), Appendix D-11 pertain.

k. The explosives transportation vehicle did not have all required equipment. (Corrected during audit.) Reference e, Appendix D-11 pertains.

l. High-security locks were not being used to secure Magazines M353 and M354. (Corrected during audit.) Reference (d) pertains.

m. The document to be used to record the MPPEH demilitarization certification was not in accordance with the Defense Demilitarization Manual. Reference (d) pertains.

n. Vegetation cutting occurred during the 1 April through 31 August peak nesting season of susceptible wildlife species. Reference (d) pertains.

o. The keys for Magazines M353 and M354 were not being maintained exclusively by the SUXOS. (Corrected during audit.) Reference (d) pertains.

8. Observations:

a. The cognizant Explosive Ordnance Disposal (EOD) unit at Travis Air Force Base is reluctant to provide the technical support outlined in Reference (d) and Appendix D-11 of Reference (e). To clearly identify the responsibilities of all parties involved a Memorandum or Agreement (or similar document) between BRAC PMO West and this EOD unit should have been executed prior to the project starting.

b. The Navy QA inspector was unaware of a 2 May 07 non-conformance report or of the subsequent corrective action.

9. Conclusions: Overall, the UXO contractor is executing operations in a safe and effective manner. However, the discrepancies noted above are of concern to NOSSA. BRAC PMO West should analyze the root cause for each, direct the contractor to take appropriate corrective action, and identify both in a response to this audit report. As described in references (a) and (b), NOSSA requires satisfactory responses to audit discrepancies before it can provide final verification that the munitions response actions were adequately completed per the approved ESSs.

APPENDIX N

DEMILITARIZATION VERIFICATION

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ALAMEDA DRUM MANIFEST

Barrel #	Seal #	Date Verified & Sealed	Barrel Weight	Material Weight	Total Weight	Location Mag
1	0053017	6/12/07	41	850	891	353
2	0053018	6/13/07	39	801	840	353
3	0053019	6/13/07	39	811	850	353
4	0053020	6/15/07	45	805	850	353
5	0053021	6/15/07	46	804	850	353
6	0053022	6/15/07	40	810	850	353
7	0053023	6/15/07	42	808	850	353
8	0053024	6/18/07	47	803	850	353
9	0053025	6/18/07	46	804	850	353
10	0053026	6/18/07	43	807	850	353
11	0053027	6/19/07	41	809	850	353
12	0053028	6/26/07	41	809	850	353
13	0053029	7/3/07	40	810	850	353
14	0053030	7/6/07	45	805	850	353
15	0053031	7/6/07	37	128	165	353
					0	
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					0	
Totals			632	11464	12096	

TES DEMILITARIZATION CHAIN OF CUSTODY CERTIFICATION FOR UXO/OE SCRAP

Date: 9/18/2007

1. Releasing Generators (RG) Name and Mailing Address	1a. RG's Phone No.	2. RG's Site Manager
Tetra Tech EC 1230 Columbia St., Ste 750, San Diego, CA 92101	949.283.0589	Vince Richrads
3. Releasing Generators (RG) Project Name and Location	**3a. RG Project Phone No.**	**4. RG's SUXOS**
Tetra Tech EC 2010-A Kollman Circle, Alameda, CA 94501	949.283.0589	
5. Transportation Company	*5a. Transporter Phone No.*	*6. Transporter Name*
Timberline Environmental Services	209-965-3118	Ed Worth
7. Demil Processor	7a. Demil Processor Phone No.	8. Demil Processor Manager
Timberline Environmental Services 29925 Highway 108, Cold Springs, CA 95335	209-965-3118	Terry Northcutt

9. # Of Containers	10. Seal No.'s		11. Estimated Weight	11a. Actual Weight
15 @ 1 Bucket	0053017	0053027	12,000 lbs	
	0053018	0053028		
	0053019	0053029		
	0053020	0053030		
	0053021	0053031		
	0053022	0053032		
	0053023			
	0053024			
	0053025			
	0053026			

12. Freight Classification Nomenclature	13. Item Nomenclature
Ordnance Related Scrap	

14. Material Released to the Transporter By RG's Site Manager

"This certifies that the material listed here has been 100% properly inspected and to the best of my knowledge and belief is free of explosive hazards."

Print/Type Name	Signature	Time and Date
Douglas DeLong		9/19/2007 1240 PM

15. Received for Transport By (Receiving Signature Verifies that Seals are Intact)

Print/Type Name	Signature	Time and Date
Edward M. Worth		9/19/07

16. TES Site Manager: I ACKNOWLEDGE THE RECEIPT OF MATERIAL (Receiving Signature Verifies that Seals are Intact)

RECEIVED BY:	# of Containers/Weight	Date

17. Material Demilitarized

"I certify that the materials listed here have been demilitarized/destroyed so as to no longer resemble AEDA/ordnance beyond DOD requirements 4160.21.M.1"

Processed By: Print/Type Name	Signature	Date

18. Material Recycled in Accordance with DOD Guidelines

Shipped By: Print/Type Name	Recycling Facility	Date

19. Documents sent to RG

Print/Type Name	Documents	Month/Day/Year
		____ / ____ / ____

20. Discrepancies

8-12-06 Rev 3

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053017	891	N/A	850	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification		
Signature	Address 2010-A Kollman Circle	Date 6/12/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/12/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)		
Signature	Address 2945 Hwy 108	Date 9-19-07
Printed/Typed Name E. Worth	Gold Springs CA 95328	Phone (209) 965-3118
20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)		
Signature	Address Alameda IR Sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9995
21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)		
Signature	Address	Date
Printed/Typed Name		Phone
22. Discrepancy Indication Space		
Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)		
Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
25. Senior UXO Supervisor Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
26. Qualified independent person Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
27. Final Disposition		

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053018	840	N/A	811	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature George WF Bridgeman	Address 2010-A Kollman Circle	Date 6/13/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/13/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature	Address 29035 Hwy 108	Date 9-19-07
Printed/Typed Name E. Wood	Cold Springs Ca 95335	Phone 209 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature Larry B Spencer	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053019	850	N/A	811	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/13/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/13/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 29925 Hwy 108	Date 9-14-07
Printed/Typed Name E. Ward	Sonora CA 95370	Phone 209-965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/9/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053020	850	N/A	805	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification		
Signature George WF Bridgeman	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)		
Signature	Address 29925 Hwy 108	Date 9/19/07
Printed/Typed Name Edwards	Cold Springs CO 80135	Phone 719 495-3105
20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)		
Signature Larry B Spencer	Address Alameda IR sites	Date 9/19/07
Printed/Typed Name Larry B Spencer	12,32	Phone 714 415 9998
21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)		
Signature	Address	Date
Printed/Typed Name		Phone
22. Discrepancy Indication Space		
Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)		
Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
25. Senior UXO Supervisor Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
26. Qualified independent person Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
27. Final Disposition		

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053021	850	N/A	804	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P Dickson	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 7775 Hwy 108	Date 9/19/07
Printed/Typed Name E. Wood	Cold Springs, Ca 95335	Phone (209) 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053022	850	N/A	810	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 29125 Hwy 108	Date 9/19/07
Printed/Typed Name E. Worth	Coulee Springs, LA 70535	Phone 337 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1,2,32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053023	850	N/A	808	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification		
Signature George W F Bridgeman	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/15/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)		
Signature	Address 29925 Hwy 108	Date 9/19/07
Printed/Typed Name K. Worth	Cold Springs, CA 95335	Phone 209 965-3118
20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)		
Signature Larry Spencer	Address Alameda, IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998
21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)		
Signature	Address	Date
Printed/Typed Name		Phone
22. Discrepancy Indication Space		
Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)		
Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
25. Senior UXO Supervisor Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
26. Qualified independent person Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
27. Final Disposition		

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053024	850	N/A	803	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification		
Signature George WF Bridgeman	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)		
Signature	Address 29925 Hwy 108	Date 9/19/07
Printed/Typed Name E. Wolfe	Cold Springs Ca 95335	Phone 209 965-3118
20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)		
Signature Larry B Spencer	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 405 9998
21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)		
Signature	Address	Date
Printed/Typed Name		Phone
22. Discrepancy Indication Space		
Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)		
Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
25. Senior UXO Supervisor Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
26. Qualified independent person Verification		
Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name
27. Final Disposition		

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053025	850	N/A	804	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature George WF Bridgeman	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature	Address 29935 Hwy 108	Date 9/19/07
Printed/Typed Name E. WORTH	Cold Springs CA 95328	Phone 209/965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B. Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053026	850	N/A	807	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/18/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 29425 Hwy 108	Date 9/19/07
Printed/Typed Name E. Woods	Gold Springs CA 95775	Phone 209-965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053027	850	N/A	809	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/19/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature William P. Dickson	Address 2010-A Kollman Circle	Date 6/19/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 29025 Hwy 108	Date 9/19/07
Printed/Typed Name E. Worth	Cold Springs, Ca 95335	Phone 209 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053028	850	N/A	809	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 6/26/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P Dickson	Address 2010-A Kollman Circle	Date 6/26/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature [signature]	Address 29925 Hwy 108	Date 9-19-07
Printed/Typed Name Edward M. Worth	Cold Springs, CA 95335	Phone 209-965-3118

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053029	850	N/A	810	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 7/03/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 7/03/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 29925 Hwy 108	Date 9-19-07
Printed/Typed Name E. Ward	Cold Springs, Co 95335	Phone (209) 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR sites 1, 2, 32	Date 9/19/07
Printed/Typed Name Larry B Spencer		Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053030	850	N/A	805	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature [signature]	Address 2010-A Kollman Circle	Date 7/06/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459

18. Qualified independent person Verification

Signature William P. Dickson	Address 2010-A Kollman Circle	Date 7/06/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature [signature]	Address 27925 Hwy 108	Date 9-11-07
Printed/Typed Name Edward Worth	Cold Springs, CO 95375	Phone 209 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature [signature]	Address Alameda IR Sites	Date 9/19/07
Printed/Typed Name Larry B Spencer	1, 2, 32	Phone 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # (973)452-1459
2. Project Location Former Naval Air Station Alameda Point, Alameda, CA	2.a Project Ph # (973)452-1459
3. MPPEH Contractor Name and Mailing Address TETRA TECH EC, INC. / 2010-A Kollman Circle, Alameda, CA 94501	3.a MPPEH Contractor Ph (973)452-1459
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053031	165	N/A	128	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20mm M99 Practice	Steel	N/A	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature George WF Bridgeman	Address 2010-A Kollman Circle	Date 7/06/07
Printed/Typed Name George WF Bridgeman	Alameda, CA 94501	Phone (973)452-1459
18. Qualified independent person Verification		
Signature William P. Dickson	Address 2010-A Kollman Circle	Date 7/06/07
Printed/Typed Name William P Dickson	Alameda, CA 94501	Phone (973)452-1459

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature	Address 29925 Hwy 108	Date 9-19-07
Printed/Typed Name Edward Wroth	Cold Springs, CA 95335	Phone 209/965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature Larry B Spencer	Address Alameda IR sites	Date 9/19/07
Printed/Typed Name Larry B Spencer	1, 2, 32	Phone 714-415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Qualified independent person Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

MPPEH *Safe* - 5X and Demilitarization Certification/Verification Manifest

GENERAL

1. Generator's Name and Mailing Address: TETRA TECH EC, INC, 2010-A- Kollman Circle, Alameda, CA 94501	1.a Generator's Ph # ( )
2. Project Location: FORMER Naval Air Station Alameda, Alameda, CA	2.a Project Ph # ( )
3. MPPEH Contractor Name and Mailing Address: TETRA TECH EC, INC, 2010-A Kollman Circle, Alameda, CA	3.a MPPEH Contractor Ph # ( )
4. Government Assigned Verification Name and Mailing Address	4.a Certifier Ph # ( )
5. Transporter 1 Name and Mailing Address	5.a Transporter 1 Ph # ( )
6. Transporter 2 Name and Mailing Address	6.a Transporter 2 Ph # ( )
7. Recycler Name and Mailing Address	7.a Recycler Ph # ( )

MEC Contractors and Government Certifier

8. Security Seal #	9. Gross Wt. (Lbs)	10. Tare Wt. (Lbs)	11. Net Wt. (Lbs)	12. Weight Ticket #
0053032 (2ea)	N/A	N/A	N/A	

13. Description	14. Material	15. Quantity	16. Unit (Wt., Vol)
20 MM TP Rounds	Steel / Aluminum	36	
40 MM Cassidy	Plastic	1	

SAFE - 5X CERTIFICATION

This certifies that the Material Potentially Presenting and Explosive Hazard items listed has been 100 percent inspected and to the best of our knowledge and belief, is inert and/or free of explosives or related materials.

17. TTEC UXO Technician Inspector Certification

Signature: Lance Hunter	Address: 1230 Columbia St	Date: 9/11/07
Printed/Typed Name: L. Hay	Suite 750, San Diego, CA	Phone: 619-471-3514
18. Senior UXO Supervisor Verification (QA)		
Signature:	Address: 185 Mason Circle "A"	Date: 9-11-07
Printed/Typed Name: Jesse Sipin	Concord CA 94520	Phone: (925) 383-7883

Transporters

19. Transporter 1 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Container was Received with Seal Intact)

Signature:	Address: 29925 Hwy 108	Date: 9-11-07
Printed/Typed Name: Edward Wentz	Cold Springs, CA 95335	Phone: (209) 965-3118

20. TTEC Acknowledgement of Receipt of Materials (Signature Verifies that Container was Received with Seal Intact and Contents Loaded to Transporter 1)

Signature: Larry B Spencer	Address: Alameda IR sites, 1, 2, 32	Date: 9/19/07
Printed/Typed Name: Larry B Spencer		Phone: 714 415 9998

21. Transporter 2 Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seals Intact)

Signature	Address	Date
Printed/Typed Name		Phone

22. Discrepancy Indication Space

Signature	Address	Date
Printed/Typed Name		Phone

Demil / Recycle Facility

23. Recycler Acknowledgement of Receipt of Materials (Receiving Signature Verifies that Drums were Received with Seal Intact)

Signature	Address	Date
Printed/Typed Name		Phone

DEMILITARIZATION CONFIRMATION

This certifies and verifies that each item or items contained have been demilitarized to the minimum requirements of DOD 4160-M-1, Defense Department Demilitarization Trade Security Control Manual.

24. Recycler

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

25. TTEC UXO Technician Inspector Certification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

26. Senior UXO Supervisor Verification

Signature	Signature	Signature
Printed/Typed Name	Printed/Typed Name	Printed/Typed Name

27. Final Disposition

ALAMEDA DRUM MANIFEST

Barrel #	Seal #	Date Verified & Sealed	Barrel Weight	Material Weight	Total Weight	Location Mag
1	0053017	6/12/07	41	850	891	353
2	0053018	6/13/07	39	801	840	353
3	0053019	6/13/07	39	811	850	353
4	0053020	6/15/07	45	805	850	353
5	0053021	6/15/07	46	804	850	353
6	0053022	6/15/07	40	810	850	353
7	0053023	6/15/07	42	808	850	353
8	0053024	6/18/07	47	803	850	353
9	0053025	6/18/07	46	804	850	353
10	0053026	6/18/07	43	807	850	353
11	0053027	6/19/07	41	809	850	353
12	0053028	6/26/07	41	809	850	353
13	0053029	7/3/07	40	810	850	353
14	0053030	7/6/07	45	805	850	353
15	0053031	7/6/07	37	128	165	353
					0	
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					0	
Totals			632	11464	12096	

Certificate of Destruction

Releasing Generator Tetra Tech

Gross Weight 12,199 lbs

[I certify that the items/assets listed were demilitarized in accordance with guidelines in DoD 4160.21-M-1 and have been inspected by me and, to the best of my knowledge and belief contain no items of a dangerous nature. The remaining components are recycled as allowed under 40CFR Chapter 1, part 261.

Date Sept. 24, 2007

By _____

Title COO

APPENDIX O

RESPONSE TO COMMENTS

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RESPONSE TO COMMENTS ON THE
DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONSTRUCTION REPORT
FOR IR SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA
ALAMEDA POINT, ALAMEDA, CALIFORNIA
DATED APRIL 8, 2009

Reviewed by Environmental Protection Agency, Xuan-Mai Tran,
Remedial Project Manager, Federal Facilities and Site Cleanup Branch
Comments Dated: May 22, 2009

GENERAL COMMENTS	RESPONSE
Comment 1. The Draft Time-Critical Removal Action (TCRA) Post-Construction Report (the Report) does not provide a sufficient description of the removal action objectives (RAOs) for addressing radiological contamination at Installation Restoration (IR) Sites 1, 2, and 32, and does not provide sufficient discussion of how the RAOs were met. The RAOs are stated to include 1) the prevention of completed exposure pathways to concentrations of radiological contaminants that significantly exceed background concentrations, and 2) to ensure the total effective dose equivalent received through all potential pathways from the radium-impacted waste to a member of the public is no more than 15 millirems per year (mrem/y). The descriptions are unclear for the following reasons: a. The first RAO does not state whether it is intended to prevent unacceptable exposures to the industrial worker or the public, or both. b. The second RAO does not state if the 15 mrem/y limit only applies to gamma radiation directly attributable to radium 226 (Ra-226), or includes all radioactivity in the soil, taking into consideration exposure from naturally occurring radionuclides (background) and does not state what the basis for a 15 mrem/y limit is (i.e., risk assessment or regulatory limit). The Report does not adequately address how these two RAOs have been met. For the first RAO, the Report does not adequately define how a future industrial	**Response 1.** The RAO descriptions were taken from the OU-3 Action Memorandum for Installation Restoration Sites 1, 2, and 32 (Tetra Tech EC, Inc. 2007a). These descriptions were developed with input and concurrence from the regulatory agencies. In response to Comment 1a and 1b: 1a. The first RAO states "To prevent ingestion, dermal contact, or inhalation of radiological anomalies with concentrations that significantly exceed background concentrations." As this RAO is written, it would apply to any member of the public. 1b. The 15 mrem/yr limit specified in the second RAO applies to the total dose from radium-226. The basis for the 15 mrem/yr limit is the 1997 EPA OSWER Directive 9200.4-18. The scope of work for the TCRA addressed in the report included removing radiological anomalies previously identified at IR Sites 1, 2, and 32 to meet the RAOs. The expectation was that the anomalies were located near the surface (2 feet or less below ground surface). During implementation of the TCRA, it was determined that radioactive contamination was at a greater depth than 2 feet at

worker will be adequately protected from exposure to radiological anomalies at the site. This is a concern because Section 3.9 (Conclusion) recommends that IR Sites 1, 2, and 32 continue to be fenced off, but does not provide specific information about administrative or other physical controls that will ensure excavations or other site activities do not occur that could expose a future worker. This is particularly important given that several 'hot spots' of gamma radiation were detected during the post-excavation surveys.

The Report does not include any discussion about how potential dose to a member of the public was modeled, nor does it include the results of or reference to a risk assessment, that demonstrates that the remaining radiological (primarily Ra-226) contamination at the site will result in a yearly dose to a member of the public that is less than the 15 mrem/y limit. This information is necessary to demonstrate that the second RAO has been met.

In order to address concerns regarding the first radiological contamination RAO, please revise the Report to more specifically state what population the first radiological RAO is directed towards (worker or public) and clarify how a future industrial and/or public individual will be adequately protected. For concerns about the second RAO for addressing radiological contamination, please revise the Report to provide a more in-depth description in Section 3.0 (Data Analysis and Results) regarding how exposure was modeled, what pathways are considered complete for the post-removal conditions, and what risk evaluations may have been performed to show that, given the remaining gamma emissions/contamination at the site, the 15 mrem/y limit is met for the public. It is also requested that the basis for the 15 mrem/y limit be provided such that it is understood whether this is a pre-established regulatory limit (such as the Nuclear Regulatory Commission or State of California regulations), or is established based on a risk assessment.

places across all three sites. It was determined that the RAOs would not be fully met under this TCRA and that a remedy to meet the RAOs would instead be selected in each of the corresponding RODs for the sites. Therefore, the report does not attempt to demonstrate that the RAOs were met but rather recommends that access to IR Sites 1, 2, and 32 be controlled by the DON until the RAOs have been met. In addition to fencing, radiological monitoring is currently required during all on-site activities, and personnel and equipment must be radiologically free released prior to leaving the sites. Future work at these sites in support of the remedies will be conducted under radiological work plans approved by the regulatory agencies to ensure protection of workers.

To clarify that the radiological RAOs were not met, the fourth paragraph and the second to last paragraph of the Executive Summary will be revised as follows:

> "The decision to undertake the TCRA was documented in the Action Memorandum for IR Sites 1, 2, and 32 (TtEC 2007a). The primary goal of the TCRA was to mitigate the potential risk posed by material potentially presenting an explosive hazard (MPPEH); radiological contamination at IR Sites 1, 2, and 32; and the threatened release of hazardous substances to the environment.
>
> "The MPPEH removal action objectives were met; however, due to radium-226 (^{226}Ra) contamination being present at each IR site to a greater extent than anticipated, the radiological removal action objectives were not met by the activities undertaken

	during the TCRA. This report does not demonstrate nor imply that the removal action objectives were met; rather, it presents the removal activities and documents the current radiological conditions at the IR sites." Information on radiological controls will be added to Section 3.9 as follows: "Items and soils contaminated with ^{226}Ra were identified and removed from IR Sites 1, 2, and 32. However, the horizontal and vertical extent of contamination was greater than expected and complete removal was not feasible. Current field conditions indicate that ^{226}Ra contamination is still present throughout the IR sites. Therefore, IR Sites 1, 2 and 32 will continue to be fenced off (including the shoreline along these sites), and access to these sites will be controlled. In addition, radiation surveys of personnel and equipment exiting the areas will be conducted when any intrusive activities are performed in these IR sites. Furthermore, the IR site fence line is intact and the proper radiological postings are present." The sites are currently controlled under the DON's Master Materials License.
Comment 2. The use of the term "Material Potentially Presenting an Explosive Hazard (MPPEH)" does not always appear to coincide with the definition of	**Response 2.** The DoD definitions of MPPEH, MDAS, and MDEH will be added to the end of Section 1.1.1.

that term found in Department of Defense Ammunition and Explosives Safety Standards (DoD 6055.09-STD, February 29, 2008, with Change 1, March 24, 2009). That definition reads as follows: **MPPEH:** Material that, prior to determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or potentially contains a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization or disposal operations). Excluded from MPPEH are munitions within DoD's established munitions management system and other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions. The previous definition of MPPEH has been modified somewhat by the insertion of the phrase "prior to determination of its explosives safety status." This was done to accommodate two additional definitions found in DoD 6055.09-STD that read as follows: **Material Documented as Safe (MDAS)**: MPPEH that has been assessed and documented as not presenting an explosive hazard and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.	However, the Navy will not make changes to the use of the term MPPEH throughout the report as it would cause inconsistency with the Work Plan, field documentation, and waste manifests. The following statement will be added to that section to clarify for the reader the context in which the terms were used: "The definition of MPPEH has been modified since the work was planned and conducted. The definition of MPPEH at the time of the fieldwork was the following: **MPPEH:** Material that, prior to determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or potentially contains a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization or disposal operations). However, the definition of MPPEH has been modified to add two new terms as follows: **Material Documented as Safe (MDAS)**: MPPEH that has been assessed and documented as not presenting an explosive hazard and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH. and:

Material Documented as an Explosive Hazard (MDEH): MPPEH that cannot be documented as MDAS, that has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present, and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH. As these definitions read, any former MPPEH that has been classified as Category 5X, documented as not presenting an explosive hazard, and for which the chain of custody has been established and maintained is no longer considered to be MPPEH. It has become MDAS. So MPPEH is material that has not been formally designated as Category 5X and placed under a chain of custody, and Category 5X material so controlled is not classified as MPPEH. Please review the use of the term MPPEH in the Report and revise it as necessary to ensure that the usage is consistent with the official definition found in DoD 6055.09-STD. Also, please take note of the two additional definitions that will likely be used in future actions documenting the status of items initially classified as MPPEH.	**Material Documented as an Explosive Hazard (MDEH)**: MPPEH that cannot be documented as MDAS, that has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present, and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH. Although the use of the term MPPEH in this document is not consistent with the new Department of Defense (DoD) definitions, in order to be consistent with the Work Plan, field documentation, and the waste manifests, the abbreviation MPPEH will be used throughout this document to represent munitions or munitions-related debris that was searched for, recovered, and is awaiting explosives safety status determination."
Comment 3. The 20-millimeter projectiles discovered on the various sites appear to be described as "projectile(s)" in some sections of the Report and "round(s)" in different sections of the Report. This may cause confusion as to exactly what is intended, as some of the uniformed services use a definition that states: "A round of ammunition comprises all the components necessary to fire the weapon once. In general, these components are primer, propellant, container or holder for propellant (cartridge case or bag), and projectile–with fuze and booster if necessary–for the proper functioning of the projectile." It	**Response 3.** No complete "rounds" were found during the activities on any of the sites. The document will be revised so that all references to "rounds" will be replaced with "projectiles." In addition, all references to "ordnance and explosives scrap" will be replaced with "munitions debris" or "MD" to ensure all terms are consistent with current directives.

would seem appropriate that the term "round," when used with respect to the 20-millimeter munitions described in the report should be confined to complete cartridges. This is of particular concern with respect to the IR Site 2 subsection of Section 1.6.3, Material Potentially Presenting an Explosive Hazard Characterization, where it is stated that "8,882 20mm target practice rounds" were discovered at the "OEW Burial Site in IR Site 2. If these items were, in fact, "rounds," then according to the definition previously provided, they contained primers and propellant, which makes them discarded military munitions (DMM). This same section refers to "ordnance and explosives scrap" as being found in the same area. The term "ordnance and explosives scrap" has been replaced by the term "munitions debris (MD)." It may also be classed as MPPEH as well, since MD is a sub-element of MPPEH. Please review the use of the noted terms and correct them as necessary throughout the document.	
Comment 4. The Report states throughout Section 1.0 (Introduction) that the Historical Radiological Assessment (HRA) lists Ra-226, Strontium-90 (Sr-90), Cesium-137 (Cs-137), Thorium-232 (Th-232), Uranium Dioxide (UO_2), and Depleted Uranium (DU) as radionuclides of concern for Sites 1 and 2, but it does not appear that historical soil sampling conducted was comprehensive enough to investigate the presence of all of these potential radiological contaminants. Section 1.6.2 (Radiological Characterization) states that radionuclides other than Ra-226 were used in radioluminescent devices that were repaired and/or disposed of at the site, however Section 1.0 does not adequately describe how historical data collection efforts adequately characterized the nature and extent of potential radiological contamination at the site. For example, the third paragraph on page 1-8 states that fifteen soil samples were collected at the site. However, no reference is provided to a specific appendix that contains this data, and this discussion does not state which radionuclides were analyzed for, other than Ra-226 and Sr-90.	**Response 4.** Prior to conducting the Historical Radiological Assessment (HRA), ^{226}Ra and ^{90}Sr were the only identified ROCs at IR Site 1; therefore, historic sampling, prior to June 2007, never included analysis of the other ROCs as ^{226}Ra was the most likely radionuclide to be present at the sites based on historic base operations. However, ^{137}Cs and ^{60}Co, if present, would have been reported along with the ^{226}Ra results since these isotopes are gamma emitters and the gamma energy analysis would have identified them, but ^{232}Th, depleted uranium (DU), and UO_2 were never investigated. The remedial design and future characterization efforts will evaluate all the possible ROCs. The intent of Section 1.6.2 is to summarize historical radiological investigations within IR Sites 1 and 2 and not to give a full characterization of the nature and extent of

Therefore, based on these statements alone, it does not appear that previous soil sampling was comprehensive enough to investigate the presence of all potential radiological contaminants. Please revise Section 1.0 (including Section 1.6.2) to provide a more descriptive discussion of how previous surveys and soil sampling adequately defined the nature and extent of all radiological contamination by providing additional information about the data collection efforts (types of radionuclide analyses, numbers of samples collected for each of the potential radionuclides), and to provide reference to the appendix or report that contains this data. Please review the historical summary of both radiological and chemical analytical data and ensure that comprehensive data presentations are provided in the Report.	radiological contamination. Furthermore, the past historical sampling and characterization activities do not define the nature and extent of all radiological contamination. The objective of the past surveys and sampling activities has been to identify areas of near-surface elevated radioactivity and remove them, not to fully characterize the IR sites or determine the ROCs. To avoid any confusion, the title of Section 1.6.2 will be changed to "Historical Radiological Investigations." The Navy does agree that it is difficult to determine where more information on these historical investigations can be located. Therefore, references to the reports that contain this data will be added.
Comment 5. The text in Section 3.5 (Field Gamma Spectroscopy), which states that the field gamma spectroscopy results confirmed that Ra-226 was the radionuclide of concern and that the results did not identify any other radionuclides that could be present as a result of former base activities, is somewhat misleading because it does not reflect what the field gamma spectroscopy system is capable of detecting (radionuclides and detection limits); statements that the laboratory analysis of soil samples confirmed that Ra-226 was in fact the only radionuclide of concern are also not included in the Report. The Report text does not accurately reflect the fact that isotopic analyses for uranium and thorium were conducted on stockpiled soil (see Section 2.4.2), or that these soils were also analyzed for Sr-90. Further, these statements do not provide any information about the presence or absence of chemical contaminants. Please provide additional information that addresses these concerns in Section 3.0 (Data Analysis and Results) so that the text provides comprehensive information about site conditions. This information should include a listing of what radionuclide and chemical constituents were analyzed	**Response 5.** Section 3.5 is discussing "Field Gamma Spectroscopy" utilizing the portable HPGe detector system, which was used to exclude the presence of other (non-^{226}Ra) gamma emitters (i.e., ^{137}Cs, ^{60}Co) in recovered discrete items. As stated in the text, ^{226}Ra was the only radionuclide associated with the items recovered. The portable HPGe reports for each item analyzed are provided in Appendix E. The text will be revised to clarify that the gamma spectroscopy was used to verify that the recovered items only contained ^{226}Ra. The statement that the results did not identify any other radionuclides that could be present as a result of former base activities will be omitted. Text and new tables will be added to Section 3.0 to detail the ^{90}Sr results. The stockpile results will be included in Appendix G.

for and what the results of the analyses indicate about radiological and chemical contaminants present at the site. Please also review the summary of current radiological and chemical analytical data and ensure that comprehensive data presentations are provided in the Report.	The stockpile samples were not analyzed for isotopic thorium; however thorium was included in the gamma spectroscopy analyses. The samples were analyzed for isotopic uranium. The text of the 4th paragraph of Section 2.4.2 will be modified as follows: "Soil samples were collected from the stockpiled material at a frequency of 2 samples per 100 cubic yards of material. The samples were sent to an off-site laboratory and analyzed for metals and gamma spectroscopy, and 10 percent of the samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbon (PAHs), pesticides, PCBs, total petroleum hydrocarbons (TPH), $UO^{2,}$ and ^{90}Sr. A summary of these analyses is provided in Appendix G. For the waste characterization conducted using these sample results, see Section 4.0." The stockpile results were used for waste characterization of the stockpiles as discussed in Section 4.0 and Table 2-1 (Stockpile Inventory). A summary of these results will be included in the report in Section 4.0. Stockpile characterization is not intended to identify contaminants left in situ at the site but is used to characterize waste for disposal purposes. Per the Sampling and Analysis Plan (TtEC 2007b) for this project, these results are compared to waste criteria and not the screening levels (or PALs) for the site, and should not be used to make interpretations regarding chemical contamination at the site.

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Comment 6. The Report does not give any information about the quality assurance procedures, nor does it reference the project quality assurance project plan (QAPP) that was used to collect the data such that the quality and sufficiency of the data collected is documented and defensible. This is particularly important for the final surveys so that the results of the data collection at the completion of the removal action are defensible**.** Please revise the Report to state what quality assurance program and/or project-specific QAPPs were used in the data collection efforts during and/or at the completion of this TCRA.	**Response 6.** A new section (Section 5.0) will be added to the report to discuss the project-specific quality assurance program that is in compliance with the Sampling and Analysis Plan for this project and how the project quality objectives were met. This new section of the report will be in conjunction with the data quality assessment discussed in Response 7 below.
Comment 7. The Report does not state if the data collected during and at the conclusion of the soil removal was validated, or if a data quality assessment that reconciles the results of the data quality objectives of the project to the data such that conclusions about the validity and representativeness of the data can be determined. Based on review of Appendix F, it appears that some portion of the soil sampling data was validated; however the text of the report does not include reference to the data validation. Further, in accordance with EPA guidance *Data Quality Assessment: A Reviewer's Guide* (EPA/240/B-06/002), the defensibility of data should be documented in such a way that the results of the data quality evaluation are reconciled to the data quality objectives so as to demonstrate that the data are adequate for decision making. So that the Report provides an adequate description of the data collection activities and contains information that demonstrates the data collected in support of the TCRA are defensible and adequate for decision making, please revise the Report to include a written description of which data underwent data validation and to discuss the results of the data quality assessment for this project. It is requested that this information please be provided for both the background data set and TCRA data.	**Response 7.** A new section (Section 5.0) will be added to the report to include a data quality assessment that discusses the analytical data quality objectives in terms of precision, accuracy, representativeness, completeness, and comparability parameters for this project. This section of the report will discuss the data validation findings for all the samples collected (except for waste characterization samples, which do not require third-party data validation).

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Comment 8. The Report does not provide documentation and explanation of the screening and analysis performed on the soils and gravel used as fill material. The third sentence of the last paragraph on page 2-23 states "The material had been approved by the [Department of the DON] DON after review of the chemical data including radiochemistry analysis." No description of the particular analysis performed or the analytical results which were used as the basis of the DON's approval for the reuse of these materials is presented. Please revise the Report to include at a minimum a complete description of the analytical tests performed on the fill material and the results of these analyses.	**Response 8.** The reference to backfill material analysis in the second to last paragraph in Section 2.4.5 will be revised as follows: "The Stevens Creek material was approved by the DON after review of the chemical and radiological data. Analytical testing of this material included the following: VOCs, SVOCs, pesticides, PCBs, TPH-purgeable, TPH-extractable, metals, gamma isotopes, ^{90}Sr, and ^{238}U. These results are provided in Appendix G." Also, the analytical results for the fill material will be added to Appendix G.
Comment 9. The data provided in Section 3.0 (Data Analysis and Results) in Tables 3-4, 3-5, 3-6, and 3-7 contain summary statistics reflecting the averages and standard deviations of the data; however, the text does not state if each of these data sets was checked for population distribution or for outliers to ensure that the average (mean) and standard deviations are representative and accurate. Please revise the Report to address this concern.	**Response 9.** The summary statistics include the sample results from both the biased and random sample locations. Since the samples came from areas of known contamination and areas exhibiting background levels of radioactivity (e.g., areas not exhibiting the presence of radioactive contamination) based on field surface measurements, it is unnecessary to check the data for population distribution and outliers. By sample design, outliers are expected and the sample results will exhibit different populations, as confirmed by the sample results. The population distribution and outlier analyses were not explicitly performed. The summary statistics are provided to give a general indication of the range and variance of the sample results. Furthermore, the summary discussions included after each table indicate that the sample results were much greater than the background reference concentrations. No changes to the text are proposed in response to this comment.

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Comment 10. The Report does not clearly explain or provide results of analytical tests used to screen the various types of wastes generated from this project. Section 4.0, Waste Management, describes an "analytical test" and "laboratory radiological data" used to screen Type 4 waste, but makes no mention of the specific test used to obtain the results. The second sentence of Section 4.2.2, Wastewater, page 4-4, states "These waters were accumulated in 55-gallon closed-topped drums and stored in a bermed area within Runway 7 until the water was analyzed and approved for off-site removal." No mention of the type of analysis or results is provided. Similarly, data to substantiate the hazardous waste classifications listed in Table 2-1 were not provided. Please revise the Report to include and discuss the analytical results generated from the waste screening analyses performed to classify the waste.	**Response 10.** The report will be revised to discuss the analytical results generated from the waste screening analyses performed to classify the waste. The analytical results for the waste samples will be summarized in Appendix G.
Comment 11. Section 3.9 and Page ES-2 of the Report state, "Therefore, it is recommended that IR Sites 1, 2 and 32 continue to be fenced off and that access to these sites be controlled. It is further recommended that radiation surveys be conducted when any intrusive activities are performed in these sites;" given these statements, consideration for construction of a soil cover over IR Sites 1, 2, and 32 appears warranted based on the proposed final uses being considered for these sites. Please revise the Report to address these concerns, or at a minimum indicate that they are outstanding issues which will be addressed in a specific yet to be prepared document.	**Response 11.** *The text will be revised as follows:* Section 3.9, after first paragraph, and Executive Summary, after last paragraph, sentence will be inserted: "The remaining radiological contamination within IR Sites 1, 2, and 32, will be addressed under the remedy selected in the corresponding Record of Decision (ROD) for each site."
Comment 12. Section 4, Waste Management, identified nine waste types in Section 4.1, but these nine waste types are not discussed in the remaining sections of Section 4. The remaining sections in Section 4 discuss waste accumulation and storage (Section 4.2), waste transportation and disposal of non-radiologically impacted materials (Section 4.3), waste transportation and disposal of radiologically impacted materials (Section 4.4), and waste	**Response 12.** *The text will be revised as follows:* Section 4.3.3, Page 4-6, new paragraphs 2 and 3 will be inserted:

management documentation (Section 4.5), but do not discuss the nine waste types or indicate which waste type was managed or storage where, how each waste type of disposed of, or provide waste management documentation for each waste type. Manifests are only provided for those waste described under Section 4.5.2.1, Demilitarized MPPEH Manifests. Please revise Sections 4.2 through 4.5 specifically to discuss the nine waste types described in Section 4.1. Further, please include copies of all waste manifests generated to dispose of all materials described in Section 4.	"During the TCRA, a total of six drums of nonhazardous water were accumulated. On April 9, 2008, the drummed waste was transported to and disposed of at the Kettleman Hills Landfill in Bakersfield, California. Also during the TCRA, a total of fifteen 55-gallon drums and a 2-gallon container of nonhazardous, demilitarized MPPEH were transferred to an off-site recycling facility (Timberline) on April 19, 2007." Section 4.0 has been modified to clarify the types of waste. A previously proposed summary table of waste types and amounts has not been added because the information is provided in Appendix G. The manifests will not be included in this report due to the large number of them involved. To obtain specific manifests, please contact the DON CSO, Doug Delong, who maintains copies of all manifests for Alameda Point.
SPECIFIC COMMENTS	**RESPONSE**
Comment 1. Section 1.1, Project Objective and Scope, Page 1-1: The text of the first bullet states "To prevent ingestion, dermal contact, or inhalation of radiological anomalies with concentrations that significantly exceed background concentrations," but the phrase "significantly exceed" does not provide a quantitative limit on the acceptable concentration during the course of the project. Please revise this section to include the acceptable concentration for radiological anomalies during the course of the project.	**Response 1.** The Report indicates that the investigation level was set as 3 standard deviations above the mean background ambient gamma count rate (i.e., 6,000 cpm). *The text will be revised as follows:* Section 1.1, Project Objective and Scope, Page 1-1: • "To prevent ingestion, dermal contact, or inhalation of radiological anomalies with concentrations that significantly exceed background concentrations (6,000 counts per minute [cpm])"

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DATED APRIL 8, 2009

Comment 2. Section 1.6.2, Radiological Characterization, IR Sites 1 and 2, Page 1-9: The third paragraph on page 1-9 describes the collection of fifteen soil samples for laboratory analysis; however, the sixth sentence states "Two of the five soil samples also had 90Sr concentrations reported greater than the method detection limit." It is unclear why the sentence indicates only five samples were analyzed for Sr-90 when fifteen samples were collected. For clarity and completeness, please revise the Report to clarify whether all fifteen samples were analyzed for Sr-90, or whether just five samples were analyzed for Sr-90. Also, please revise the section to include a discussion of all analyses performed on this data so that the Report accurately communicates how previous data collection activities were conducted.	**Response 2.** During the survey performed in 2006, only 5 of the 15 soil samples were analyzed for ^{90}Sr. It is common that only a portion of the samples collected to be analyzed for ^{90}Sr, as ^{226}Ra is the most likely radionuclide to be present at the sites based on historic base operations. This sampling methodology was approved by the regulatory agencies in the associated Sampling and Analysis Plan (TtEC 2007b). As discussed in response to General Comment 4 above, the intent of this section is to only summarize historical radiological characterization at IR Sites 1 and 2 and not to fully describe all analyses performed on the historical data. *The text will be revised as follows:* The following text will be added to Section 1.6.2., 7th paragraph, beginning as the 6th sentence and last sentence: "Two of the five soil samples analyzed for ^{90}Sr had reported concentrations that were greater than the method detection limit but did not exceed the project action levels . . . This section is only intended to summarize historical radiological characterization at IR Sites 1, 2, and 32. The final Characterization Reports for IR Sites 1, 2, and 32 (TtFW 2005a, TtFW 2005b, and TtEC 2007c, respectively) can be consulted for information on additional analysis."

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Comment 3. Section 2.2.4, MPPEH Survey, Page 2-3: The last sentence in the second paragraph of the section reads, "Several hundred 20mm projectiles were recovered during this survey effort." While it is assumed that these projectiles were inert, the statement that they were target practice (TP) projectiles would remove any doubt as to their explosives hazard status. Please revise the section to identify the type of 20mm projectiles noted as being recovered.	**Response 3.** The text will be amended to label all of the projectiles as "target practice" or "TP."
Comment 4. Section 2.2.7, Background Reference Area Survey, Page 2-5 and Section 3.1, Background Reference Areas, Page 3-1: The discussion regarding how the background data was collected lacks sufficient detail to understand what instrumentation was used to collect the data, and how this data is sufficiently accurate and representative. For example, the text states that the detector probe, which is listed as a sodium iodide detector in Appendix D, was held approximately 4 inches from the surface for collection of gamma radiation measurements. Presumably this method refers to the Static Surveys described in Section 2.3.3 of the Report, but this information is not provided. The text does not specify if the gamma radiation measurement method used to collect the background data is considered a screening method, or a more definitive method similar to an in-situ gamma spectrometry system. It is also unclear why confirmatory laboratory analysis was not conducted to confirm the field measurements, as is typical for removal activities. Additionally, the text states that background soil sample results and ambient background measurements are discussed in Section 3.1, however this section lacks the detail required to ascertain if the data collected and instrumentation and data analysis methods employed are sufficient to support the use of the data**.** Please revise the Report to address these concerns so that the sufficiency of the background data is supported.	**Response 4.** Section 2.2.7 and Section 3.1 will be revised to add detail to support the sufficiency of the background data. The accuracy and representativeness of the background data set are detailed in the new Data Quality Assessment section (Section 5.0) (see EPA General Comments 6 and 7).

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Comment 5. Section 2.4.2, IR Site 1 Soil Stockpiles, Page 2-9: The last paragraph of this section states that samples were sent to an off-site laboratory and analyzed for radionuclides and chemical constituents, the results of which are provided in Appendix F; however, Appendix F contained results for radionuclides that also included isotopic Thorium and isotopic Uranium analyses, but no results for chemical constituents. The only radionuclides mentioned in the text were those detected by gamma spectroscopy and Sr-90. Please revise this section to more accurately reflect the data that is included in Appendix F and/or to include additional information regarding where referenced data is located. In addition, please revise this text, and other sections throughout the Report, as appropriate to provide additional detail regarding how many samples were collected, which analyses were performed, and what, if any validation reports were generated for each of the data collection activities.	**Response 5.** Appendix F contains only the analytical soil sample results and validation reports. Section 2.4.2 will be revised and a table summarizing the chemical and radiological analytical results for the stockpiles will be included in Appendix G. Additionally, a new section will be added (Section 5.0) that discusses QA/QC of the data and data validation.
Comment 6. Section 2.4.3, IR Site 1 Excavation and Backfill of Former Firing-Range Berm and Debris Pit, Page 2-11: Sufficient information has not been provided in this section. The third paragraph of this section contains two sentences that indicate that, "The UXO technicians did report that additional MPPEH materials were present in a concrete sidewalk along the south excavation wall of the Debris Pit, and this information was shared with the DON. The DON acknowledged the information and indicated to TtEC that no further excavations were required based on their anticipated future remedial action in the area." No further information concerning this MPPEH appears to be presented in the report. Please revise the cited section to identify the "future remediation" noted therein.	**Response 6.** *The text will be revised as follows:* Section 2.4.3, 8th paragraph, added as last sentence: "The proposed preferred alternative to be identified in the IR Site 1 ROD for this area is a 4-foot soil cover." Please see the response to General Comment 1.
Comment 7. Section 2.4.3, IR Site 1 Excavation and Backfill of Former Firing-Range Berm and Debris Pit, Page 2-14: It is unclear how leaving known radiological anomalies will be protective of future industrial workers. The	**Response 7.** As described in the report, the Firing-Range Berm and the Debris Pit are located within Area 1A of IR Site 1 and were specifically defined by the DON. During the

third and fourth paragraph in this section indicate that, "TtEC approached the DON with a value engineering proposal that would allow the use of selected screened material from the Firing-Range Berm and Debris Pit for backfill. . . . On May 29, 2007, the DON agreed to allow TtEC to use the material in the Area 1A disposal area as backfill for the former Firing-Range Berm and the Debris Pit areas. The Area 1A disposal area contains known radiological anomalies that will remain in place as part of the remedial action, which requires the installation of a 4-foot soil cover over the entire boundary of the Area 1A disposal area." Please revise this section to explain how the first RAO of protecting the future industrial worker from exposure to this anomaly will be met given the use of approximately 700 cubic yards of ¾-inch to 6-inch material, predominantly gravel to boulder-sized sedimentary and igneous rocks mixed with some minor debris, created as a result of the screening (with no elevated radiological readings observed) and which was originally characterized for off-site waste disposal.	TCRA, the DON determined that the actual site conditions at IR Site 1 did not match the expected site conditions and did not approve additional excavation work beyond the initial work boundaries. The ¾-inch to 6-inch material, predominantly gravel to boulder-sized sedimentary and igneous rocks mixed with some minor debris, was never intended to protect future industrial workers from exposure to this anomaly. It was used to backfill the excavations in the area to eliminate trip or fall hazards and areas of standing water. During implementation of the TCRA, it was determined that radioactive contamination was at a greater depth than 2 feet at places across all three sites. It was determined that the RAOs would not be fully met under this TCRA and that a remedy to meet the RAOs would instead be selected in each of the corresponding RODs for the sites. No changes to the text are proposed in response to this comment.
Comment 8. Section 2.4.4, IR Site 1 Excavation, and Removal and Backfill of Disposal Trench, Page 2-17: It is unclear why this section does not explain why materials found in this area were not consistent with expected materials or discuss whether the radiological disposal trench was actually excavated. The fourth paragraph on this page states, "The amount and type of debris were not consistent with historical descriptions of suspected trench contents (i.e., wood work benches, chairs, rags and other debris described in previous reports). The DON acknowledged the inconsistency but chose not to investigate adjacent	**Response 8.** As discussed in the text, there was never any direct evidence of the Disposal Trench when the TCRA was initiated. This location was suspected as being the location based on the description provided in the 1983 IAS Report, the geophysical survey, and the elevated gamma readings noted on the surface at this location. As part of the excavation preparations, TtEC conducted a geophysical investigation in the suspected area of the trench and found a feature with a

areas since the entire area surrounding the Disposal Trench (Area 1B) is scheduled to be excavated in future contract task orders." No further information concerning this apparent lack consistency of conditions encountered with historical knowledge appears to be presented in the report. Please revise the cited section to address the apparent discrepancy between conditions encountered and previously known conditions and also discuss whether the radiological disposal trench was located and excavated.	linear shape that was interpreted to be the Disposal Trench. It could not be determined from the materials that were excavated whether this was the actual location or not. Previous reports had approximated a location inside Area 1B (Burn Area) of IR Site 1 and suspected contents of the trench. The location was specifically defined as the "Disposal Trench" for the TCRA, and the work instruction gave specific instructions on the size of the excavation. During excavation work in the trench, TtEC uncovered elevated radiologically impacted soils and debris (consistent with other areas of the site) but not the type of debris (e.g., work benches, file cabinets, chairs) previous DON reports had assumed would be in the trench. As discussed in the text, at the conclusion of the excavation, the sidewalls were sampled, the surface area was covered with plastic orange barricade fencing, and the excavation was backfilled with gravel. Based on the assumed contents of the trench, this may or may not be the referenced Disposal Trench. However, the DON is confident that if the "Disposal Trench" does in fact exist as described in earlier reports, that trench will be identified when the Burn Area is removed in the final remedial action per the IR Site 1 ROD. No changes to the text are proposed in response to this comment.
Comment 9. Section 2.4.6, IR Site 2 Removal and Backfill of Impacted Material Areas, Page 2-21 and Figure 2-6, IR Site 2 Excavated Point Source Locations and Dose Rates: The first paragraph states that the eastern portion of the IR Site 2 is a former disposal area and the western area is considered a jurisdictional wetland; however, these areas are not depicted on	**Response 9.** The former disposal area and the wetland are depicted on Figure 1-3. A reference to this figure will be added at the end of the fourth sentence in Section 2.4.6. The text is referring to the area within the IR Site 2 berm. The text will be revised to clarify this.

Figure 2-6, so it is unclear if the text refers to the northern margins or to the area within the IR Site 2 berm. Based on site knowledge, it appears this discussion is about the area within the berm. Please revise Figure 2-6 to depict all of the areas discussed in the text and specifically depict wetland areas. Also, please revise the text to clarify whether the area being referenced is within the IR Site 2 berm or if it is in the northern margins. In addition, please provide more details to explain how the designation of the wetland area may have impacted where the surveys and excavations for work completed on October 30 and November 20, 2007 took place. The last sentence of the first paragraph states that the five excavations conducted prior to October 11, 2007 were backfilled without sampling. As justification for the actions taken at these five excavation locations, please revise the Report to explain whether the term "sampling" is intended to mean surveys or soil sampling, and why sampling was not conducted prior to backfilling. Also, please include the location of these excavations on Figure 2-6.	Regarding the comment about the designation of the wetland impacting the work locations, the towed array work and excavations were based on screening surveys conducted during previous investigations at the site. The wetland location had no bearing on those decisions; however, field conditions within the boundary of the wetland eliminated the ability to conduct a survey in a wetland location. These areas will be remediated as necessary during the final remedial action. Regarding the elimination of the five samples inside the IR Site 2 berm, at the time of the TCRA the DON decided not to conduct sampling but to wait until the ROD was completed and the final remedial action implemented. This decision was based on what was being encountered (i.e., radium below 2 feet). The DON determined that it was not necessary to collect and analyze soil samples since it was determined that complete removal of contamination was not going to be achieved under this TCRA. Regarding the comment about including the five locations on Figure 2-6, Figure 2-6 shows the locations of discrete items but not all excavations. The five referenced locations are approximate to the area of the four potential pink-clouded excavation areas immediately south of the "IR SITE 2" heading on Figure 1-3 and within the berm. *The text will be revised as follows:* Section 2.4.6, Paragraph 1, last sentence, will be modified as follows: "On October 15, 2007, the five excavations were backfilled (without collecting soil samples) with Quarry Fines, and no

	further work inside the berm was conducted." Section 2.4.6, Paragraph 2, will be modified as follows: "Work in IR Site 2 after October 11, 2007, was conducted in areas outside the berm area. Towed array work in IR Site 2 . . . During the work period, 43 anomalous locations were excavated and 10 discrete items recovered from 12 of the excavations. The excavation locations containing discrete items are shown on Figure 2-6."
Comment 10. Section 2.4.6, IR Site 2 Removal and Backfill of Impacted Material Areas, Page 2-21: The fourth paragraph states that chemical and radiological data was collected at the completion of the excavations at IR Site 2. For clarity and completeness, please revise the text to state where this data is located in the Report or to provide reference to the document containing this data.	**Response 10.** Please see the response to EPA General Comment 8. A reference to the appendix in which the data are located will be added in the third paragraph of Section 2.4.6.
Comment 11. Section 2.4.6, IR Site 2 Removal and Backfill of Impacted Material Areas, Page 2-21: The text states "[E]xcavations in IR Site 2 were completed on March 27, 2008." For clarity it is recommended this text be revised to state that excavations *and backfilling* were completed on March 27, 2008.	**Response 11.** The text in the last paragraph of Section 2.4.6 will be revised as indicated.
Comment 12. Section 2.4.7, IR Site 32 Removal and Backfill of Impacted Material Areas, Page 2-22: The text states "The excavations in IR Site 32 were completed on April 10, 2008, except for the gravel area around Building 594." For clarity it is recommended this text be revised to state that excavations *and backfilling* were completed on April 10, 2008.	**Response 12.** The text in the last paragraph of Section 2.4.7 will be revised as indicated.
Comment 13. Section 2.4.7, IR Site 32 Removal and Backfill of Impacted Material Areas, Page 2-23: The second paragraph on page 2-23 states that several anomalous areas were located within the gravel area; the text also states radiological contamination was not found. The text does not state what is meant	**Response 13.** The referenced section should be Section 2.4.8, IR Site 32 Removal and Backfill of Gravel Layer, Page 2-23. The referenced area contained a pure 6- to 10-inch gravel layer, which was underlain by a fine-grained soil with gravel.

by anomalous areas, whether discrete items were found, and what objects or soil may have been removed from the gravel area. For clarity and completeness, please revise this section to provide more descriptive information about the anomalies found at the gravel area**.**	Sample results of the gravel layer did not indicate the presence of radioactive contamination. The reference to anomalous areas (i.e., higher than the investigation level for the survey) referred to several locations in November 2007 that had high enough readings in the impacted soil below the gravel layer to be detected through the gravel layer. After the gravel layer was removed in early December 2007, further surveys on the underlying soil indicated that several more anomalous areas were detected and eventually excavated. See Figures 2-14, 2-15, and 2-17 for excavation and sampling information and Appendix I for the discrete item descriptions. Three discrete items were found subsurface in the gravel area after the gravel was removed, and they are shown on Figure 2-7. All IR Site 32 figures will be modified to show the location of the gravel. *Text will be revised as follows:* Section 2.4.8, 3rd paragraph, replace 4th sentence and rewrite 5th sentence as follows: "Anomalous areas are areas that exhibit radioactivity above the investigation level (6,000 cpm). Even though the sample results from the December 4, 2007, sampling of the overlying gravel layer indicated that the gravel was not impacted by radiological material, three discrete items were found subsurface after the gravel was removed from this area. They are shown on Figure 2-7."
Comment 14. Section 2.5.2, IR Site 1 Radiologically Impacted Area, Pages 2-25 and 2-26: The text in the second paragraph on page 2-25 and in the	**Response 14.** All the data in Appendix G were generated by an off-site laboratory. The titles of the tables in Appendix G

third paragraph on page 2-26 states that samples were collected for laboratory analysis, however the data contained in Appendix G is listed as 'In-Situ Summary Table SOIL', indicating an in-field gamma spectroscopy system was used to analyze the data. Please revise the Report to clarify where the data was analyzed, whether in the field, a field lab or at an off-site laboratory.	will be modified to indicate that the data are from the post-excavation sampling. The HPGe system data are found in Appendix E.
Comment 15. Section 2.5.4, IR Site 32 Radiologically Impacted Area, Page 2-28: The last paragraph of this section states "[A]fter reviewing the protocol and previous HPGe [high-purity germanium] sample results from IR Sites 1 and 2, the DON acknowledged that the IR Site 32 samples did not require HPGe analysis." For clarity and completeness and as justification for the actions taken, please provide the specific reasons HPGe analysis was not required.	**Response 15.** The justification for this change was documented in FCR15-030, as referenced in the text, and is provided in Appendix L.
Comment 16. Section 3.3, IR Site 32, Page 3-8: It is unclear why the text states that 11 discrete items were removed from IR Site 2, when text on page 2-21 states that 13 discrete items were removed. Table 2-8 also appears to indicate that 13 discrete items were removed**.** Please resolve this discrepancy.	**Response 16.** The discrete item HS105 was found in excavation 282, but eventually excavation 282 was combined with 283, 284, and 292 to become one large excavation. HS105 was then identified as being part of each portion of the excavation. Actually, there were only 10 discrete items found in IR Site 2. *The text will be revised as follows:* Section 2.4.6, 2nd paragraph, 5th sentence: "During the work period, 43 anomalous locations were excavated and 10 discrete items recovered from 12 of the excavations." Section 3.3, 2nd paragraph, 1st sentence: "Ten discrete items were recovered from IR Site 2."

RESPONSE TO COMMENTS ON THE DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONSTRUCTION REPORT FOR IR SITES 1, 2, AND 32 FORMER NAVAL AIR STATION ALAMEDA ALAMEDA POINT, ALAMEDA, CALIFORNIA DATED APRIL 8, 2009	
Comment 17. Table 3-10, Discrete Item Removal Summary, Page 3-12: Location identification number 95 shows a pre-excavation gamma measurement of 6,900 counts per minute (cpm), but a post-excavation measurement of 350,000 cpm. Similar but less severe elevations in post-excavation gamma measurements above the pre-excavation measurements exist in this table for location identification numbers 65, 139, 140, and G10. Please review the Report to ensure the post-excavation entry for location identification number 95 is not a typographical error, as well as the post-excavation measurements for locations 65, 139, 140, and G10. If any of the measurements listed for the post-excavation conditions are typographical errors, please revise the report accordingly. Alternatively if any of the entries are not in error, please revise the Report to explain the phenomenon, particularly for location identification number 95. Additionally, if the post-excavation gamma measurement for location 95 is accurately transcribed in the Report, Section 3.0 should be revised to provide a discussion of how the first RAO of protecting the future industrial worker from exposure to this anomaly will be met.	**Response 17.** The scope of this TCRA was the removal of near-surface (i.e., less than 2 feet below ground surface) radiologically impacted discrete items. The post-excavation gamma measurements were taken at the bottom of the excavation prior to backfill. Several locations, including 95, did not follow expectations, and field measurements indicated that an excavation of much greater size than was within the scope of this TCRA was required. The DON chose to address these areas under a different remedial action to be determined in the ROD. As stated in the report, the DON is controlling access to the site to minimize the potential that a future worker will come into unexpected contact with radioactive material. No changes to the text are proposed in response to this comment.
Comment 18. Section 3.6, Air Sampling, Page 3-14: This section describes the air sampling procedures used to monitor the air for airborne radioactive material, but this section does not describe any air monitoring performed for the numerous potential chemical contaminants present in the types of waste material historically placed in the work areas. Please revise this section to discuss any chemical air monitoring performed during the project or the reason why chemical air monitoring was not performed.	**Response 18.** Air monitoring for chemical contaminants was not required in the Work Plan, which was approved by the regulatory agencies prior to the start of work. No changes to the text are proposed in response to this comment.
Comment 19. Appendix K, Photographic Log, Frame P8220056, UXO Metal Debris Removed from DT: The photograph displays three items that appear to be practice bombs of unidentified type(s**).** Please identify these items by their correct nomenclature (if known) and provide the disposition of the items at an appropriate location in the Report. If this is presented elsewhere in the Report, please provide a reference to the section and page.	**Response 19.** The practice bombs in the photograph appear to be the M37/M38 sand-filled practice bombs. The photographic log will be amended to reflect that. The bombs were demilitarized by crushing them and were disposed of with the rest of the accumulated metals. This information will be inserted into Section 4.2.5 of the document.

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Comment 20. Appendix K, Photographic Log, Frame 06050708, Wood Debris: The photograph displays a large pile of what appears to be railroad ties and wood timber of unidentified type(s). Construction debris, particularly if it contains wood (which is putrescible) is considered landfill debris. As such, it would appear that the materials encountered warrant a soil cover. Please revise the Report address the need for a full soil cover for IR Sites 1, 2, and 32.	**Response 20.** The photographs depict wood removed during the excavation of the Firing-Range Berm and Debris Pit. These items were in contact with radiologically impacted soil and therefore were themselves considered impacted. These items were placed in intermodal bins and removed from the site as LLRW by the DON's waste contractor for radioactive materials. Regarding final disposition of IR Sites 1, 2 and 32, the DON continues to evaluate remediation and final disposition scenarios. No change to the text is proposed in response to this comment.
Comment 21. Appendix N, Demilitarization Record: The first page of the appendix (Alameda Drum Manifest) indicates that the weight of the material transported was 11,464 pounds (12,096 pounds including the barrels). However, the Certificate of Destruction provided by Timberline Environmental Services included a gross weight of 12,199 pounds. Please provide a statement in the appendix to explain why these two weights differ by approximately 100 pounds. In addition, these weights and the Alameda Drum Manifest are not consistent with the information presented for Type 7 waste on Page 4-3. For example, the weights are not consistent and the 2-gallon container is not included. The 2-gallon container is also referenced in Section 4.2.3 on Page 4-4. Please reconcile these apparent discrepancies.	**Response 21.** The Alameda Drum Manifest Table reflects 55-gallon drums that were weighed. The drums were weighed as required. The bucket was not weighed but rather the contents were inventoried. The 2-gallon bucket is reflected on the "TES DEMILITARIZATION CHAIN OF CUSTODY CERTIFICATION FOR UXO/OE SCRAP" the first form in Appendix N: See Box 9, "15 & 1 bucket." See Box 10, and refer to seal # 0053032. Also see "MPPEH *Safe*-5X and Demilitarization Certification/Verification Manifest" form, the last form in Appendix N, seal # 0053032. The bucket contents were not weighed but were inventoried as required for small quantities. The weights of the filled drums and the bucket presented on the manifest were based on weights taken at the site (2-gallon bucket not weighed) versus using a scale at the recycling center. The difference in the weight is approximately

	1 percent, well within an acceptable range for the Naval Ordnance Center. No change to the text is proposed in response to this comment.

RESPONSE TO COMMENTS ON THE
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FOR IR SITES 1, 2, AND 32
FORMER NAVAL AIR STATION ALAMEDA
ALAMEDA POINT, ALAMEDA, CALIFORNIA
DATED APRIL 9, 2009

Reviewed by California Department of Public Health
Comments Dated: May 22, 2009

SPECIFIC COMMENTS	RESPONSE
Comment 1. Table 3-3, "Discrete Item Removal Summary", Page 3–4: a. Please identify the location that Table 3-3 is referencing. Does Table 3-3 refer to IR Site #1 only?	**Response 1a.** *The text will be revised as follows:* Section 3.2.3, Page 3-3, 3rd Paragraph, 2nd sentence: "Table 3-3 provides a summary of the pre-excavation, post-excavation, and post-backfill NaI measurements at each discrete item removal location in IR Site 1."
b. Location 5-C: Please explain the Post Backfill reading of 23,000 cpm. Why was this particular location allowed to remain with an elevated surface (Post-Backfill) reading?	**Response 1b.** The tables will be revised using the final gamma scan data as this more accurately reflects the as-left conditions of the site. The post-backfill reading is now stated as 6,200 cpm.
c. Location A-114: Please explain the Post-Excavation reading of 350,000 cpm. This result suggests that the elevated result was allowed to remain at that elevated level without excavating deeper than two feet below ground surface (bgs). Was an item of interest located and removed at that depth? Please clarify why other locations (1-A and 1-B) with substantial survey results were excavated to four feet bgs, while it appears that location A-114 was not.	**Response 1c.** The depths of the excavations were based on budgetary concerns and the knowledge that additional work would be needed at the site in the future to be determined in the ROD for each site. Locations 1-A, 1-B, and A-114 were excavated to the depths authorized by the DON based on these two factors. Table 3-3 indicates that items HS-112 and HS-115 were removed from A-114. Some locations were excavated to greater than 2 feet bgs early in the project before it became apparent to the DON that excavation of far greater size (width and depth) would be required to remove all of the radiological contamination. Therefore, some locations are shown to be excavated to 2 feet bgs and some to a greater

	depth. Two FCRs (FCR-15-023 and FCR-15-024) were developed to document the decision process for when to continue excavating and when to stop and collect a sample.
d. "Discrete Item" column: Item "HS-103" is repeated in Locations 1-A/1-B and in 5A/5B and at different depths of four feet bgs and two feet bgs, respectively. Please clarify.	**Response 1d.** Location 1-A/1-B is associated with HS 104. Location 5A/5B is associated with HS 103. Table 3-3 will be corrected.
Comment 2. Please label all "Discrete Item Removal Summary" tables (in Section 3.0) to reference site locations, such as "IR Site 1", "IR Site 2", etc.	**Response 2.** Concur. All the tables in Section 3.0 will be renamed to include the site name.
Comment 3. Section 2.4.6, "IR Site 2 Removal and Backfill of Impacted Material Areas", page 2-21, first paragraph: Were any Field Change Requests (FCRs) generated to address the five excavations that were initiated on October 11, 2007, but were backfilled on October 15, 2007 without sampling? Please provide an explanation if FCRs were not generated for this specific area of work.	**Response 3.** An FCR was not generated. In a meeting between the DON and its subcontractor on October 11, 2007, the DON indicated that it would no longer require excavations inside the IR Site 2 Disposal Area. TtEC was instructed to backfill the excavations without sampling. As stated previously, the scope of the TCRA had become larger than expected, and the DON determined that it was better to address the remaining contamination in the final remedy determined in the ROD for each site. No changes to the text are proposed in response to this comment.
Comment 4. Page 2-19, last paragraph, second sentence: Complete the second sentence at the end of "disposed of" and prior to "Section 3.0".	**Response 4.** A period will be added after "disposed of."
Comment 5. Section 3.0, "Data Analysis and Results": Subsection 3.9, "Conclusions": This report states "The current radiological conditions, due to ^{226}Ra contamination, do not pose an immediate threat to human health…..". Since this report does not offer dose assessments based on current conditions at IR Sites 1, 2 and 32, CDPH-EMB-DoD cannot concur with the report's conclusion that the current radiological conditions do not pose an immediate threat.	**Response 5.** The text will be deleted in the main report (complete second sentence in Section 3.9) and in the executive summary (third sentence of the last paragraph).

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Comment 6. Figures 3-4 through 3-7: Where does the text reference Figures 3-4 through 3-7?	**Response 6.** The figures are referenced in Section 3.7, 1st paragraph, 3rd sentence. No change to the text is proposed in response to this comment.
Comment 7. Appendix D: a. Please identify the information presented on CD pages 179-228, 229. b. Identify Appendices D.1–D.4 on their respective pages, as needed, within Appendix D.	**Response 7.** The page numbers for each group are below. The individual groups are bookmarked in the document. Fly sheets will be added into the document between the four groups. D.1 is Pages176 to 178 – Soil Static Backgrounds D.2 is Pages179 to 228 – Scan Backgrounds D.3 is Page 229 – MicroRem Backgrounds D.4 is Pages 230 to 242 – Asphalt, Concrete, and Gravel Backgrounds
Comment 8. Appendix E: Section 3.2.1 refers to Appendix E for 62 discrete items removed from the Firing-Range Berm and Debris Pit of IR Site 1, while Section 3.5 refers to Appendix E for characterization of "recovered items". Please explain why there are no similar references to Appendix E for discreet items removed in IR Sites 2 (Table 3-8) and 32 (Table 3-10).	**Response 8.** Appendix I includes all items recovered during the TCRA. A column will be added to the table stating which site each item came from.
Comment 9. Appendix G: Please reorganize this appendix to facilitate matching radium-226 results with sample locations**.**	**Response 9.** Appendix G is organized with the sample IDs preceding the isotope results, which are in alphabetical order. Reorganizing the appendix to facilitate matching locations with radium results would affect the logical presentation of data in the table. No changes to the appendix are proposed in response to this comment.

RESPONSE TO COMMENTS ON THE DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONTRUCTION REPORT FOR IR SITES 1, 2, AND 32 FORMER NAVAL AIR STATION ALAMEDA ALAMEDA POINT, ALAMEDA, CALIFORNIA DATED APRIL 9, 2009	
Comment 10. Section 2.4.4, page 2-17, last paragraph: The term "future contract task orders" appears to be vague, please identify the future Alameda clean-up phase that will address the excavation of Area 1B.	**Response 10.** *The text will be revised as follows:* Section 2.4.4, 11th paragraph, added as last sentence: "This final remedial action will be determined in the ROD for IR Site 1, Area 1B, and will be designed to meet the RAOs."
Comment 11. Appendix L: a. It appears that none of the "Disposition" blocks in any of the Field Change Requests (FCRs) were checked off as "Approved" or "Not approved". Please clarify. b. There may be conflicts between the dates of FCR generation and actual field work changes. As per the report, some of the field work changes were in action prior to the generation and approval of FCRs specific to the field work change. Please clarify.	**Response 11a.** The FCR form used in this TCRA was prepared by TtEC and may differ from other Alameda contractors' FCR forms. The fully signed-off FCR indicates approval. No changes to the text are proposed in response to this comment. **Response 11b.** Once the FCR was generated, the status of the FCR was included in each Weekly CQC Meeting held with the ROICC, RPM, and RASO until it was finalized. This allowed TtEC to perform the work with full acknowledgement by the DON. Due to schedules and minor revisions, a timely completion of signatures was not always possible. Due to the fact that this was a TCRA, it was important that major changes in the work activities be implemented immediately. No changes to the text are proposed in response to this comment.

RESPONSE TO COMMENTS ON THE
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FORMER NAVAL AIR STATION ALAMEDA
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DATED APRIL 9, 2009

GENERAL COMMENTS	RESPONSE
Comment 12. a. It is the perspective of CDPH-EMB-DoD, that the data presented in this report was used to help meet the primary objectives specific to the Time Critical Removal Actions for MPPEH and radiological contamination at IR Sites 1, 2, and 32. While the primary objectives of this TCRA were limited in scope and did not result in the full remediation of radiological contamination from the aforementioned sites (see Section 3.9 "Conclusion"), CDPH-EMB-DoD must emphasize that that data within this TCRA report is insufficient for (1) radiologically based human health risk assessment, and (2) does not fully characterize and quantify radiological constituents for purposes other than this TCRA.	**Response 12a. Comment noted:** Section 3.9 will be revised as follows**:** "Items and soils contaminated with ^{226}Ra were identified and removed from IR Sites 1, 2, and 32. However, the horizontal and vertical extent of contamination was greater than expected and complete removal was not feasible. Current field conditions indicate that ^{226}Ra contamination is still present throughout the IR sites. Therefore, IR Sites 1, 2 and 32 will continue to be fenced off (including the shoreline along these sites), and access to these sites will be controlled. In addition, radiation surveys of personnel and equipment exiting the areas will be conducted when any intrusive activities are performed in these IR sites. Furthermore, the IR site fence line is intact and the proper radiological postings are present. "While the DON understands that the data presented in this report do not fully characterize and quantify radiological constituents for purposes other than this TCRA, the data collected do support the removal action (see the final TCRA Work Plan, Table B3-1, Appendix B, Summary of Data Quality Objectives [TtEC 2007b]). "The remaining radiological contamination within IR Sites 1, 2, and 32 will be addressed under the remedy selected in the corresponding ROD for each site." A radiologically based HHRA was not planned as part of this TCRA. It was originally anticipated that the TCRA would

	remove all radiological anomalies at IR Sites 1, 2, and 32. However, the horizontal and vertical extent of contamination was greater than expected and complete removal was not feasible. A radiological HHRA will be conducted as part of the remedy selected in the corresponding ROD for each site. While the primary objectives of this TCRA were limited in scope and did not result in the full remediation of radiological contamination from the aforementioned sites, the data collected supported the removal action (see the final TCRA Work Plan, Table B3-1, Appendix B, Summary of Data Quality Objectives [TtEC 2007b]). It is understood that the selected remedy in the corresponding ROD for each site will address the remaining contamination."
b. CDPH-EMB-DoD would like to thank the DON, and its contractors, for their involvement in this complex project.	**Response 12b.** Comment noted.

SUPPLEMENTAL COMMENTS ON THE DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONSTRUCTION REPORT FOR IR SITES 1, 2, AND 32 FORMER NAVAL AIR STATION ALAMEDA ALAMEDA POINT, ALAMEDA, CALIFORNIA DATED AUGUST 17, 2009	
Reviewed by Environmental Protection Agency, Xuan-Mai Tran, Remedial Project Manager, Federal Facilities and Site Cleanup Branch Comments Dated: August 17, 2009	
GENERAL COMMENTS	**RESPONSE**
Comment 1. The responses to General Comments 5, 8, 10, 12 and Specific Comments 5, 10, 11, 12, 13, and 14 on the Draft Time-Critical Removal Action Post-Construction Report for IR Sites 1, 2, and 32, Former Naval Air Station Alameda (the Report) could not be fully evaluated because the revised or new text, appendices, and/ or tables, etc. were not included with the response to comments.	**Response 1.** Comment noted. The changes described in the listed comments have been made to the final report and should be evident to the reviewers upon receipt. Please also note that all Response to Comments (RTCs), including these supplemental RTCs, will be included in the final report for documentation and reference.
Comment 2. Response to EPA General Comment (GC) 7: The response partially addresses the comment. Section 5.0, Data Quality Assessment should include an overall evaluation of trends and biases (i.e., were significant trends and biases noted and if so how this affected the data). Please revise the section to address this issue.	**Response 2.** Comment noted. At this time, and with the acknowledged changes to the scope of the project wherein the overall cleanup objectives have not been met (and the report is not attempting to justify such a position), it is not appropriate to conduct a trend and/or bias evaluation. The final remedy at the sites will be determined in the respective ROD and will fully address the on-site contaminants.
Comment 3. Response to EPA GC 9: The response addresses the comment, but was not incorporated into the text. The response states that population density and outliers analyses were not explicitly performed; however, this explanation is not included in the text of the document. For clarity and completeness, please revise the document to include the explanation of why the analyses were not explicitly performed.	**Response 3.** Comment noted. A footnote will be added to Tables 3-4, 3-6, 3-7, and 3-8 to briefly reiterate why the analyses were not explicitly performed.

SUPPLEMENTAL COMMENTS ON THE DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONSTRUCTION REPORT FOR IR SITES 1, 2, AND 32 FORMER NAVAL AIR STATION ALAMEDA ALAMEDA POINT, ALAMEDA, CALIFORNIA DATED AUGUST 17, 2009	
Comment 4. Response to EPA GC 12: The response partially addresses the comment. Section 4.3.3, Page 4-6 was revised to include discussion on the types of non-hazardous material, but Type 6 was not included. Please revise Section 4.3.3, Nonhazardous Material to include Type 6 waste. Also, it is understood that there are too many waste manifests to include paper copies, but these manifests should be included on CD. Please provide all of the waste manifests on CD in the next version of the Report.	**Response 4.** Comment noted. The text will be modified to include a discussion of Type 6 waste. The DON does not see the benefit of including the manifests in the report on CD. The manifests can be obtained through DTSC, or through special arrangement, as needed, with the DON.
Comment 5. Response to EPA Specific Comment (SC) 4: The response partially addresses the comment. Based on the review of the revised Section 2.27 and Section 3.1, it does not appear that the revised text included a discussion on why confirmatory laboratory analysis was not conducted to confirm the field measurements. Please revise the text to discuss why confirmatory laboratory analysis was not conducted to confirm the field measurements.	**Response 5.** Both the original text and revised text state that background soil samples were collected and sent to an off-site laboratory for analysis. The reader is referred to the last paragraph in the revised Sections 2.2.7 and 3.1. The comment implies that the laboratory measurement (e.g., gamma energy analysis of the soil sample) can be used to confirm the ambient gamma measurements collected by the instruments in the field. This type of comparison would only be appropriate if the field measurements included gamma energy analysis. The revised text states that the measurements collected by the field instruments in the background reference area were performed to establish the ambient gamma radiation background. The ambient gamma radiation background included both terrestrial and cosmic contributions. It is inappropriate to compare a gamma energy analysis result to a count per minute field measurement. All RTCs will be included in the final report for documentation and reference. Therefore, the above response will not require further elaboration in the report text.

SUPPLEMENTAL COMMENTS ON THE DRAFT TIME-CRITICAL REMOVAL ACTION POST-CONSTRUCTION REPORT FOR IR SITES 1, 2, AND 32 FORMER NAVAL AIR STATION ALAMEDA ALAMEDA POINT, ALAMEDA, CALIFORNIA DATED AUGUST 17, 2009	
Comment 6. Response to EPA SC 8: The response partially addresses the comment and was not incorporated into the text. The response addresses and discusses the discrepancy between the conditions encountered and the previously known conditions and indicates that this may or may not be the referenced Disposal Trench from the previous Department of the Navy (DON) Reports. For clarity and completeness, please revise the Report to include the response details included in this discussion on the Disposal Trench and also discuss whether the radiological disposal trench was located and excavated.	**Response 6.** The Response to Comments will be included as an appendix in the final report for reference and documentation. Therefore, this full explanation will not be included in the report text. The text states that the DON is not sure whether this was the "radiological disposal trench," but that if the trench does exist it would be identified when the Burn Area is removed in the final remedial action per the ROD. This text sufficiently addresses the comment and is supplemented by further detail in the RTC.
Comment 7. Response to EPA SC 9: The response partially addresses the comment and was not fully incorporated into the text. The response addressed the issue of how the designation of the wetland area may have impacted where the surveys and excavations for work took place but also indicated that field conditions within the boundary of the wetland eliminated the ability to conduct a survey in the wetland location. Please include this information in the Report for clarity. Also, the response indicates that at the time of the time-critical removal action (TCRA) the Navy decided not to collect samples from the five excavations conducted prior to October 11, 2007 but to wait until the Record of Decision (ROD) was completed and final action implemented. For clarity and completeness, please include this rationale in the report. Also, the comment asks that the location of the five excavations conducted prior to October 11, 2007 that were backfilled prior to sampling be included on Figure 2-6. However, these locations were not included on the Figure. The response discussed which excavations are included on Figure 2-6. Therefore, if these five excavation need to be sampled in the future their exact locations should be provided in the report. Please include the locations of these excavations on a Figure or provide global positioning system (GPS) coordinates for future reference.	**Response 7.** The Response to Comments will be included as an appendix in the final report for documentation and reference. Therefore, this full explanation will not be included in the report. No changes to the text are proposed in response to this portion comment. The Response to Comments will be included as an appendix in the final report for documentation and reference. The report currently states that further work and evaluation of these areas are postponed until the final ROD is completed. Figure 2-6 is meant to show locations where discrete items were found – not excavation locations. Figure 2-11 shows all excavation locations that were completed in areas outside the IR Site 2 berm perimeter. The DON determined, as explained in the report, that excavation activities within the berm perimeter were not required. Figure 2-6 is meant to show locations where discrete items were found – not excavation locations. Figure 2-11 shows all excavation locations that were completed in areas outside the IR Site 2 berm perimeter. The DON determined, as explained in the report, that

	excavation activities within the berm perimeter were not required. Because of the timing for this decision, several excavations that were initiated within the berm perimeter were not sampled or surface scanned after backfilling. As a result, no meaningful or pertinent data were collected as part of thisproject for these excavations. There should be no inference regarding the effectiveness of any action taken in these areas, and depiction of excavation locations is not relevant to this report. Therefore, GPS location data that accompany the surface scan procedure were not collected. The DON does not believe that the locations of the excavations are relevant in this report since the full removal, sampling, and scanning procedure was not completed, and the future remediation of the sites will be determined in the respective ROD. There should be no inference regarding the effectiveness of any action taken in these areas.
Comment 8. Response to EPA SC 13: The response partially addresses the comment. The response provides a suggestion for revised text and indicates that three discrete items were found in the subsurface; however, it does not provide or reference the descriptions of the discrete items. Please include descriptions of these discrete items in the text or reference where their description can be located in the Report.	**Response 8.** Figure 2-7 identifies the three items and Appendix I provides a description and picture of each item. References to Figure 2-7 and Appendix I will be added to discussions of the discrete items found in the subsurface.
Comment 9. Response to EPA SC 17: The response addresses the comment, but was not incorporated into the text. The response identifies why post-excavation gamma measurements at several locations were above pre-excavation gamma measurements but the response does not indicate this information will be included in the text. For clarity, please revise the document to discuss the reason for the higher post-excavation gamma measurements and indicate that this issue will be addressed in the remedial design.	**Response 9.** The tables reporting the post-excavation measurements have been modified per the original comment with more appropriate data. The revised tables include footnotes describing why some post-excavation measurements are slightly higher than pre-excavation measurements (within background variations and due to instrument tolerance and range).

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RAW ANALYTICAL DATA

RAW ANALYTICAL DATA IS NOT REQUIRED TO BE PHYSICALLY LOCATED AT OR NEAR THE INSTALLATION AND INFORMATION REPOSITORY.

FOR ADDITIONAL INFORMATION, CONTACT:

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RAW ANALYTICAL DATA

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