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Site Investigation Report
for
Munitions Response Program
Site Inspections at NAVFAC Midwest and BRAC Program Management Office Southeast
Munitions Response Sites and Areas of Concern

Naval Support Activity Mid-South
Millington, Tennessee

Contract Task Orders 0107 & F275

September 2010

Naval Facilities Engineering Command
Midwest
201 Decatur Avenue, Building 1A, Code EV
Great Lakes, Illinois 60088

BRAC Program Management Office Southeast
4130 Faber Place Drive, Suite 202
North Charleston, South Carolina 29405

TETRA TECH

051003/P

SITE INSPECTION REPORT
FOR
MUNITIONS RESPONSE PROGRAM SITE INSPECTIONS
AT
MUNITIONS RESPONSE SITES AND AREAS OF CONCERN

Naval Support Activity Mid-South
Millington, Tennessee

Submitted to:
Naval Facilities Engineering Command Midwest
and BRAC Program Management Office Southeast

Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220

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PREPARED UNDER DIRECTION OF:

LAWSON ANDERSON
PROJECT MANAGER
TETRA TECH NUS, INC.
MEMPHIS, TENNESSEE

APPROVED FOR SUBMISSION BY:

JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS, INC.
KING OF PRUSSIA, PENNSYLVANIA
Contract Number N62472-03-D-0057

DEBRA HUMBERT
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA
Contract Number N62467-04-D-0055

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ACRONYMS

amsl	above mean sea level
AOC	area of concern
APP	Accident Prevention Plan
BCT	Base Cleanup Team
bgs	below ground surface
BRAC	Base Realignment and Closure
CEC	cation exchange capacity
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLEAN	Comprehensive Long-Term Environmental Action Navy
COPC	chemical of potential concern
CRS	Cultural Resources Survey
CSM	Conceptual Site Model
CTO	Contract Task Order
DERP	Defense Environmental Restoration Program
DI	deionized
DMM	Discarded Military Munitions
DoD	Department of Defense
DQI	data quality indicator
ER,N	Environmental Restoration, Navy
ESS	Explosives Safety Submission
ºF	Fahrenheit
FOL	field operations leader
FS	Feasibility Study
FBL	Fixed-base laboratory
GIS	Geographic Information System
GPS	global positioning system
HASP	Health and Safety Plan
IDW	Investigation-derived waste
LCS	laboratory control sample
LQL	laboratory quantitation limit
MC	Munitions Constituents
MDL	laboratory method detection limit
MEC	Munitions and Explosives of Concern
MGD	million gallons per day

mg/kg	milligrams per kilogram
mm	millimeter
MPPEH	Material Potentially Presenting an Explosive Hazard
MRP	Munitions Response Program
MS	Matrix spike
MSD	Matrix spike duplicate
MW	Midwest
NAD	North American Datum
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
NELAP	National Environmental Laboratory Accreditation Program
NFA	no further action
NFESC	NAVFAC Engineering Service Center
NG	nitroglycerin
NIST	National Institute of Standards and Technology
NOSSA	Naval Ordnance Safety and Security Activity
NSA	Naval Support Activity
PA	Preliminary Assessment
PAH	polynuclear aromatic hydrocarbon
PAL	Project Action limit
%R	percent recovery
PPE	personal protective equipment
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
RFI	RCRA Facility Investigation
SI	Site Inspection
SOP	Standard Operating Procedures
SSO	Site Safety Officer
TCLP	Toxicity Characteristic Leaching Procedure
TDEC	Tennessee Department of Environment and Conservation
Tetra Tech	Tetra Tech, Inc.
TOC	total organic carbon
UFP-SAP	Unified Federal Policy–Sampling and Analysis Plan
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish Wildlife Service
UST	underground storage tank
UXO	Unexploded Ordnance
XRF	X-Ray Fluorescence

EXECUTIVE SUMMARY

This Site Inspection (SI) Report for six Munitions Response Areas or Munitions Response Sites (MRA/Ss) located at Naval Support Activity (NSA) Mid-South, Millington, Tennessee was prepared by Tetra Tech, Inc. (Tetra Tech) for Naval Facilities Engineering Command (NAVFAC) Midwest and Base Realignment and Closure (BRAC) Program Management Office Southeast under Comprehensive Long-Term Environmental Action Navy (CLEAN) IV Contract Numbers N62467-04-D-0055 and N62472-03-D-0057, Contract Task Orders (CTOs) 0107 and F275.

NSA Mid-South is located in the City of Millington in Shelby County, Tennessee, approximately 20 miles north of Memphis, 180 miles west of Nashville, and 7 miles east of the Mississippi River. The facility encompasses 1,600 acres and serves as one of the largest inland Navy installations in the world.

Land use on the installation is administrative in nature, as NSA Mid-South serves as the Navy's Human Resources Center of Excellence. Its largest commands are the Navy Personnel Command, Navy Recruiting Command, and Navy Manpower Analysis Center, as well as the U.S. Army Corps of Engineers Finance Center. More than 7,500 military, civilian, and contract personnel are assigned to or work on the base. As the landlord of the installation, NSA performs the many tasks necessary for the proper functioning of a self-contained city, including housing, food service, utilities and facilities for purchase of essential food stuffs and personal items.

The Department of Defense (DoD) has established a program to address non-operational (closed, transferring, and transferred) military munitions ranges known as Munitions Response Program (MRP) Sites. Under this program, DoD follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, which is similar to the Resource Conservation and Recovery Act (RCRA) corrective action process. Similar to the CERCLA process, an initial Preliminary Assessment (PA) is prepared to compile historical records and information on the subject range or testing area and determine the presence or potential presence of Munitions and Explosives of Concern (MEC) and Munitions Constituents (MC) at concentrations that may pose a human health risk or could present an explosive hazard. The term MEC includes Discarded Military Munitions (DMM), Unexploded Ordnance (UXO), and MC in high enough concentrations to pose an explosive hazard.

Six Navy MRP-eligible sites were identified at NSA Mid-South during a PA completed by Malcolm-Pirnie, Inc., in August 2005, including Pistol Range (UXO 1), Former Navy Rifle Range (UXO 000001), Aircraft Firing Range [Area of Concern (AOC) 3], Trap/Skeet Range #1 (AOC 1), Horse Stables Skeet Range #1 (AOC 3), and Former Horse Stables Skeet Range #2 (UXO 000002). Trap/Skeet Range #2 was active

during the PA and was not included; therefore, only six sites were included in the PA Report (Malcolm Pirnie, 2005). Trap/Skeet Range #2 was later closed and added to the list of inactive ranges. Trap/Skeet Ranges #1 and #2 overlap and were investigated as one site. Figure ES-1 presents a facility location map and the locations of the six MRP sites addressed under this project.

With the exception of Horse Stables Skeet Range #1, where existing housing has recently been demolished in preparation for construction of new housing, future land use for the six MRP sites is undetermined; however, NSA Mid-South is expected to remain an active Naval installation for the foreseeable future and the current land use for the other five sites is as follows:

- The Pistol Range is unused land surrounded by open space (Trap/Skeet Ranges #1 and #2).
- The Former Navy Rifle Range was given back to the community through BRAC in 1999, and the Navy currently leases the site from the City of Millington for use as a grazing area and stables for horses.
- The Aircraft Firing Range site is currently used as motor pool parking and equipment storage by the Army Reserve.
- The northern end of Trap/Skeet Ranges #1 and #2 is the location of a water tower, commissary, military housing, and child care facility. The middle portion is undeveloped and mostly wooded, and the southern end is mostly wooded and covered by a large landfill that is no longer in use.
- The Former Horse Stables Skeet Range #2 is currently used as a grazing area for nearby horse stables and three vacation rental houses on the southern portion of the site.

The primary objective of this SI was to build on the information contained in the PA report and other relevant historical documentation by gathering site-specific field data to determine whether MCs [e.g., lead, nitroglycerin (NG) and polynuclear aromatic hydrocarbons (PAHs)] that may have been released during previous site activities or operations are present and potentially contributing to environmental impacts associated with the soil at the subject MRP sites, and to collect an appropriate amount of data to ensure a decision for each site can be made regarding whether a RI/Feasibility Study (RI/FS) is required, whether a site requires an immediate response, or whether the site qualifies for no further action (NFA).

The SI field program for the six MRP sites was designed to evaluate the presence or absence of MC and, if present, the general nature and extent of MC contamination at each site. The field program included collection of soil samples to identify chemicals of potential concern (COPCs) (e.g., MCs) that may exist as a result of past training operations at the sites, comparison of detected COPCs against their relative Project Action limits (PALs), and recommendations for any sites with COPCs exceeding the PALs.

SI field activities at the six MRP sites included the following:

- Collection of discrete surface soil samples [0- to 1-foot below ground surface (bgs)].
- Collection of composite soil samples along the firing lines (0- to 1-foot bgs).
- Field analysis for lead utilizing an X-Ray Fluorescence (XRF) analyzer.
- Collection of discrete horizontal and vertical (1- to 2-foot bgs) step-out samples where indicated.
- Selection of a representative number of XRF samples for shipment to a fixed-base laboratory (FBL) for lead analysis.
- FBL analysis of select samples for pH, total organic carbon (TOC), cation exchange capacity (CEC), PAHs, and NG.

The six individual sites sampled during the SI at NSA Mid-South are summarized below:

Pistol Range (UXO 1)

The former Pistol Range consists of approximately 0.5 acre from the firing line to a containment berm located behind the former target areas and is located near the southern border of the installation, east of Singleton Avenue, off the Perimeter Security Patrol Road. The Pistol Range was constructed after 1948 at the former location of a skeet range and was in use until 1994.

Property records indicate that the range, when active, consisted of a berm, shooting stations, targets, and an armory. The firing line maintained 16 firing positions with targets that were operated via a manual, mechanical cable system from behind the firing lines. This included five target lines, one each at 7 yards, 15 yards, 25 yards, 1,000 inches and 50 yards. According to information presented in the PA, the targets present at the pistol range were made of paper and secured to aboveground posts. A U-Shaped berm,

approximately 10 to 15 feet tall and 500 feet long encompassed the area behind and on both sides of the target lines. Munitions use was limited to small arms ammunition, including 0.22-caliber, 0.30-caliber, 9 mm, 0.38-caliber, and 0.45-caliber ammunition.

A visual inspection conducted during the PA identified expended ammunition on the surface of the berm, as did a site visit conducted by Tetra Tech and Navy personnel on September 15, 2008. Also identified at the base of the containment berm were two 40-mm riot control training rounds. Subsequent discussions with NAVFAC Midwest and NSA Mid-South personnel could not determine how or why the 40-mm rounds were present. During the September 2008 site visit, only three of the five historic target lines were readily identifiable.

The SI results show that NG was not detected in the composite sample collected at the firing line and lead was below its 400 mg/kg PAL. At the target areas, no samples exceeded either the XRF or FBL PAL for lead. Exceedances of the PAL for lead were generally localized around the areas in front, on top, and on the backside of the backstop portion of the berm. Lead contamination was also generally confined to the 0- to 1-foot interval with XRF concentrations showing reductions in the lead present over the 1- to 2-foot intervals at the same locations.

The SI results show that lead at this site is present in surface soil on the berm at concentrations that could present potential risks to human receptors. Because it is possible the berm has multiple clean and contaminated layers, depending on historical practices, it is recommended a work plan be developed for remediation of the berm in 1- to 2-foot lifts with XRF screening between each lift. Removed soil would be segregated into clean and contaminated piles and each pile disposed of appropriately. Assuming uniform contamination across the entire berm from the surface to a depth of 1 foot would result in a conservative estimate of approximately 40,000 cubic feet (1,500 cubic yards) of impacted soil per 1-foot lift. TDEC concurred with this recommendation during a review of the Navy responses (Appendix D) to TDEC comments on the draft version of this report at the September 8, 2010 NSA Mid-South BCT meeting.

Trap/Skeet Ranges #1 and #2 (AOC 1)

Trap/Skeet Ranges #1 and #2 consist of approximately 79 acres, located near the southern border of the installation, east of Singleton Avenue, off the Perimeter Security Patrol Road. The ranges were built around 1943, with Trap/Skeet Range #1 having an unrecorded closure date sometime after World War II and Trap/Skeet Range #2 closing in 2005. No remedial efforts are documented for closure of the ranges.

Property records indicate that the range, when active, had a firing line, skeet office and armory, two skeet storage buildings, an ammunition storage building, Instruction Building, and shooting stations and targets.

Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells. Of note is Solid Waste Management Unit (SWMU) 2, a closed solid waste landfill that served NSA Mid-South located within the defined boundaries of the Trap/Skeet Ranges #1 and #2. To maintain the integrity of the landfill cap, inspection of the portion of the Trap/Skeet Ranges #1 and #2 that lies within the boundaries of SWMU 2 was removed from this SI. Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells.

Most of the concrete firing lines and structures associated with the ranges have been removed; however, Tetra Tech and Navy personnel observed concrete firing lines, two small structures, and skeet fragments immediately south of the Pistol Range during a September 15, 2008 site visit.

SI results show that MC (lead and PAHs) are present at the site, and are primarily retained in surface soil (0- to 1-foot bgs). The soil at the firing lines and at the northern and southern ends of the site does not exceed PALs; lead contamination in soil is found on the surface in a well-defined area approximately 600 feet out from the firings lines; and, PAH contamination (evaluated as BaP equivalents) in soil is primarily within the lead-contaminated area, but typically does not extend as far out from the firing points. There are two instances of PAH PAL exceedances on the northern end of the site that could be associated with parking lot runoff rather than historical site activities.

Based upon the well-defined co-located lead- and PAH contamination identified in surface soil at the site, it is recommended that a Focused Feasibility Study (or similar document) be prepared for Trap/Skeet Ranges #1 and #2 to evaluate remedial options. TDEC concurred with this recommendation during a review of the Navy responses (Appendix D) to TDEC comments on the draft version of this report at the September 8, 2010 NSA Mid-South BCT meeting.

Aircraft Firing Range (AOC 2)

The Aircraft Firing Range consists of approximately 8.5 acres located near the southern border of the installation, west of Singleton Avenue, directly south of Integrity (formerly “B”) Street. The Aircraft Firing Range was constructed in 1942 and was used for bore sighting of fixed-wing machine guns on aircraft through World War II. Later, the range was converted to an aircraft maintenance garage and remained in use until 1995 when the Army Reserve began using the area. Two containment berms (east and west) were previously associated with the Aircraft Firing Range but were removed prior to use of the area by the Army Reserve. A review of historical records and previous environmental reports available (including the PA) was unable to identify when the berms were removed or where the soil was transported.

Property records indicate that the range, when active, consisted of the Machine Gun Test Building, which later became an aircraft maintenance garage, Instruction Building, offices, and two berms. According to information presented in the PA, the targets were typically wooden stands covered with cloth placed in front of the containment berms. The containment berms, each approximately 200 feet long, were located south of, and parallel to, the former building. Munitions use was limited to small arms ammunition, including 0.30- and 0.50-caliber machine gun ammunition.

A visual inspection conducted during the PA did not identify any MC between the areas of the former firing lines and former containment berms. A site visit was conducted by Tetra Tech and Navy personnel on September 15, 2008, with no expended munitions fragments, nor any signs of past range activities, visually noted at the Aircraft Firing Range.

SI results show that, with one exception, lead was detected at low concentrations across the site. FBL lead results for both firing line composite samples were less than 100 mg/kg (and non-detect for NG). All FBL lead results for the grid sampling in the former berm areas were less than 100 mg/kg, except for one location on the western berm (124 mg/kg) and one location on the eastern berm (20,500 mg/kg). The preponderance of FBL results (47 of 48 samples) shows that lead is not present in surface soil at concentrations that could present potential risks to human receptors. The only sample that contained lead at a concentration above the applicable 400 mg/kg PAL is beneath an asphalt parking area and surrounded on three sides by samples with lead concentrations that do not exceed the PAL. However, no samples were collected north of this anomalously high lead detection (20,500 mg/kg).

Based upon the anomalously high lead concentration detected in Sample AFRSS0037, resampling of this location and collection of additional samples immediately adjacent to and north of it are proposed. Details of the proposed sampling and a map showing sample locations are included in the Navy responses to TDEC comments on the draft verison of the report (Appendix D). TDEC concurred with this recommendation during a review of the responses to comments at the September 8, 2010 NSA Mid-South BCT meeting.

Horse Stables Skeet Range #1 (AOC 3)

The former Horse Stables Skeet Range #1 MRP site covers approximately 36 acres on the northern portion of the installation, east of Attu Street Extended, adjacent to the Former Navy Rifle Range (UXO 000001) and Former Horse Stables Skeet Range #2 (UXO 000002). The range was built in 1945 and closed in the summer of 1952 for the construction of a Navy family housing area. No remedial efforts are documented for the closure of the range. Property records indicate that the range had a magazine, shed, a skeet tower, a firing arch, and high and low houses. The magazine, a shed and skeet tower, were also

used also for the adjacent Former Horse Stables Skeet Range #2 on the west side of Attu Street Extended. The site is currently vacant land. Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells.

A visual inspection conducted during the PA found no evidence of the former Horse Stables Skeet Range #1; as the structures formerly associated with the range were believed to have been removed prior to construction of the residential development. Tetra Tech and Navy personnel on did not observe expended munitions fragments or skeet targets at the former Horse Stables Skeet Range #1 during a September 15, 2008 site visit.

SI results show that lead was detected at low concentrations across the site. Reported values for lead were less than 100 mg/kg at all but three locations, and those locations were less than the 400 mg/kg PAL. NG was not detected at the firing lines. While 16 of 20 PAH samples exceeded the BaP equivalent PAL, PAHs are ubiquitous in surface soil at NSA Mid-South which resulted in the BCT establishing a background concentration for BaP equivalents of 0.565 mg/kg during the RCRA Facility Investigation. Only two locations more than 200 feet apart exceeded the background concentration (at concentrations of 0.8 mg/kg and 1.0 mg/kg).

Soil excavation and confirmation sampling are recommended for the two PAH sample locations exceeding the NSA Mid-South BaP equivalent background concentration in order to achieve a determination of No Further Action for the Horse Stables Skeet Range #1. Details of the proposed soil excavations and sampling are provided in the Navy responses (Appendix D) to TDEC comments on the draft version of this report. TDEC concurred with this recommendation during a review of the responses to comments at the September 8, 2010 NSA Mid-South BCT meeting.

Former Horse Stables Skeet Range #2 (UXO 000002)

The Former Horse Stables Skeet Range #2 MRP site covers approximately 42 acres and consisted of three adjacent and overlapping skeet ranges, on the northern portion of the installation, west of Attu Street Extended, adjacent to Horse Stables Skeet Range #1 (AOC 3). The range was built around 1942 and closed in 1946. The date of closure is not documented nor is any remedial effort for the closure of the range. Property records indicate that the range, when active, had a magazine, shed, and skeet tower in addition to a firing arch and high and low houses, typical structures associated with a skeet range. The magazine, shed, and skeet tower were used also for the adjacent skeet range. Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells.

A visual inspection conducted during the PA found no evidence of the Former Horse Stables Skeet Range #2, as the structures formerly associated with the range were believed to have been removed prior to construction of three houses in the southern portion. The houses are currently used as vacation rentals for visitors using NSA Mid-South amenities such as the golf course and Navy Lakes recreational facilities. The northern portion of the site is used to pasture horses for a nearby horse stable and is expected to be used for this purpose for the foreseeable future. Tetra Tech and Navy personnel did not observe expended munitions fragments or skeet targets during a September 15, 2008 site visit.

SI results show that lead was detected at low concentrations across the site and samples at the ends of the transects (furthest from the firing lines) were non-detect, as would be expected. Reported values for lead were less than 100 mg/kg at all but eight locations, and only two of those locations had lead concentrations greater than the 400 mg/kg PAL. The sitewide average lead concentration of 115 mg/kg was well below the PAL. NG was not detected at the firing lines, and BaP equivalent concentrations exceeded the background concentration for NSA Mid-South at only two locations approximately 700 feet apart.

Soil excavation and confirmation sampling are recommended for the two sample locations exceeding the lead PAL and the two PAH sample locations exceeding the NSA Mid-South BaP equivalent background concentration in order to achieve a determination of No Further Action for the Horse Stables Skeet Range #2. Details of the proposed soil excvataions and sampling are provided in the Navy responses (Appendix D) to TDEC comments on the draft version of this report. TDEC concurred with this recommendation during a review of the response to comments at the September 8, 2010 NSA Mid-South BCT meeting.

Former Navy Rifle Range (UXO 000001)

The Former Navy Rifle Range (UXO 000001) consists of approximately 11 acres from the firing line to a containment berm formerly located behind the target area and is located near the northern border of the installation, east of Attu Street Extended and south of Kerrville-Rosemark Road, between Horse Stables Skeet Ranges #1 (AOC 3) and #2 (UXO 000002). The range was built in 1942 and after closure of the range in the mid-1960s, the containment berm soil was removed from the site and used for site work during construction of the NSA Mid-South Naval Hospital in 1965. A review of historic records and previous environmental reports available do not indicate remediation of the Rifle Range either before or after removal of the berm.

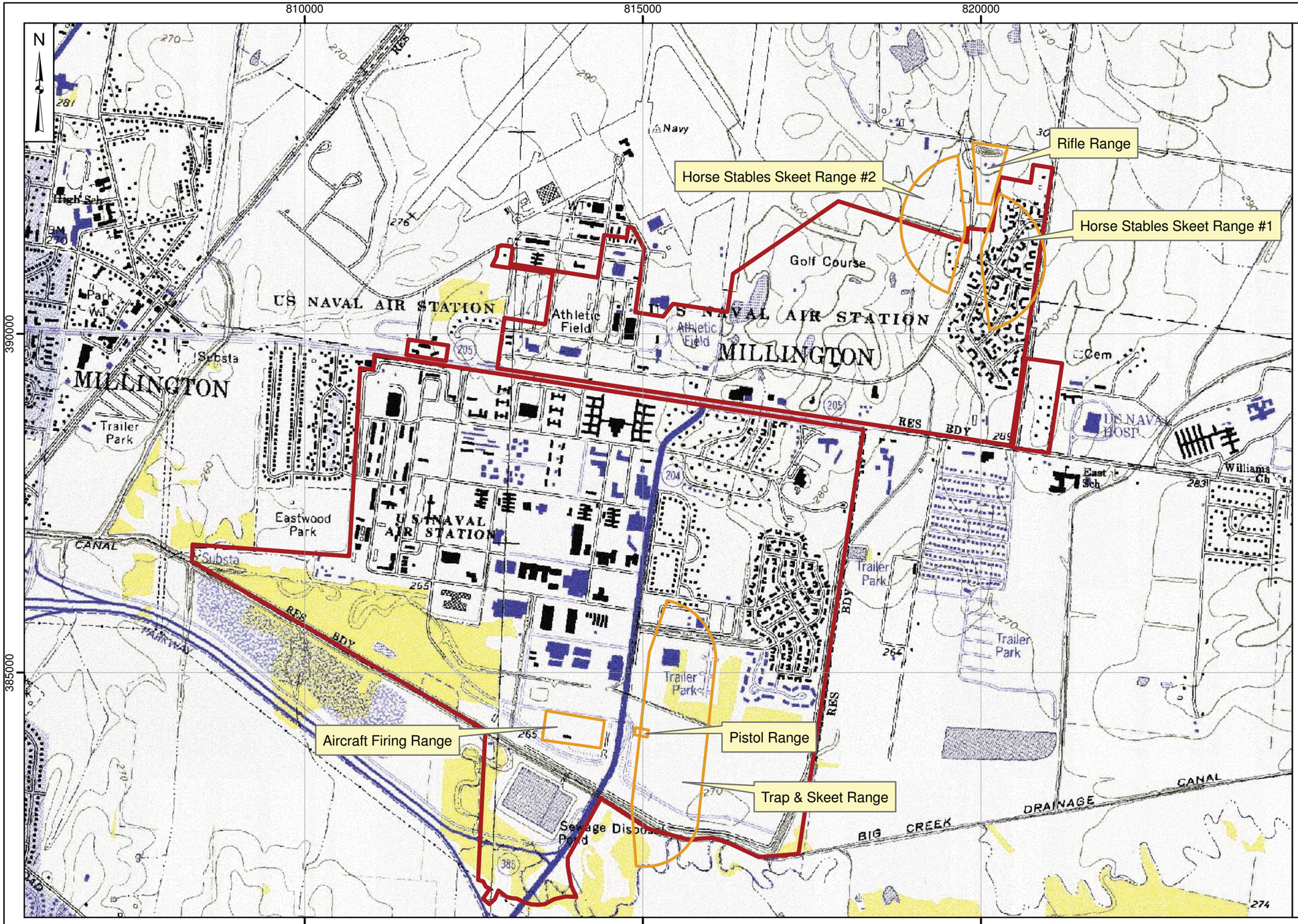
Property records indicate that the range, when active, consisted of a berm, shooting stations, targets, target house, and three magazines. There were three firing lines (one each at 50, 100, and 200 yards).

A containment berm, approximately 450 feet long, was located behind the targets. According to conversations with NSA Mid-South personnel present when the Rifle Range was operational, the targets were wooden in composition and were raised and lowered from a concrete vault located in front of the containment berm. Current land use is open space in the northern portion and pasture for a nearby horse stable in the southern portion. Munitions use was limited to small arms ammunition, including 0.22-caliber, 0.30 caliber and 0.50-caliber machine gun ammunition.

A visual inspection conducted during the PA did not identify any MC between the areas of the former firing lines and former containment berm. Tetra Tech and Navy personnel did not observe expended munitions fragments during a September 15, 2008 site visit. Even though the target area and berm were previously removed, the concrete pads marking the locations of the former firing points are still present and were noted during the September 2008 site visit.

SI results show that the three firing line composite surface soil samples were non-detect for NG, and lead concentrations were less than 25 mg/kg. Furthermore, all FBL lead results for the grid sampling in the former target and berm areas were less than 200 mg/kg.

Based on the fact that none of the lead concentrations measured at the site exceeded one-half the 400 mg/kg PAL for lead, and NG was not detected in composite soil samples from the firing line areas, an NFA determination is recommended for the Former Navy Rifle Range. TDEC concurred with this recommendation during a review of the Navy responses to comments at the September 8, 2010 NSA Mid-South BCT meeting.



TETRA TECH

Figure ES-1
NSA Mid-South
Millington, Tennessee

Drawn By: K. MOORE 8/3/09
Checked By: C. RUMER 8/3/09
Approved By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

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1.0 INTRODUCTION

1.1 PURPOSE OF REPORT AND SCOPE OF WORK

This Site Inspection (SI) Report for six Munitions Response Program (MRP) Sites located at Naval Support Activity (NSA) Mid-South in Millington, Tennessee was prepared by Tetra Tech, Inc. (Tetra Tech) for Naval Facilities Engineering Command (NAVFAC) Midwest and the Base Realignment and Closure (BRAC) Program Management Office Southeast under two Comprehensive Long-Term Environmental Action Navy (CLEAN) Contracts. CLEAN Contract No. N62467-04-D-0055, Contract Task Order (CTO) 0107 (i.e., "the BRAC CTO") includes the two MRP-eligible sites on former Navy property - the Former Navy Rifle Range and Former Horse Stables Skeet Range #2. CLEAN Contract No. N62472-03-D-0057, CTO F275 [i.e., "the Environmental Restoration, Navy (ER,N) CTO"] includes the four MRP sites within the current installation boundary - Pistol Range, Trap/Skeet Ranges #1 and #2, Aircraft Firing Range, and Horse Stables Skeet Range #1.

The Department of Defense (DoD) has established a program to address non-operational (closed, transferring, and transferred) military munitions ranges known as MRP Sites. Under this program, DoD follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, which is similar to the Resource Conservation and Recovery Act (RCRA) corrective action process. Similar to the CERCLA process, an initial Preliminary Assessment (PA) is prepared to compile historical records and information on the subject range or testing area and determine the presence or potential presence of Munitions and Explosives of Concern (MEC) and Munitions Constituents (MC) at concentrations that may pose a human health risk or could present an explosive hazard. The term MEC includes Discarded Military Munitions (DMM), Unexploded Ordnance (UXO), and MC in high enough concentrations to pose an explosive hazard.

Six Navy MRP-eligible sites were identified at NSA Mid-South during a PA completed by Malcolm-Pirnie, Inc., in August 2005, including the Pistol Range (UXO 1), Former Navy Rifle Range (UXO 000001), Aircraft Firing Range (AOC 3), Trap/Skeet Range #1 (AOC 1), Horse Stables Skeet Range #1 (AOC 3), and Former Horse Stables Skeet Range #2 (UXO 000002). Trap/Skeet Range #2 was active at this time and not included in the PA Report. Trap/Skeet Range #2 was later closed and was then added to the list of inactive ranges; however, given that it overlapped approximately 70 percent of Trap/Skeet Range #1, the two sites were combined into one, keeping the total number of sites investigated under CTOs 107 and F275 at six. The six MRP sites are addressed in this SI (the next phase of the CERCLA/MRP process) and are summarized on Table 1-1. Figure ES-1 presents a NSA Mid-South facility location map and depicts the locations of the MRP sites to be addressed under this project.

The site-specific and technical information presented in the PA report and observations and conclusions made during the September 2008 site visit by Tetra Tech and Navy personnel were used to develop the SI field program. This SI Report presents the results of the data collected during the SI field program to determine the presence of MC at concentrations that may pose a hazard to human health human health risk or which could present an explosive hazard in accordance with the Unified Federal Policy–Sampling and Analysis Plan (UFP-SAP) prepared for this project by Tetra Tech (2010), and as required under the Navy MRP policy.

1.2 PURPOSE

The main objective of the SI was to build on the information contained in the PA report and other relevant historical documentation by gathering site-specific field data to determine whether MCs [e.g., lead, nitroglycerin (NG) and polynuclear aromatic hydrocarbons (PAHs)] that may have been released during previous site activities or operations (e.g., small arms target training) are present and potentially contributing to environmental impacts associated with the soil at the subject MRP sites.

Throughout its history, munitions-related training at the installation has been limited to small arms. No records indicated the training/storage/use of munitions containing MEC in the past.

1.3 SCOPE OF WORK

The SI field program for the six MRP sites was designed to evaluate the presence or absence of MC and, if present, the general nature and extent of MC contamination at each site. The field program included collection of soil samples to identify chemicals of potential concern (COPCs) (e.g., MCs) that may exist as a result of past training operations at the sites, comparison of detected COPCs against their relative Project Action limits (PALs), and recommendations for any sites with COPCs exceeding the PALs.

SI field activities at the six MRP sites included the following:

- Collection of discrete surface soil samples [0- to 1-foot below ground surface (bgs)].
- Collection of composite soil samples along the firing lines (0- to 1-foot bgs).
- Field analysis for lead utilizing an X-Ray Fluorescence (XRF) analyzer.
- Collection of discrete horizontal and vertical (1- to 2-foot bgs) step-out samples where indicated.

- Selection of a representative number of XRF samples for shipment to a fixed-base laboratory (FBL) for lead analysis.

- FBL analysis of select samples for pH, total organic carbon (TOC), cation exchange capacity (CEC), PAHs, and NG.

1.4 OBJECTIVES

The primary objective of this SI was to determine whether further response actions or remedial investigations (RIs) are appropriate for any of the sites. The SI was based on background information provided in the PA, relevant historical documents, and decisions made by the Base Cleanup Team (BCT), as documented in Worksheet #9 of the UFP-SAP. Supplemental site-specific environmental data are collected during the SI sampling program to further characterize the presence/absence of suspected MC at these MRP sites and to attempt to delineate the nature and extent of potential MC that may be still be present in the soil.

1.5 REPORT ORGANIZATION

This SI Report consists of nine sections: Section 1.0 is this Introduction, which includes the purpose and scope and report organization; Section 2.0 describes the background and physical setting of NSA Mid-South, including initial SI site surveys; Section 3.0 describes the SI field work design and methodologies; Sections 4.0 through 9.0 discuss the SI of the six MRP sites individually including data results, updated Conceptual Site Models (CSMs), and conclusions and recommendations; and Section 10.0 includes the references. The appendices include the following:

- Appendix A – Field Documentation
- Appendix B – Validated Analytical Results
- Appendix C – XRF/FBL Correlation Statistical Evaluations
- Appendix D – Responses to Tennessee Department of Environment and Conservation Comments

TABLE 1-1

SUMMARY OF MRP SITES
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

Site Name	Size (acres)	Historical Use	Dates of Use	Previous MRP Site Documentation
Pistol Range	0.5	Small arms training for military and civilian personnel involved with base security and the handling of ordnance.	1948-1994	Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005)
Trap Skeet Range #1 and #2	79	Outdoor practice for military personnel in the principles of leading, timing and firing on flying targets.	1943-Unknown (#1) 1943-2005 (#2)	#1 – Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005) #2 – Not previously assessed
Aircraft Firing Range	8.5	Used for bore sighting of fixed wing machine guns on aircraft as needed during maintenance of the planes.	1942-1945 (est.)	Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005)
Horse Stables Skeet Range #1	36	Small arms training for military and civilian personnel involved with base security.	1945-1952	Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005)
Horse Stables Skeet Range #2	42	Small arms training for military and civilian personnel involved with base security.	1945-1946	Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005)
Rifle Range	11	Small arms training for military and civilian personnel involved with base security.	1942-1965	Final Preliminary Assessment, Naval Support Activity Mid-South, Tennessee (Malcolm Pirnie, 2005)

2.0 FACILITY BACKGROUND AND PHYSICAL SETTING

2.1 GENERAL FACILITY BACKGROUND AND PHYSICAL SETTING

2.1.1 Regulatory Framework

The regulatory framework for managing Navy MRP sites is guided by federal, state, and local laws, as well as DoD and Navy regulations and guidance, and provides the necessary information for Navy-decision makers. The key legislation, policy, and guidance directing the program includes, but is not limited to, the following:

The Defense Environmental Restoration Program (DERP) established the MRP in September 2001 to identify and respond to environmental and explosive safety hazards posed by UXO, DMM, and MC at closed, transferred, or transferring ranges. MRP eligible sites include “other than operational” ranges where UXO, DMM, or MC are known or suspected and the release of these materials occurred prior to September 2002. This SI Report addresses six MRP sites at NSA Mid-South, as described in Section 1.0 of this report.

The National Defense Authorization Act (fiscal year 2002) reinforced the DoD’s 2001 DERP Management Guidance by tasking the DoD to develop and maintain an inventory of defense sites that are known or suspected to contain MEC and MC.

The 2001 DERP Management Guidance and the 2002 National Defense Authorization Act, described above, established the MRP. The DoD provides program guidance and methods for conducting a baseline inventory of defense sites containing, or potentially containing, MEC and MC. The Navy baseline inventory of sites was completed in Fiscal Year 2002 and was used to establish the sites where PAs are needed to further evaluate the potential for MEC and MC. If the findings within a PA Report indicate further investigation of a site is warranted, an SI is initiated to collect site-specific environmental data to determine whether further response actions are necessary to address MC.

The primary goal of a MRP SI is to collect an appropriate amount of data to ensure a decision for each site can be made regarding whether a RI/Feasibility Study (FS) is required, whether a site requires an immediate response, or whether the site qualifies for no further action (NFA).

2.1.2 History

According to the NSA Mid-South website (https://www.cnic.navy.mil/MidSouth/), the installation has had a dynamic and involved history, with shifting operational missions throughout the years. The original base was created in November 1917 as an Army Signal Corps Aviation School named Park Field. Its mission was to train Allied Forces pilots to serve in World War I; however, no ordnance training is recorded from this time period. It remained in full operational service until November 1918, when all training was halted due to the signing of the Armistice. Following the Armistice, the base was transformed into an airfield incorporating airmail routes for Tennessee and bordering states. The government acquired Park Field in March 1920 but airfield use waned until it became a storage area for aircraft.

Following the stock market crash of 1929, the base became a temporary refuge for unemployed workers. The Resettlement Administration of 1937 obtained the land and converted it into a tract of modern farms which served as teaching examples of correctly managed land. The Administration managed the land for the next few years until the beginning of World War II (WWII).

The onset of WWII brought the military facet back to the base through the arrival of naval aviation. In February 1942, the Navy Shore Station Development Board recommended approval for a reserve aviation base at Park Field. The Naval Reserve Aviation Base was commissioned on September 15, 1942 and served to train pilots for WWII duty. By January 1, 1943, the Naval Reserve Aviation Base was officially designated the Naval Air Station (NAS) Memphis and incorporated the current area north of Millington-Arlington Road.

Following the end of WWII, NAS Memphis was utilized almost solely by the Reserve Training Command until 1948. On April 1, 1949, the NAS Memphis mission shifted into one of management for operational and logistical requirements for all commands of the base (excluding the Naval Hospital). As a result of the BRAC, NAS Memphis was operationally closed and realigned as NSA Memphis on September 30, 1995, and subsequently renamed NSA Mid-South on October 1, 1998. Under the closure and realignment, over 1,800 acres of government property on the north side of the base were transferred to the Millington Municipal Airport Authority and the City of Millington.

Today, the mission of NSA Mid-South is to provide administrative, operational, and logistic support to tenant activities, and to uphold and operate facilities. Major tenant commands at NSA include the Navy Personnel Command, Navy Recruiting Command and Navy Manpower Analysis Center.

2.1.3 Location and Setting

NSA Mid-South is located in the City of Millington in Shelby County, Tennessee, approximately 20 miles north of Memphis, 180 miles west of Nashville, and 7 miles east of the Mississippi River. It encompasses 1,600 acres and serves as one of the largest inland Navy installations in the world. Access to NSA Mid-South is restricted, and the property is surrounded by locked secured gates, with security personnel at all entrances.

2.1.4 Current Land Use and Anticipated Future Land Use

Land use on the installation is administrative in nature, as NSA Mid-South serves as the Navy's Human Resources Center of Excellence. Its largest commands are the Navy Personnel Command, Navy Recruiting Command, and Navy Manpower Analysis Center, as well as the U.S. Army Corps of Engineers Finance Center. More than 7,500 military, civilian, and contract personnel are assigned to or work on the base. As the landlord of the installation, NSA performs the many tasks necessary for the proper functioning of a self-contained city, including housing, food service, utilities and facilities for purchase of essential food stuffs and personal items.

The facility's current land uses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds and perform other maintenance tasks such as sewer repair may be exposed to MC from former range activities. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the sites.

With the exception of Horse Stables Skeet Range #1, where existing housing has recently been demolished in preparation for construction of new housing, future land use for the six MRP sites is undetermined; however, NSA Mid-South is expected to remain an active Naval installation for the foreseeable future and the current land use for the other five sites is as follows:

- The Pistol Range is unused land surrounded by open space (Trap/Skeet Ranges #1 and #2).

- The Former Navy Rifle Range was given back to the community through BRAC in 1999, and the Navy currently leases the site from the City of Millington for use as a grazing area and stables for horses.

- The Aircraft Firing Range site is currently used as motor pool parking and equipment storage by the Army Reserve.

- The northern end of Trap/Skeet Ranges #1 and #2 is the location of a water tower, commissary, military housing, and child care facility. The middle portion is undeveloped and mostly wooded, and the southern end is mostly wooded and covered by a large landfill that is no longer in use.

- The Horse Stables Skeet Range #1 is currently vacant land.

- The Former Horse Stables Skeet Range #2 is currently used as a grazing area for nearby horse stables and three vacation rental houses on the southern portion of the site.

2.2 GENERAL FACILITY PHYSICAL/ENVIRONMENTAL CHARACTERISTICS

2.2.1 Climate

The climate in southwest Tennessee can generally be described as having mild winters and hot summers. Thunderstorms are fairly frequent in spring and summer, though winter and early spring see the most precipitation. Humidity can become uncomfortable in the summer months.

The average annual temperature is 62 degrees Fahrenheit (ºF), with an average high temperature of 41ºF in January and an average high temperature of 81ºF in July. The average low temperature in January is 33ºF, while the average low temperature in July is 72ºF. A temperature of 108ºF was recorded in the month of July as a record high and -13ºF is the record low in December. In addition, there are, on average, approximately 56 days of the year at or below 32ºF: on average, approximately 63 days of the year are above 90ºF.

The annual average precipitation recorded is 52.3 inches, with monthly average peaks as high as 5.6 inches of precipitation in the month of April and as low as 2.9 inches in October. The average annual snowfall is 5.3 inches. The annual average relative humidity is approximately 81 percent in the morning and 58 percent in the afternoon. The mean seasonal snowfall is 5.7 inches.

Prevailing winds are usually from the south/southwest with average wind speeds ranging from 7-12 miles per hour. In extreme conditions wind speeds have been recorded in excess of 80 miles per hour as a result of severe thunderstorms or tornadoes.

2.2.2 Topography

The general topography of Shelby County can be described as relatively flat alluvial plain with some gently rolling land. The topographic profile of NSA Mid-South is generally flat with a mean elevation of approximately 260 to 270 feet above mean sea level (amsl). The topography of NSA Mid-South has been altered through cut and fill for the construction of the air station, Park Field, which was originally built by the Army in 1917. Since that time, the Park Field land was purchased by the Navy and farmland surrounding the property was purchased for the expansion of the installation.

2.2.3 Regional Geology

Shelby County is situated within the north-central Mississippi Embayment, which is a trough of stratified rock sloping together or syncline going southward to form the Mississippi River. These formations are defined as the Wilcox Group, Claiborne Group, Terrace Deposits and surficial Loess. The surface deposits are windblown sediments characterized as silt, clay, silty clay and containing some sand.

The New Madrid Seismic Zone is located within the Mississippi Valley region and is known as the most earthquake prone region of the U.S. east of the Rocky Mountains. The mid-south region has been cited as the most active seismic zone: historically the most severe earthquakes in North America have been recorded in this region.

2.2.4 Soil and Vegetation

The soils of NSA Mid-South range from a very deep silt loam, well drained with moderately slow to moderate permeability, to thin layers of silt loam characterized by slow surface runoff, poor permeability and poor draining capabilities. Much of the land of NSA Mid-South has been filled or graded; therefore, subsurface soils have been disturbed for the preparation of construction.

Nine soil types (including urban land) occur on the installation. The chemical and physical properties of the soils affect their behavior and represent the natural capacity or suitability of the soil for a specific use.

Common limitations of the area soils are the presence of high water table, erosion hazard, flood hazard, saturated conditions, and a moderate permeability.

Two native soil types at the installation include the Falaya-Waverly Association and the Memphis-Granada-Loring Association. The soils of the installation have previously been classified and mapped by the United States Department of Agriculture's Soil Conservation Service.

Prior to the cultivation of timber in the area of NSA Mid-South, the land was covered by deciduous forest. This included green (Fraxinus pennsylvanica) and Carolina ash (Fraxinus caroliniana), elm (Ulmus sp.), cottonwood (Populus sp.), sugarberry (Celtis laevigata), sweetgum, and water tupelo (Nyssa aquatica), oak (Quercus sp.) and bald cypress (Taxodium distichum). Currently, a regrowth has occurred as a result of natural resource management actions taken by the installation. The majority of trees found planted include loblolly pine (Pinus taeda), shortleaf pine (Pinus echinata), and other southern yellow pine species. In addition, oak, hickory (Carya sp.) sweet gum (Liquidambar styraciflua), blackgum (Nyssa sylvatica), red maple (Acer rubrum) and winged elm (Ulmus alata) are present.

Operational requirements and mission safety have created the need to maintain large portions of the station as open grassland. These areas are maintained through periodic or annual mowing. Upland areas are dominated by native grasses including Bermuda grass (Cynodon dactylon), Johnson grass (Sorghum halepense) and other native-type grasses.

2.2.5 Hydrology

Surface water resources include streams, lakes, ponds and wetlands. The surface water features on NSA Mid-South have been engineered to control storm water runoff and prevent flooding. The most significant of these engineered controls is the Big Creek Drainage Canal, built to receive the flows from storm water culverts, collection pipes and natural drainages. The Navy Lakes are located north of the northern parcel of the installation. The two lakes are used for recreational activities for the community. In addition, the golf course north of Navy Road contains nine small ponds that provide surface water collection, as well as aesthetic attributes to the area. Two former sewage lagoons south of Navy Road previously served as the installation wastewater treatment plant.

A floodplain study for the installation was prepared by NSA Mid-South and submitted to the Federal Emergency Management Agency. Parts of NSA Mid-South are located within the 100-year floodplain. The installation contains 11 locations of delineated wetlands as defined by the U.S. Fish Wildlife Service's (USFWS) National Wetlands Inventory in 1994. These wetlands are products of the natural course of the now engineered Big Creek Drainage Canal, the former sewage lagoons, and the ponds associated with the golf course.

2.2.6 Regional Hydrogeology

A conceptual model of NSA Mid-South hydrogeology is presented in the Hydrogeology of Post-Wilcox Group Stratigraphic Units in the Area of the Naval Air Station Memphis, Near Millington, Tennessee (Kingsbury and Carmichael, 1995). The hydrogeology of NSA Mid-South is summarized below.

The two principal stratigraphic units investigated during the RCRA Facility Investigation (RFI) and underground storage tank (UST) investigations at NSA Mid-South are the loess/alluvium and fluvial deposits. The loess - eolian deposits consisting of silt, silty clay, clay, and minor amounts of sand - is the principal unit occurring at land surface throughout NSA Mid-South. Alluvium, which is restricted to stream valleys (e.g., along Big Creek), includes alleviated or reworked loess. The loess is typically 0 to 65 feet thick in the Memphis area; at NSA Mid-South it ranges from 15 to 45 feet thick. Water-bearing zones are present in the upper part of the loess (between 5 and 15 feet); however, yields are low and water quality does not meet several primary and secondary drinking water standards including turbidity, iron, and manganese.

The fluvial deposits, which underlie the loess in upland areas, consist of sand, gravel, and some clay, with thin layers of ferruginous sandstone and conglomerate at the base. This unit ranges from 0 to 100 feet thick in the Memphis area. At NSA Mid-South, it ranges from 10 to 35 feet thick and represents the most significant component of the surficial aquifer. Many shallow domestic wells in rural areas surrounding Memphis have been completed in the fluvial deposits.

Below the fluvial deposits are the Cockfield Formation and the Cook Mountain Formation of the Jackson-Upper Claiborne confining unit. The Cockfield is a heterogeneous formation of very fine silty sand interbedded with clay and silt lenses or clay with interbedded fine sand lenses. Water-bearing sands are present in the upper Cockfield Formation.

Below the Cockfield is the Cook Mountain Formation, which is predominantly clay and silty clay. It is considered a principal regional confining unit between the surficial water-bearing zones and the underlying aquifers. The lower portion of the Claiborne Group is the Memphis Sand, which is made up of sand, clay, and minor amounts of lignite. The Memphis Aquifer (in the Memphis Sand) is one of the primary drinking water aquifers in the Memphis area. Two NSA Mid-South potable water supply wells (PW-N1 and PW-N2) have drawn from the Memphis Aquifer since the 1940s.

The Wilcox Group underlies the Claiborne Group and consists of the Flour Island Formation and the Fort Pillow Formation. The Flour Island is a confining unit separating the Memphis and Fort Pillow aquifers.

The Fort Pillow Aquifer is a regional drinking water source. Three production wells at NSA Mid-South pump potable water from the Fort Pillow Aquifer: PW-N3, PW-N4, and PW-N5.

2.3 REGIONAL ECOLOGY SUMMARY

2.3.1 Endangered and Threatened Species

The Navy, through the USFWS and the Tennessee Wildlife Resource Agency, performed a rare species survey of NSA Mid-South in 1996. Specifically, the survey's objectives were: to determine the presence and relative abundance of rare species on NSA Mid-South and to locate and identify habitats critical to rare species.

During the study, mammalian, bird, amphibian, reptile, and insect surveys were completed. Additionally, all state or federally listed or candidate plant species were surveyed. Finally, all additional plant species listed by the USFWS and all plant species likely to be included on a proposed state list were surveyed.

Protected species that are known to or have the potential to inhabit NSA Mid-South are listed in the following table:

Table 3.8-1: Summary of Known or Potential Protected Species

Ecological Receptors	Species
Federal Endangered	Indiana Bat (Myotis sodalis)
	Interior Least Tern (Sterna antillarum)
	Turgid-Blossom (Epioblasma turgidula)
	Wood Stork (Myceteria Americana)
Federal Threatened	Bald Eagle (Haliaeetus leucocephalus)
State Endangered	Northern Pine Snake (Pituophis melanoleucus melanoleucus)
State Threatened	Bewicks' Wren (Thyromanes bewickii)
	Blue Sucker (Cycleptus elongates)
	Lark Sparrow (chondestes grammacus)
Other Ecological Receptors	Copper Iris (Iris fulva)
	Harbison's hawthorn (Crataegus harbinsonii)
	Turgid-Blossom (Epioblasma turgidula)
	Nodding rattlesnake-root (Prenanthes crepidinea)
	Ovate catchfly (Silene ovata)
	Red starvine (Schisandra glabra)

2.3.2 Wetlands

The installation contains 11 locations of delineated wetlands as defined by the USFWS National Wetlands Inventory in 1994. These wetlands are products of the natural course of the now engineered Big Creek Drainage Canal, the former sewage lagoons, and the ponds associated with the golf course.

2.3.3 Cultural and Archaeological Resources

A Cultural Resources Survey (CRS) was conducted in 1994 for NSA Mid-South. The CRS consisted of a review of published and archival sources, a building survey, a preliminary walkover inspection of known or suspected archaeological sites, and an evaluation of the potential eligibility of the buildings and structures. The CRS also identified potential archaeological sites and developed a model for predicting the distribution of potentially significant archaeological sites at NSA Mid-South. An updated CRS was developed in 2004 to revise the 1994 survey.

The potential for archeological findings at NSA Mid-South has been concluded to be unlikely due to the inadequate conditions for sustaining early inhabitants. The Mississippi River Valley was a washout for glaciers from the Paleo-Indian through the Early Archaic Periods. This made the land rather inhabitable for human life. The State of Tennessee Division of Archeology came to the conclusion that NSA Mid-South provided no sites eligible for the National Register of Historic Places.

Historic features found at NSA Mid-South were analyzed for eligibility for the Multiple Property National Register Nomination under the National Preservation Act and the Historical and Archeological Resources Protection Plan. The sites under consideration are the Officer's Quarters (Building 553), Senior Officer's Quarters (Buildings 550, 551, 552, 554, 591, 592, and 593) and the Warehouse Historic District (Buildings S-66, S-67, S-69 through S-73).

2.3.4 Water Resources

NSA Mid-South obtains its drinking water from five deep wells (see Section 2.2.6) and processes the water at the installation water treatment plant. The wells are capable of producing 4.5 million gallons per day (MGD) collectively, although the current demand for the installation is approximately 1.0 MGD.

3.0 GENERAL METHODOLOGY

3.1 SITE INSPECTION APPROACH

This section describes the sampling design and methods and documentation utilized during the SI field activities performed at NSA Mid-South in February/March 2010. All SI field work was conducted in accordance with the procedures and methodologies described in the UFP-SAP (Tetra Tech, 2010), which was approved by the U.S. Navy and Tennessee Department of Environment and Conservation (TDEC). The Standard Operating Procedures (SOPs) governing the field work were presented in Appendix A of the approved project-specific UFP-SAP.

3.1.1 Site Preparation Activities

3.1.1.1 Mobilization/Demobilization

Following approval of the project-specific UFP-SAP, Tetra Tech personnel began initial mobilization activities in February 2010. The field team members reviewed the approved UFP-SAP, associated appendices, and Health and Safety Plan (HASP) / Accident Prevention Plan (APP) prior to the start of project activities. In addition, the field operations leader (FOL) held a field team orientation meeting to ensure that project personnel were familiar with the scope of the field activities.

Prior to collecting any samples at the sites, the FOL and field crew arrived at NSA Mid-South and began on-site mobilization activities. Mobilization activities included the receipt of all field equipment directly from vendors. Each piece of equipment was checked upon receipt to verify that it was provided in proper working condition and calibrated. The FOL also served as the Site Safety Officer (SSO) responsible for reviewing the HASP with field team members and subcontractors. Upon completion of all SI activities, work areas were thoroughly cleaned, trash was bagged and disposed in the trash dumpster outside the field office, the FOL shipped the equipment back to the third party vendors, and the field crew demobilized from the site.

3.1.1.2 Utility Clearance

The NSA Mid-South Public Works Department was notified of the proposed soil sampling activities on the four E,RN sites two weeks ahead of commencement of sampling activities. They also responded to FOL concerns on an individual site basis during mobilization, providing additional locating and utility marking services as needed. Tennessee OneCall marked all utilities and provided utility clearances for the two BRAC sites between February 16, 2010 and March 3, 2010.

3.1.1.3 Detector-Aided Non-Intrusive Anomaly Avoidance Activities

A PA conducted in 2005 found no historical documentation indicating MEC at NSA Mid-South. However, during a site visit on September 15, 2008, 40-millimeter (mm) training rounds were identified at the base of the containment berm at the former Pistol Range. The NSA Mid-South Weapons Officer identified the items as 40-mm riot control training rounds. Since there was no indication as to how or why those 40-mm rounds came to be present, or what other items may have been fired at the range, it was presumed that there was a slight potential to encounter MEC. Based on this presumption, an Explosives Safety Submission (ESS) Determination Request was submitted to Naval Ordnance Safety and Security Activity (NOSSA) indicating the likelihood of encountering MEC and/or Material Potentially Presenting an Explosive Hazard (MPPEH) during the SI to be low. NOSSA determined that an ESS was not required for sampling activities at any of the MRP sites with the condition that a UXO Technician provided anomaly avoidance support during sample collection at the Pistol Range. A Schoenstedt GA-52Cx magnetic locator was utilized to provide the anomaly avoidance service.

3.1.1.4 Vegetation Management

The amount of vegetation clearing required at each of the six MRP sites to facilitate sampling activities varied. A brief discussion on vegetation clearing requirements is discussed in each of the six site-specific sections of this report.

3.1.2 Field Investigation Methods

The chosen sampling strategies employed a judgmental design based on a sampling grid or linear sampling transects to target those areas most likely to be contaminated according to the CSMs summarized in Worksheet #10 of the UFP-SAP. This strategy attempts to ensure that a potential environmental problem is not overlooked. Samples were also collected from areas outside of those expected to be contaminated to provide the spatial coverage needed to validate the sampling design and CSMs. If the CSMs are correct, the areas outside of those expected to be contaminated will exhibit significantly lower, and perhaps even non-detectable, concentrations of MC than in the targeted contamination areas. Surface soil sample collection was performed using hand auger and soil probe sampling techniques. Field conditions did not necessitate the use of Direct Push Technology for sample collection. Details regarding soil sampling equipment and procedures are included in SOP-05 and SOP-06, located in Appendix A of the UFP-SAP.

All soil borings were advanced to a maximum depth of 1 foot bgs, and one soil sample was collected from each boring and analyzed for lead in the field using XRF equipment. Each sample consisted of soil collected across the entire 0- to 1-foot depth interval.

Some actual sample locations varied from the proposed locations based on field conditions as observed during an initial site walkover by the FOL. The FOL biased the actual sampling locations toward areas most likely to be contaminated based on professional judgment and the initial site walkover. Professional judgment accounted for the topography of the site and the FOL's understanding of site operations. Global positioning system (GPS) measurements were taken at each individual sample point to allow for possible resampling or for use as a guide in any subsequent remedial action. During the processing of samples for XRF field analysis, any observed lead bullets, bullet fragments, or lead shot were to be removed from the sample so as not to bias the sample with a high lead result; however, none were observed at any of the sites. The sampling objective was to determine metals concentrations in soil as a result of potential leaching of contaminants from the bullets or shot.

3.1.2.1 Hand Auger

During this field event, composite firing line soil samples, and select step-out soil samples were collected with hand augers in accordance with SOP-10 (Appendix B of UFP-SAP).

The hand auger system consisted of a stainless steel bucket bit (i.e., cylinders 6.5-inches long and 2-inches in diameter), a 3- to 4-foot extension rod, and a cross handle. A decontaminated bucket bit was attached onto a clean extension rod, and then onto the cross handle. The area to be sampled was cleared of any surface debris (i.e., leaves, twigs). The hand auger was turned into the ground and the sample material was removed and placed into a Ziploc® bag until reaching the final desired depth. Larger debris such as twigs, roots, or stones was removed from the recovered soil. The sample ID, date, time, and depth were marked on the bag with an indelible marker. Required information was completed on the Soil Sample Log Sheet and the chain-of-custody form. The soil probe was decontaminated between discrete sample locations in accordance with SOP-04 and as explained in Section 3.1.7.

3.1.2.2 Soil Probe

During this field event, discrete soil samples were collected with 7/8" diameter soil probes in accordance with SOP-05 (Soil Coring and Sampling Using Hand Augering Techniques).

A decontaminated soil probe was used for each sample. The area to be sampled was cleared of any surface debris (e.g., leaves, twigs). The soil probe was pushed into the ground and the sample material

was removed and placed into a Ziploc® bag until reaching the final desired depth. Larger debris such as twigs, roots, or stones was removed from the recovered soil. The sample ID, date, and time, were marked on the bag with an indelible marker. Required information was completed on the Soil Sample Log Sheet and the chain-of-custody form. The hand auger was decontaminated between discrete sample locations in accordance with SOP-04 and as explained in Section 3.1.7

3.1.2.3 XRF

Lead is the major contaminant of concern at all sites and was used as an indicator of the potential presence of additional inorganic contaminants. FBL results for select XRF samples were used to establish a correlation between field XRF results and laboratory data for lead so that XRF values could be converted to equivalent FBL lead concentrations, if the correlation coefficient were greater than or equal to 0.65 and less than or equal to 1.0.

Samples collected at all of the MRP sites, except the eastern portion of the Aircraft Firing Range, underwent screening in the field utilizing XRF in accordance with SOP-13. The eastern portion of the Aircraft Firing Range is covered by an asphalt parking lot. Delays were experienced in gaining site access for a coring subcontractor. Therefore, all of the samples collected from that portion of the site were submitted for fixed-base laboratory analysis in order to ensure adherence to the overall project schedule.

Prior to analyzing samples, the XRF was standardized in accordance with manufacturer instructions, and three standards with known lead concentrations [National Institute of Standards and Technology (NIST) standards] were analyzed to verify the accuracy of the instrument and to assess the stability and consistency of the results. Sample processing prior to field XRF analysis consisted of homogenizing each soil sample within a large Ziploc® bag, removing rocks and other debris, placing the sample in a small glass bowl, drying the sample in an electric convection oven, and then using a wooden rolling pin over the bagged sample material to eliminate clods and produce a fine uniform particle size. Each sample was then transferred to a smaller Ziploc® bag from which three separate XRF measurements were made, one from each end and one from the center of the sample bag. The average lead concentration of the three readings was used as the final XRF lead concentration for the sample location.

To better delineate the potential horizontal and vertical extent of lead contamination, additional vertical and horizontal step out samples were collected around original sample locations at the Pistol Range and Trap Skeet Range #1 and #2 where concentrations were greater than the XRF PAL for lead of 280 milligrams per kilogram (mg/kg). No more than two additional sample locations were added at each

original sample location. Soil XRF lead concentrations less than the 280 mg/kg PAL were not expected to exceed the 400 mg/kg United States Environmental Protection Agency (USEPA) residential soil action level based on recent experiences with field XRF analyses at other small arms ranges.

A minimum of 20 XRF samples from each site were sent to the FBL for confirmation lead analyses and were selected to represent the full range of lead concentrations in order to facilitate the correlation analysis. Emphasis was placed on samples with field XRF lead concentrations greater than 280 mg/kg, but some samples were selected from the low and high ends of the concentration range where available. Soil samples sent to the FBL for lead analysis were composed of the soil in the smaller Ziploc®, supplemented by additional dried sample, if necessary. Site specific factors contributing to FBL sample selection are explained in the section for each site.

A general discussion of the correlation analyses is presented in Section 3.3, and the site-specific correlation analyses are discussed in Sections 4.5, 5.5, 6.5, 7.5, 8.5, and 9.5, with supporting documentation included in Appendix C.

3.1.3 Site Sampling Operations

At all sample locations, the sample material was placed in a Ziploc® bag, that was marked with the sample location ID, date, and time. The samples were then thoroughly mixed within the baggie. The homogenized samples were transferred back to the field office where a portion of every sample was processed and underwent XRF screening in accordance with SOP 13. For select samples, an additional portion was placed in the appropriate sample jar and shipped to the FBL for site-specific analysis. Unused portions of a collected sample were stored in an IDW drum for later disposal.

3.1.4 Field Sample Documentation

All field observations including visual observation of lithology, pieces of clay targets, etc. were recorded on the sample log sheets and in daily field records. For samples undergoing field XRF analysis, any bullets, bullet fragments, or lead shot observed in a sample were to be removed prior to analysis because they do not reflect contamination that has migrated to soil; however, none were observed.

The sample numbering scheme was in accordance with SOP-02 (Sample Identification and Nomenclature) as found in Appendix A of the UFP-SAP. Sample documentation consisted of the completion of sample log sheets, chain-of-custody forms, field logbooks, and health and safety documentation. Field documentation was completed as per SOP-03. The sample log sheets contain information such as sample location and sample ID number, container requirements and analyses

performed, and sample type, time, and date. Any unusual circumstances encountered during sample collection were noted on the form. Chain-of-custody forms were used to track each sample from collection in the field to receipt and analysis at the FBL.

Sample labeling was in accordance with SOP-01. Soil sample log sheets for the samples collected during this SI are included in Appendix A and contain the following information, as appropriate for each sample:

- Sample location and sample ID
- Name of person(s) collecting the sample
- Sample collection method
- Sample depth, date, and time
- Brief soil description

3.1.5 Sample Handling, Packaging, and Shipping

Sample containers, preservation, packaging, and shipping were in accordance with SOP-11. All sample containers shipped to the FBL were sealed in plastic Ziploc® bags. The sample containers were then placed in a cooler lined with a large plastic garbage bag and covered with ice. A temperature blank was placed in each cooler prior to shipment. The plastic garbage bag was sealed with a knot, and the chain-of-custody form was sealed in a Ziploc® bag and taped to the inside of the cooler lid. A signed and dated custody seal was applied to each end of the cooler and then covered with strapping tape to provide a tamper-evident seal. A Federal Express® airbill was applied to the shipping cooler. Tetra Tech maintained custody of the samples until they were relinquished to Federal Express®. The Federal Express® tracking number (airbill number) was recorded on each chain-of-custody form, and the sender's copy of the airbill was maintained for shipment tracking, if needed. All samples were shipped to the FBL for overnight delivery and were received within sample holding times and temperatures.

Laboratory sample custody procedures (receipt of samples, archiving, and disposal) were in accordance with Empirical Laboratories and Centauri Labs SOPs.

3.1.6 Quality Control Samples

Quality assurance/quality control (QA/QC) samples were generated and collected during sampling activities to monitor both field and laboratory procedures, in accordance with the approved UFP-SAP (Tetra Tech, 2010). QC for the XRF analyzer is detailed in SOP-13. QA/QC samples included field

duplicates, equipment rinsate blanks, and temperature blanks. Field duplicate results are presented in Appendix C of this document. The following types of QA/QC samples were collected during the SI:

- Field Duplicates consisted of a single sample split into two portions. Field duplicates were analyzed at the rate of 1 in 20 during this field investigation to assess the overall precision of the sampling and analysis program.

- Equipment Rinsate Blanks were obtained under representative field conditions by collecting the rinse water generated by running analyte-free water through or over sample collection equipment after decontamination and before use. Equipment rinsate blanks were analyzed for the same chemical constituents as the associated environmental samples.

- Source Water Blanks were obtained under representative field conditions by collecting the tap water used for decontamination of hand auger buckets and soil probes. Source water blanks were analyzed for the same chemical constituents as the associated environmental samples.

- Temperature Blanks were used to determine if samples were adequately cooled during shipment. One temperature blank was submitted to the laboratory in each cooler, and the temperature was checked upon receipt at the laboratory.

3.1.7 GPS

Prior to mobilization for the field effort, all Geographic Information System (GIS) sample location coordinates were uploaded into a hand-held Trimble GeoXH GPS unit capable of sub-meter accuracy. The GPS was then used in the field to locate all sampling points prior to sampling. The GPS coordinate system was set up so all data points were collected in North American Datum (NAD) of 1983 Tennessee State Plane coordinates in US survey feet. The field crew also used the GPS to obtain coordinates for the new horizontal step out sample locations and for those samples that had their original locations changed due to field conditions (e.g., obstructions such as trees or sidewalks).

3.1.8 Decontamination Procedures

Reusable (non-dedicated) sampling equipment (e.g., hand augers, soil probes) was decontaminated prior to beginning sampling and between sample locations in accordance with SOP-04 and per the following process:

Three 5-gallon buckets, a scrub brush, and deionized (DI) water were utilized in the decontamination process. Two buckets were filled with approximately 2 to 3 gallons of clean tap water. One bucket then received a small amount of phosphate-free detergent (Liqui-Nox®) which was mixed into the water. Prior to sample collection, and between sample locations, the soil probes and auger bucket bits were placed in the clean water and scrubbed to remove debris, then placed in the water/detergent mix and scrubbed again. The augers and soil probes were then transferred to the third bucket for a final rinse with DI water. If the auger or soil probe was not immediately used, it was wrapped in clean aluminum foil for storage and transportation.

At the conclusion of SI field activities, the FOL completed a final decontamination of all equipment, which was then shipped back to the appropriate vendor(s).

3.1.9 Investigation-Derived Waste

Investigation-derived waste (IDW) was generated during the SIs. IDW included personal protective equipment (PPE) (e.g., sampling gloves), excess soil, and decontamination water. PPE was properly bagged and disposed of in NSA Mid-South dumpsters. Excess soil from samples was collected and placed in a steel drum. A composite sample of the IDW (soil) was collected and submitted for FBL analysis of lead by the Toxicity Characteristic Leaching Procedure (TCLP). Analytical results indicated that the drummed soil did not exceed the TCLP criteria for lead and the NSA Mid-South Environmental Department assumed responsibility for the off-site disposal of the soil. Per NSA Mid-South directive, decontamination liquids were collected and drummed (in accordance with SOP-09), and the analytical results provided to the City of Millington for review and acceptance prior to discharge to the oil/water separator at Building S-75 and ultimately, the sanitary sewer.

3.1.10 Record Keeping

SI records including daily log book entries, sample log sheets, and chain-of-custody forms were completed in accordance with SOP-03. Information recorded daily included field activities, weather conditions, identity and arrival and departure times of personnel, management issues, etc. Copies of sample log sheets are included in Appendix A.

3.2 ANALYTICAL METHODOLOGY

This section provides a general description of the methods used to evaluate the analytical data generated during this SI. The outcomes of these data evaluations are discussed in the site-specific sections of this SI Report.

3.2.1 Data Methods

Chemical analyses for lead and PAHs were performed by Empirical Laboratories in Nashville, Tennessee and chemical analyses for NG were performed by Centauri Labs (formerly, GPL Laboratories). Empirical Laboratories and Centauri Labs are NAVFAC Engineering Service Center (NFESC)-approved and National Environmental Laboratory Accreditation Program (NELAP)-accredited.

3.2.2 Data Evaluation

3.2.2.1 Data Quality Review

This section describes the data review processes used to determine whether analytical laboratory data were of acceptable technical quality for use in decision making. The review began with data validation, which is a comparison of data quality indicators (DQIs) to prescribed acceptance criteria. The DQIs used are measures to assess the bias and precision of the analytical calibrations and sample analyses. The output of this review was a set of alphabetic flags such as “U,” “J,” “R,” or combinations thereof that may have been assigned to individual results based on the validation effort. These flags were used to infer the general quality of the data. Also evaluated were the measures of data completeness, sensitivity, comparability and representativeness.

3.2.2.2 Data Validation Process

Full data validation was conducted and included evaluations of data completeness, holding time compliance, calibrations, field quality control and laboratory-generated blanks, surrogate spike recoveries, laboratory control sample recoveries, matrix spike recoveries, field duplicate precision, detection limits, and compound quantitation for the data collected during the SI.

Assignment of data qualification flags conformed to USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2008), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (USEPA, 2004) guidelines to the greatest extent practicable for non-Contract Laboratory Program Data. Data validation specifications require that various data qualifiers be assigned when a deficiency is detected or when a result is less than its detection limit. If no qualifier is assigned to a result that has been validated, the data user is assured that no technical deficiencies were identified during validation. The qualification flags used are defined as follows:

- "U" – Indicates that the chemical was not detected at the numerical detection limit (sample-specific detection limit) noted. Non-detected results from the laboratory are reported in this manner. This qualifier is also added to a positive result (reported by the laboratory) if the detected concentration is determined to be attributable to contamination introduced during field sampling or laboratory analysis.

- "UJ" – Indicates that the chemical was not detected; however, the detection limit (sample-specific detection limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise.

- "J" – Indicates that the chemical was detected; however, the associated numerical result is not a precise representation of the concentration that is actually present in the sample. The laboratory reported concentration is considered to be an estimate of the true concentration.

- "UR" – Indicates that the chemical may or may not be present. The non-detected analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies (e.g., holding time missed by two times the specified time limit, severe calibration non-compliance, or extremely low analyte recovery).

- "R" – Indicates that the chemical may or may not be present. The positive analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies.

A "U" qualifier does not necessarily indicate that a data deficiency exists because all non-detect values are flagged with the "U" qualifier regardless of whether a quality deficiency has been detected. The other preceding data qualifiers may be categorized as indicative of major or minor problems. Major problems are defined as issues that result in the rejection of data and qualification with "UR" or "R" qualifiers. These data are considered invalid and are not used for decision-making purposes unless they are used in a qualitative way and their use is justified and documented. Minor problems are defined as issues resulting in the estimation of data and qualification with "U", "J", and "UJ" qualifiers. Estimated analytical results are considered to be suitable for decision-making purposes unless the data use requirements are very stringent and the qualifier indicates a deficiency that is incompatible with the intended data use.

3.2.2.3 Data Validation Outputs

After data were validated, a list was developed of non-conformities requiring data qualifier flags used to alert the data user to inaccurate or imprecise data. The reviewer then prepared a technical memorandum

presenting qualification of the data, if necessary, and the rationale for making such qualifications (see Appendix C). The net result was a data package that had been carefully reviewed for its adherence to prescribed technical requirements. Pertinent quality estimates are summarized in a more quantitative manner in the following section.

3.2.2.4 Data Quality Review

DQIs are parameters monitored to help establish the quality of data generated during an investigation. Some of the DQIs are generated from analysis of field samples (e.g., field duplicates) and some are generated from the analysis of laboratory samples (e.g., laboratory duplicates). Individually, field and laboratory DQIs provide measures of the performance of the respective investigative operations (field or laboratory). During data validation, individual QC results were evaluated. If individual QC results were acceptable, no validation flag was assigned to an analytical result; otherwise, a flag indicating the type of QC deficiency was assigned to the result.

3.2.2.5 Completeness

Completeness is a measure of the number of valid samples or measurements that are available relative to the number of samples or measurements that were intended to be generated. For this project, completeness was measured on two different bases:

- Samples collected - measure of the usable samples collected compared to those intended to be collected.

- Laboratory measurements - measure of the amount of usable valid laboratory measurements per matrix for each target analyte.

Usable valid samples (or results) were those judged, after data assessment, to represent the sampling populations and to have not been disqualified for use through data validation or additional data review. Completeness was determined using the following equation:

$$\%C = \frac{V}{T} \times 100$$

where %C = percent completeness
V = number of samples (or results) determined to be valid
T = total number of planned samples (or results)

3.2.2.6 Sensitivity

Sensitivity is a comparison of the PALs to the laboratory quantitation limits (LQLs) and method detection limits (MDLs) listed in Worksheet #15 in the UFP-SAP

3.2.2.7 Accuracy

Accuracy requirements for field measurements are typically ensured through control over sample collection and handling and through routine instrument calibration. Field accuracies were monitored through the use of blanks to detect cross-contamination and by monitoring adherence to procedures that prevent sample contamination or degradation. One equipment rinsate blank per site was collected during the SI to assess cross-contamination via sample collection equipment. The blank was obtained under representative field conditions by collecting the rinse water generated by running analyte-free water through sample collection equipment after decontamination and before use. Two source water blanks were also collected of the tap water used during equipment decontamination – one from the north side of the installation and one from the south side. The rinsate and source water blanks were analyzed for the same chemical constituents as the associated environmental samples.

Accuracy in the laboratory was measured through the comparison of a spiked sample or laboratory control sample (LCS) result to a known or calculated value and was expressed as a percent recovery (%R). It was also assessed by monitoring the analytical recovery of select surrogate compounds added to samples that are analyzed by organic chromatographic methods. LCSs were used to assess the accuracy of laboratory operations with minimal sample matrix effects. Matrix spike (MS) and surrogate compound analyses measure the combined accuracy effects of the sample matrix, sample preparation, and sample measurement. LCS and MS analyses were performed at a frequency of 1 per 20 associated samples of like matrix. Laboratory accuracy was assessed by comparing calculated %R values to accuracy control limits specified by the laboratory using SW-846 methods.

Percent recovery is calculated using the following equation:

$$\%R = \frac{Ss - So}{S} \times 100$$

where	%R	=	percent recovery
	Ss	=	result of spiked sample
	So	=	result of non-spiked sample
	S	=	concentration of spiked amount.

3.2.2.8 Precision

Precision is a measure of the degree to which two or more measurements are in agreement and describes the reproducibility of measurements of the same parameter for samples analyzed under similar conditions. Precision for chemical parameters is expressed as a Relative Percent Difference (RPD), which is defined as the ratio of the difference to the mean for the two values being evaluated. RPDs are used to evaluate both field and laboratory duplicate precision and are calculated as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where RPD = relative percent difference
V1, V2 = two results obtained by analyzing duplicate samples

The precision estimates obtained from duplicate field samples encompass the combined uncertainty associated with sample collection, homogenization, splitting, handling, laboratory and field storage (as applicable), preparation for analysis, and analysis. In contrast, precision estimates obtained from analyzing duplicate laboratory samples incorporate only homogenization, subsampling, preparation for analysis, laboratory storage (if applicable), and analysis uncertainties.

3.2.2.9 Comparability

Comparability is defined as the confidence with which one data set can be compared to another (e.g., among sampling points and among sampling events). Comparability was achieved by using standardized sampling and analysis methods and standardized data reporting formats. Comparability of field data was insured by following the UFP-SAP (Tetra Tech, 2010), and comparability of laboratory measurements was achieved primarily through the use and documentation of standard sampling and analytical methods. Results were reported in units that ensured comparability with previous data and with current state and federal standards and guidelines. Comparability of laboratory measurements was assessed primarily through the use of QC samples and through adherence to the laboratory's QA plans.

3.2.2.10 Representativeness

Representativeness is an expression of the degree to which data accurately and precisely depict the actual characteristics of a population or environmental condition existing at the site. The UFP-SAP (Tetra Tech, 2010) and use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would accurately represent actual site conditions.

3.3 CORRELATION BETWEEN XRF AND FIXED-BASE LABORATORY

Correlation Analysis

From samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and R squared value were calculated. The Pearson Correlation is a measure of the strength of the linear relationship between two or more variables with a range of -1 to +1. The value of -1 represents a perfect negative correlation (i.e., as one variable decreases the other increases proportionally); whereas, a value of +1 represents a perfect positive correlation (i.e., as one variable increases the other increases proportionally). A value of 0 represents a lack of correlation. The correlation coefficient must be greater than or equal to 0.65 and less than or equal to 1.00 to convert field XRF values into equivalent laboratory lead concentrations, per UFP-SAP Worksheet #11.

The site-specific correlation analysis results are presented in Sections 4.5, 5.5, 6.5, 7.5, 8.5, and 9.5.

3.4 DATA COMPARISON TO PROJECT ACTION LIMITS

The PALs used to evaluate the chemical concentrations detected in site media and to decide whether further site investigation or remedial action is warranted are listed in Worksheet #15 of the UFP-SAP.

If individual MC analytes (lead, PAHs, or NG) are detected in any soil sample at concentrations that exceed PALs, then the BCT will recommend the appropriate follow-on action(s) for that site. If MC analyte concentrations in soil samples do not exceed PALs in all samples, then NFA for MC will be recommended for that particular site.

Detailed discussions regarding site-specific PAL evaluations are presented in Sections 4.0 through 9.0 of this report.

4.0 PISTOL RANGE (UXO 1)

4.1 SITE BACKGROUND

4.1.1 Historical Site Information and Current Land Use

The current conditions of the Pistol Range are shown on Figure 4-1.

The Pistol Range consists of approximately 0.5 acres from the firing line to a containment berm located behind the former target areas and is located near the southern border of the installation, east of Singleton Avenue, off the Perimeter Security Patrol Road. The Pistol Range was constructed after 1948 at the former location of a skeet range and was in use until 1994.

Property records indicate that the range, when active, consisted of a berm, shooting stations, targets, and an armory. The firing line maintained 16 firing positions. This included five target lines, one each at 7 yards, 15 yards, 25 yards, 1,000 inches and 50 yards. According to information presented in the PA, the targets present at the Pistol Range were made of paper and secured to aboveground posts. A U-shaped berm, approximately 10-15 feet tall, encompassed the area for two hundred feet behind and on both sides of the target lines (a total of approximately 600 linear feet).

A visual inspection conducted during the PA identified expended ammunition on the surface of the berm. As did a site visit conducted by Tetra Tech and Navy personnel on September 15, 2008. Also identified at the base of the containment berm were two 40-mm riot control training rounds. Subsequent discussions with NAVFAC Midwest and NSA Mid-South personnel could not determine how or why the 40-mm rounds were present. During the September 2008 site visit, only three of the five historic target lines were readily identifiable.

4.1.2 Munitions Used

Munitions use was limited to small arms ammunition, reportedly including 0.22-caliber, 0.30-caliber, 9 mm, 0.38-caliber, and 0.45-caliber ammunition. The Pistol Range was used only for small arms training; there is no known historical evidence of explosives use at the site. With the exception of the 40-mm training rounds discussed in Section 4.1.1, no evidence of MEC has been observed on the surface at the site and the presence of MEC is not suspected.

4.1.3 Munitions Constituents

Lead is the primary inorganic MC of concern because it was the primary component of the spent munitions used during operation of each small arms range; and because of its documented toxicity to both human and ecological receptors. The other inorganic MCs associated with the ammunition used at the firing ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller fractions than lead and are accepted to be historically co-located with the lead. Therefore, the BCT decided that lead would be the only inorganic MC investigated under this SI (see Worksheet #9 of the UFP-SAP). NG, as a constituent of smokeless powder and ejected unburned propellants, is another MC associated with firing ranges; and is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points.

4.2 SITE FIELD WORK

4.2.1 Site Field Activities

Initial soil sampling at the Pistol Range was limited to 0- to 1-foot bgs because penetration depths were limited to surface soil and because lead typically has limited mobility in soil and would be expected to remain at the surface. All samples were analyzed for lead in the field using XRF and 28 of the 59 samples were submitted to the FBL for definitive lead analysis. A UXO Technician provided anomaly avoidance support at the Pistol Range, utilizing a Schoenstedt™ GA-52Cx magnetic locator. No MEC was detected during the SI at the Pistol Range.

Surface soil sample locations were selected based on a bias towards areas that were believed to be most likely contaminated by past operations at the site. Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the North American Datum (NAD) 83 Tennessee State Plane coordinate system. Each sample location was marked by a brightly colored pin flag bearing the sample location ID number. Vertical step-out sample locations were collected from the same location as the original sample and did not require resurveying. Horizontal step-out sample locations were logged with the GPS and marked with brightly colored pin flags bearing the sample location ID number.

The Pistol Range consisted of primarily cleared land with only the berm containing small trees with sparse undergrowth; therefore, limited vegetation clearance was required. Grass, leaves, and small underbrush around the sampling points were removed using shovels to facilitate sampling.

4.2.2 Work Plan Deviations

There were no deviations from the UFP-SAP for the former Pistol Range.

4.2.3 Field Data Collection

Forty-three surface soil samples (including QA/QC duplicates) were collected from 41 sample locations during the SI at the Pistol Range. Table 4-1 lists the samples that were collected at each location. A 0- to 1-foot bgs sample was collected at each location via soil probe. All samples underwent field XRF analysis for lead. Sixteen samples were identified as exceeding the XRF PAL for lead (280 mg/kg, or 70 percent of the FBL PAL of 400 mg/kg). As a result, 16 step-out samples (6 vertical and 10 horizontal) were collected and also underwent field XRF analysis for lead. A 0- to 1-foot bgs sample was collected at each horizontal step-out location and a 1- to 2-foot bgs sample was collected at each vertical step-out location. See Figure 4-1 for the sampling locations and XRF detections measured at the Pistol Range. Soil sample log sheets are included on a disc in Appendix A of this SI report.

4.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 4.2.3, a total of 28 samples were selected from the initial and step-out samples for lead only analysis at the FBL. Table 4-1 identifies the specific samples that were selected for laboratory analysis and Table 4-2 presents a comparison between the XRF and FBL concentrations for the collected samples. The FOL selected one surface soil sample to submit to the FBL for pH, TOC, and CEC analysis, and one composite surface soil sample (comprised of 10 grab samples) along the firing line was submitted for FBL NG and lead analyses.

The results of the soil samples collected at the Pistol Range are summarized as follows:

- Firing Line – One composite sample was collected from the 0- to 1-foot interval and was non-detect for NG and contained lead at a concentration that did not exceed the PAL of 400 mg/kg.

- Target Areas – Twelve discrete samples were collected from the 0- to 1-foot interval and did not exceed either the XRF or FBL PAL for lead (280 mg/kg and 400 mg/kg, respectively).

- Berm –

  - Forty-two initial samples were collected from the 0- to 1-foot interval, with 23 exceeding the XRF PAL of 280 mg/kg with average XRF concentrations ranging from 281 mg/kg to 1,693 mg/kg.

  - Ten horizontal step-out samples were collected from the 0- to 1-foot interval, with all 10 exceeding the XRF PAL of 280 m/kg with average XRF concentrations ranging from 307 mg/kg to 2,197 mg/kg.

  - Six vertical step-out samples were collected from the 1- to 2-foot interval, with two exceeding the XRF PAL of 280 mg/kg with average XRF concentrations of 296 mg/kg and 443 mg/kg.

  - Twenty-eight XRF samples collected from the 0- to 1-foot interval were submitted for FBL analysis of lead, with 13 exceeding the FBL PAL of 400 mg/kg with concentrations ranging from 425 mg/kg to 21,100 mg/kg.

Table 4-3 presents the positive detections for the samples submitted for FBL analysis of lead; as well as, the corresponding XRF concentration, and the pH, TOC and CEC data for the Pistol Range. Figure 4-1 presents the XRF and FBL lead results for the Pistol Range.

4.4 DATA PRESENTATION/DATA USABILITY

4.4.1 Data Validation Process

All FBL data was validated following USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (2004) guidelines. Validated analytical data is presented in Appendix B.

No data collected for the Pistol Range were rejected. All data for the Pistol Range are considered valid for their intended purpose.

4.4.2 Data Quality Review

4.4.2.1 Completeness

The FBL analytical completeness for the Pistol Range was 100 percent.

4.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Pistol Range was satisfactory to meet DQOs presented in the UFP-SAP.

4.4.2.3 Field and Laboratory Accuracy

Lead was qualified for calibration noncompliance in several soil samples from the Pistol Range. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

4.4.2.4 Field and Laboratory Precision

There were no quality control deficiencies noted for field or FBL precision for the Pistol Range data.

4.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Pistol Range data.

4.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all reported data are adequately representative of site conditions and intended populations for the Pistol Range.

4.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the 28 samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate if a correlation exists between the XRF and FBL results for lead. To evaluate this correlation, a Pearson Correlation and R squared value were calculated, as discussed in Section 3.3. Of the 28 samples submitted for FBL analysis, the three samples with the highest FBL concentrations had corresponding XRF concentrations less than the XRF PAL and within the ranges of the other samples. As a result, the correlation between the FBL lead concentrations and the field XRF average lead concentrations at the Pistol Range was calculated to be -0.1, indicating a weak correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Pistol Range was 0.011. An R Squared value near zero is considered to indicate a very weak relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given a R-squared value of 0.011, and a correlation between the XRF and FBL of -0.1, a predictive formula for estimating FBL lead concentrations from samples by XRF cannot be determined. As outlined in the UFP-SAP, the correlation coefficient must be between 0.65 and 1.00 to convert field XRF data into equivalent laboratory lead concentrations. The regression analysis for the Pistol Range is included in Appendix C.1.

4.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 4-3 summarizes the positive FBL lead detections and compares them to the PAL for lead (400 mg/kg). NG was not detected in the sample collected at the firing line, and is therefore not included in the table. The exceedances of the FBL PAL for lead were generally localized around the areas in front, on top, and on the backside of the backstop portion of the berm. The exceedances of the FBL PAL were also generally confined to the 0- to 1-foot interval with XRF concentrations showing reductions in the lead present over the 1- to 2- foot intervals at the same locations. Figure 4-1 presents the XRF and FBL lead detections in soil at the Pistol Range.

4.7 UPDATED CONCEPTUAL SITE MODEL

The SI results indicate the MC (lead) remaining at the site is located in front, on top, and on the back side of the backstop portion of the berm, and not at the firing lines or target areas. Lead contamination is primarily retained in surface soil (0 to 1 feet bgs). Precipitation infiltration could theoretically mobilize lead into subsurface soil and shallow groundwater. Soil pH, TOC and CEC affect the mobility of lead in soil. In general, high TOC combined with high CEC would increase adsorption of lead to soil, and when pH conditions are near neutral (6 to 8 S.U.) there is very limited aqueous solubility for lead compounds in soil. The greatest solubilities of lead compounds in soil have been shown to occur at more acidic (pH < 4) and more alkaline (pH > 11) conditions.

A sample from the Pistol Range contained 22,000 mg/kg (or 2.2 percent) TOC and had a measured CEC of 24 milliequivalents per 100 grams. The TOC value is consistent with the average organic content for surface soils in the central U.S. which typically average from 1% to 3.5% organic matter. The CEC value is typical for higher range silt loam soils and moderate clay loam soils, but is still regarded to be on the lower end of the CEC scale, and indicates lower adsorptive capacities. The soil pH was 7.28 S.U. Given the near neutral soil pH, the discontinuous nature of water in the loess/alluvium, and the depth to fluvial deposits groundwater, significant migration to groundwater is not expected. So, the primary migration

pathway is runoff from precipitation, which could account for lead concentrations detected in front of and on the back side of the berm. Significant overland migration of lead is not expected due to the flat terrain surrounding the berm. The high concentrations of lead detected on the east side of the berm are more likely to be associated with the shot fall area of Trap and Skeet Ranges #1 and #2 (AOC 1) which encompasses the former Pistol Range on the north, south and east.

Current human receptors include Navy personnel, Navy-escorted visitors (e.g., contractors conducting environmental or ecological surveys), and trespassers (e.g., authorized personnel who may wander outside of designated areas). The facility's current land uses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds may be exposed to MC from former range activities. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the sites.

The exposure source remains fragments from small arms munitions and metals bound to the soil that may present a risk to receptors. Receptors would most likely be trespassers with exposure by ingestion, dermal contact, and inhalation of the surface soil. Potentially complete exposure pathways exist for human receptors under both current and hypothetical future land uses.

4.8 CONCLUSIONS

The SI results show that lead at this site is present in surface soil on the berm at concentrations that could present potential risks to human receptors. Thirteen of 28 FBL soil sample results and 23 of 42 XRF soil sample results displayed lead concentrations above the applicable PALs. NG was not detected above FBL method detection limits in the sample collected from the firing line.

The exceedances of the FBL PAL for lead at the Pistol Range noted in front of the berm are typical; as fired munitions striking the berm would be expected to fall down the face of the berm and collect on the ground surface and could potentially be deposited there from surface water runoff. The exceedances of the FBL PAL on the top of the berm may be the result of periodic reshaping of the berm and pushing soil from the face up to the top. The FBL exceedances of the FBL PAL on the backside of the berm may be the result of surface runoff migration from the impacted areas on the top of the berm; as well as, from the Trap Skeet Range #1 and #2 which surrounds the Pistol Range.

The Pearson Correlation and R squared value that were calculated both indicated a weak correlation, between the XRF and FBL results; however, predicting areas of contamination in and around the Pistol Range berm is not necessary, due to following:

- The area surrounding the Pistol Range is part of a well-defined site (Trap Skeet Ranges #1 and #2); and
- Surface soil contamination requiring remediation is expected on small arms range berms.

4.9 RECOMMENDATIONS

Based upon the XRF results from the vertical step-out samples, the impacted soil present exceeding the PAL of 400 mg/kg appears to be generally limited to the first foot of soil on the berm. However, it is possible the berm has multiple clean and contaminated layers, depending on historical practices. Therefore, it is recommended a work plan be developed for remediation of the berm in 1- to 2-foot lifts with XRF screening between each lift. Removed soil would be segregated into clean and contaminated piles and each pile disposed of appropriately. Assuming uniform contamination across the entire berm from the surface to a depth of 1 foot would result in a conservative estimate of approximately 40,000 cubic feet (1,500 cubic yards) of impacted soil per 1-foot lift. TDEC concurred with this recommendation during a review of the Navy responses (Appendix D) to TDEC comments on the draft version of this report at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 4-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
PISTOL RANGE (UXO 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
PR SS 001	PRSS 0010001	2/24/2010	SP	**0-1**	X		X	
PR SS 002	PRSS 0020001	2/24/2010	SP	**0-1**	X			
PR SS 003	PRSS 0030001	2/24/2010	SP	**0-1**	X			
PR SS 004	PRSS 0040001	2/24/2010	SP	**0-1**	X		X	
PR SS 005	PRSS 0050001	2/24/2010	SP	**0-1**	X		X	
PR SS 006	PRSS 0060001	2/24/2010	SP	**0-1**	X			
PR SS 007	PRSS 0070001	2/24/2010	SP	**0-1**	X		X	
PR SS 008	PRSS 0080001	2/24/2010	SP	**0-1**	X			
PR SS 009	PRSS 0090001	2/24/2010	SP	**0-1**	X			
PR SS 010	PRSS 0100001	2/24/2010	SP	**0-1**	X		X	
PR SS 011	PRSS 0110001	2/24/2010	SP	**0-1**	X			
PR SS 012	PRSS 0120001	2/24/2010	SP	**0-1**	X		X	
PR SS 013	PRSS 0130001	2/24/2010	SP	**0-1**	X		X	
PR SS 014	PRSS 0140001	2/24/2010	SP	**0-1**	X	X	X	
PR SS 015	PRSS 0150001	2/24/2010	SP	**0-1**	X			
PR SS 016	PRSS 0160001	2/24/2010	SP	**0-1**	X		X	
PR SS 017	PRSS 0170001	2/24/2010	SP	**0-1**	X		X	
	PRSS 0170102	2/27/2010	SP	**1-2**	X			
PR SS 018	PRSS 0180001	2/24/2010	SP	**0-1**	X		X	
	PRSS 0180102	2/27/2010	SP	**0-1**	X			
PR SS 019	PRSS 0190001	2/24/2010	SP	**0-1**	X		X	
PR SS 020	PRSS 0200001	2/24/2010	SP	**0-1**	X		X	
PR SS 021	PRSS 0210001	2/24/2010	SP	**0-1**	X			

TABLE 4-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
PISTOL RANGE (UXO 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
PR SS 022	PRSS 0220001	2/24/2010	SP	**0-1**	X			
PR SS 023	PRSS 0230001	2/24/2010	SP	**0-1**	X		X	
	PRSS 0230102	2/27/2010	SP	**1-2**	X			
PR SS 024	PRSS 0240001	2/24/2010	SP	**0-1**	X		X	
	PRSS 0240102	2/27/2010	SP	**1-2**	X			
PR SS 025	PRSS 0250001	2/24/2010	SP	**0-1**	X		X	
PR SS 026	PRSS 0260001	2/24/2010	SP	**0-1**	X			
PR SS 027	PRSS 0270001	2/24/2010	SP	**0-1**	X		X	
PR SS 028	PRSS 0280001	2/24/2010	SP	**0-1**	X		X	
PR SS 029	PRSS 0290001	2/24/2010	SP	**0-1**	X			
PR SS 030	PRSS 0300001	2/24/2010	SP	**0-1**	X			
PR SS 031	PRSS 0310001	2/24/2010	SP	**0-1**	X			
PR SS 032	PRSS 0320001	2/24/2010	SP	**0-1**	X		X	
PR SS 033	PRSS 0330001	2/24/2010	SP	**0-1**	X		X	
PR SS 034	PRSS 0340001	2/24/2010	SP	**0-1**	X		X	
PR SS 035	PRSS 0350001	2/24/2010	SP	**0-1**	X		X	
PR SS 036	PRSS 0360001	2/24/2010	SP	**0-1**	X			
	PRSS 0360102	2/28/2010	SP	**1-2**	X			
PR SS 037	PRSS 0370001	2/24/2010	SP	**0-1**	X		X	
PR SS 038	PRSS 0380001	2/24/2010	SP	**0-1**	X		X	
PR SS 039	PRSS 0390001	2/24/2010	SP	**0-1**	X		X	
PR SS 040	PRSS 0400001	2/24/2010	SP	**0-1**	X		X	
	PRSS 0400102	2/27/2010	SP	**1-2**	X			

TABLE 4-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
PISTOL RANGE (UXO 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
PR SS 041	PRSS 0410001	2/24/2010	SP	**0-1**	X			
PR SS 042	PRSS 0420001	2/27/2010	SP	**0-1**	X			
PR SS 043	PRSS 0430001	2/27/2010	SP	**0-1**	X			
PR SS 044	PRSS 0440001	2/27/2010	SP	**0-1**	X			
PR SS 045	PRSS 0450001	2/27/2010	SP	**0-1**	X			
PR SS 046	PRSS 0460001	2/27/2010	SP	**0-1**	X			
PR SS 047	PRSS 0470001	2/27/2010	SP	**0-1**	X			
PR SS 048	PRSS 0480001	2/27/2010	SP	**0-1**	X			
PR SS 049	PRSS 0490001	2/27/2010	SP	**0-1**	X			
PR SS 049	PRSS 0500001	2/27/2010	SP	**0-1**	X			
PR SS 050	PRSS 0510001	2/27/2010	SP	**0-1**	X			
PR SS 01C	PRSS CO10001	2/24/2010	HA	**0-1**			X	X

bgs = below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP = Soil Probe
HA = Hand auger

TABLE 4-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
PISTOL RANGE (UXO 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2,3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg (ppm)	Lead (mg/kg)
PRSS 0010001	2/24/2010	2/24/2010	116	78	148	114.00	127.00
PRSS 0020001	2/24/2010	2/24/2010	10	18	15	14.33	---
PRSS 0030001	2/24/2010	2/24/2010	29	30	71	43.33	---
PRSS 0040001	2/24/2010	2/24/2010	27	19	29	25.00	27.30
PRSS 0050001	2/24/2010	2/24/2010	203	212	194	203.00	235.00
PRSS 0060001	2/24/2010	2/24/2010	114	71	57	80.67	---
PRSS 0070001	2/24/2010	2/24/2010	64	114	97	91.67	49.80
PRSS 0080001	2/24/2010	2/24/2010	84	69	121	91.33	---
PRSS 0090001	2/24/2010	2/24/2010	63	106	97	88.67	---
PRSS 0100001	2/24/2010	2/24/2010	156	139	157	150.67	148.00
PRSS 0110001	2/24/2010	2/24/2010	104	135	122	120.33	---
PRSS 0120001	2/24/2010	2/24/2010	102	115	106	107.67	123.00
PRSS 0130001	2/25/2010	2/25/2010	330	339	343	337.33	21,000.00
PRSS 0140001	2/25/2010	2/25/2010	1,470	1,921	1,687	1,692.67	2,230.00
PRSS 0150001	2/24/2010	2/24/2010	213	194	195	200.67	---
PRSS 0160001	2/24/2010	2/24/2010	422	593	363	459.33	428.00
PRSS 0170001	2/24/2010	2/24/2010	479	539	471	496.33	694.00
PRSS 0170102	2/28/2010	2/28/2010	538	426	366	443.33	---
PRSS 0180001	2/24/2010	2/24/2010	341	319	402	354.00	530.00
PRSS 0180102	2/28/2010	2/28/2010	244	181	407	277.33	---
PRSS 0190001	2/25/2010	2/25/2010	281	357	311	316.33	292.00
PRSS 0200001	2/25/2010	2/25/2010	413	255	124	264.00	328.00
PRSS 0210001	2/25/2010	2/25/2010	567	641	468	558.67	---
PRSS 0220001	2/25/2010	2/25/2010	132	298	119	183.00	---
PRSS 0230001	2/25/2010	2/25/2010	282	283	337	300.67	335.00
PRSS 0230102	2/28/2010	2/28/2010	150	315	425	296.67	---
PRSS 0240001	2/25/2010	2/25/2010	744	850	807	800.33	1,000.00
PRSS 0240102	2/28/2010	2/28/2010	56	60	65	60.33	---
PRSS 0250001	2/25/2010	2/25/2010	292	249	217	252.67	17,300.00
PRSS 0260001	2/25/2010	2/25/2010	368	245	210	274.33	---
PRSS 0270001	2/25/2010	2/25/2010	560	496	510	522.00	425.00
PRSS 0280001	2/25/2010	2/25/2010	257	264	267	262.67	268.00
PRSS 0290001	2/25/2010	2/25/2010	180	191	166	179.00	---
PRSS 0300001	2/25/2010	2/25/2010	112	103	123	112.67	---
PRSS 0310001	2/25/2010	2/25/2010	283	183	151	205.67	---
PRSS 0320001	2/25/2010	2/25/2010	76	159	130	121.67	21,100.00
PRSS 0330001	2/25/2010	2/25/2010	334	224	284	280.67	242.00
PRSS 0340001	2/25/2010	2/25/2010	343	400	209	317.33	222.00
PRSS 0350001	2/25/2010	2/25/2010	365	351	359	358.33	395.00
PRSS 0360001	2/25/2010	2/25/2010	1,146	1,458	1,921	1,508.33	---
PRSS 0360102	2/28/2010	2/28/2010	145	87	78	103.33	---
PRSS 0370001	2/25/2010	2/25/2010	991	1,306	1,239	1,178.67	1,660.00
PRSS 0380001	2/25/2010	2/25/2010	411	485	466	454.00	497.00

TABLE 4-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
PISTOL RANGE (UXO 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2,3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg (ppm)	Lead (mg/kg)
PRSS 0390001	2/25/2010	2/25/2010	1,115	975	954	1,014.67	1,490.00
PRSS 0400001	2/25/2010	2/25/2010	528	573	574	558.33	585.00
PRSS 0400102	2/28/2010	2/28/2010	56	84	195	111.67	---
PRSS 0410001	2/25/2010	2/25/2010	515	425	483	474.33	---
PRSS 0420001	2/28/2010	2/28/2010	892	558	405	618.33	---
PRSS 0430001	2/28/2010	2/28/2010	243	441	237	307.00	---
PRSS 0440001	2/28/2010	2/28/2010	570	1,049	282	633.67	---
PRSS 0450001	2/28/2010	2/28/2010	2,176	1,714	1,910	1,933.33	---
PRSS 0460001	2/28/2010	2/28/2010	82	903	1,695	893.33	---
PRSS 0470001	2/28/2010	2/28/2010	3,373	2,243	856	2,157.33	---
PRSS 0480001	2/28/2010	2/28/2010	234	2,458	490	1,060.67	---
PRSS 0490001	2/28/2010	2/28/2010	1,843	2,218	1,642	1,901.00	---
PRSS 0500001	2/28/2010	2/28/2010	319	931	4,276	1,842.00	---
PRSS 0510001	2/28/2010	2/28/2010	863	720	1,093	892.00	---

FBL = Fixed-base laboratory
mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.

1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.

2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of 400 mg/kg.

3 - Per the December 2009 SAP, the correlation between the XRF and FBL results for this site is not acceptable; therefore, a predictive formula for samples analyzed by XRF only cannot be determined.

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		**PR-SS001**	**PR-SS001C**	**PR-SS002**	**PR-SS003**	**PR-SS004**
SAMPLE ID		**PR-SS001-0001**	**PR-SSC01-0001**	**PR-SS002-0001**	**PR-SS003-0001**	**PR-SS004-0001**
SAMPLE DATE	**Project**	**20100224**	**20100224**	**20100224**	**20100224**	**20100224**
SAMPLE CODE	**Action**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
MATRIX	**Limit**	**SO**	**SO**	**SO**	**SO**	**SO**
SAMPLE TYPE		**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
SUBMATRIX		**SS**	**SS**	**SS**	**SS**	**SS**
TOP DEPTH		**0**	**0**	**0**	**0**	**0**
BOTTOM DEPTH		**1**	**1**	**1**	**1**	**1**
METALS (MG/KG)						
LEAD	400	127	161	NA	NA	27.3
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	114	NA	14.33	43.33	25

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS005	PR-SS006	PR-SS007	PR-SS008	PR-SS009
SAMPLE ID		PR-SS005-0001	PR-SS006-0001	PR-SS007-0001	PR-SS008-0001	PR-SS009-0001
SAMPLE DATE	Project	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	235	NA	49.8	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	203	80.67	91.67	91.33	88.67

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS010	PR-SS011	PR-SS012	PR-SS013	PR-SS014
SAMPLE ID		PR-SS010-0001	PR-SS011-0001	PR-SS012-0001	PR-SS013-0001	PR-SS014-0001
SAMPLE DATE	Project	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	148	NA	123	**21000**	**2230**
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	24
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	22000
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	7.28
XRF (MG/KG)						
LEAD	280	150.67	120.33	107.67	**337.33**	**1692.7**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS015	PR-SS016	PR-SS017		PR-SS018
SAMPLE ID		PR-SS015-0001	PR-SS016-0001	PR-SS017-0001	PR-SS017-0102	PR-SS018-0001
SAMPLE DATE	Project	20100224	20100224	20100224	20100227	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	1	0
BOTTOM DEPTH		1	1	1	2	1
METALS (MG/KG)						
LEAD	400	NA	428	694 J	NA	530
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	200.67	459.33	496.33	443.33	354

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS018	PR-SS019	PR-SS020	PR-SS021	PR-SS022
SAMPLE ID		PR-SS018-0102	PR-SS019-0001	PR-SS020-0001	PR-SS021-0001	PR-SS022-0001
SAMPLE DATE	Project	20100227	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	292	328	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	277.33	**316.33**	264	**558.67**	183

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS023		PR-SS024		
SAMPLE ID		PR-SS023-0001	PR-SS023-0102	PR-SS024-0001	PR-SS024-0001-AVG	PR-SS024-0001-D
SAMPLE DATE	Project	20100224	20100227	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	1	0	0	0
BOTTOM DEPTH		1	2	1	1	1
METALS (MG/KG)						
LEAD	400	335	NA	**1000 J**	**993 J**	**986 J**
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	**300.67**	**296.67**	**800.33**	**865.665**	**931**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS024	PR-SS025	PR-SS026	PR-SS027	
SAMPLE ID		PR-SS024-0102	PR-SS025-0001	PR-SS026-0001	PR-SS027-0001	PR-SS027-0001-AVG
SAMPLE DATE	Project	20100227	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	ORIG	AVG
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		1	0	0	0	0
BOTTOM DEPTH		2	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	**17300 J**	NA	**425**	**501**
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	60.33	252.67	274.33	**522**	**571.5**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS027	PR-SS028	PR-SS029	PR-SS030	PR-SS031
SAMPLE ID		PR-SS027-0001-D	PR-SS028-0001	PR-SS029-0001	PR-SS030-0001	PR-SS031-0001
SAMPLE DATE	Project	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	DUP	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	**577**	268	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	**621**	262.67	179	112.67	205.67

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS032	PR-SS033	PR-SS034	PR-SS035	PR-SS036
SAMPLE ID		PR-SS032-0001	PR-SS033-0001	PR-SS034-0001	PR-SS035-0001	PR-SS036-0001
SAMPLE DATE	Project	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	**21100 J**	242	222	395	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	121.67	**280.67**	**317.33**	**358.33**	**1508.3**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS036	PR-SS037	PR-SS038	PR-SS039	PR-SS040
SAMPLE ID		PR-SS036-0102	PR-SS037-0001	PR-SS038-0001	PR-SS039-0001	PR-SS040-0001
SAMPLE DATE	Project	20100228	20100224	20100224	20100224	20100224
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		1	0	0	0	0
BOTTOM DEPTH		2	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	1660	497	1490 J	585 J
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	103.33	1178.7	454	1014.7	558.33

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS040	PR-SS041	PR-SS042	PR-SS043	PR-SS044
SAMPLE ID		PR-SS040-0102	PR-SS041-0001	PR-SS042-0001	PR-SS043-0001	PR-SS044-0001
SAMPLE DATE	Project	20100227	20100224	20100227	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		1	0	0	0	0
BOTTOM DEPTH		2	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	111.67	**474.33**	**618.33**	**307**	**633.67**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS045	PR-SS046	PR-SS047	PR-SS048	PR-SS049
SAMPLE ID		PR-SS045-0001	PR-SS046-0001	PR-SS047-0001	PR-SS048-0001	PR-SS049-0001
SAMPLE DATE	Project	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	280	**1933.3**	**893.33**	**2157.3**	**1060.7**	**1901**

TABLE 4-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
PISTOL RANGE (UXO 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		PR-SS050	PR-SS051
SAMPLE ID		PR-SS050-0001	PR-SS051-0001
SAMPLE DATE	Project	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL
MATRIX	Limit	SO	SO
SAMPLE TYPE		NORMAL	NORMAL
SUBMATRIX		SS	SS
TOP DEPTH		0	0
BOTTOM DEPTH		1	1
METALS (MG/KG)			
LEAD	400	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)			
CATION EXCHANGE CAPACITY	NC	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)			
TOTAL ORGANIC CARBON	NC	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)			
PH	NC	NA	NA
XRF (MG/KG)			
LEAD	280	**1842**	**892**

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations g

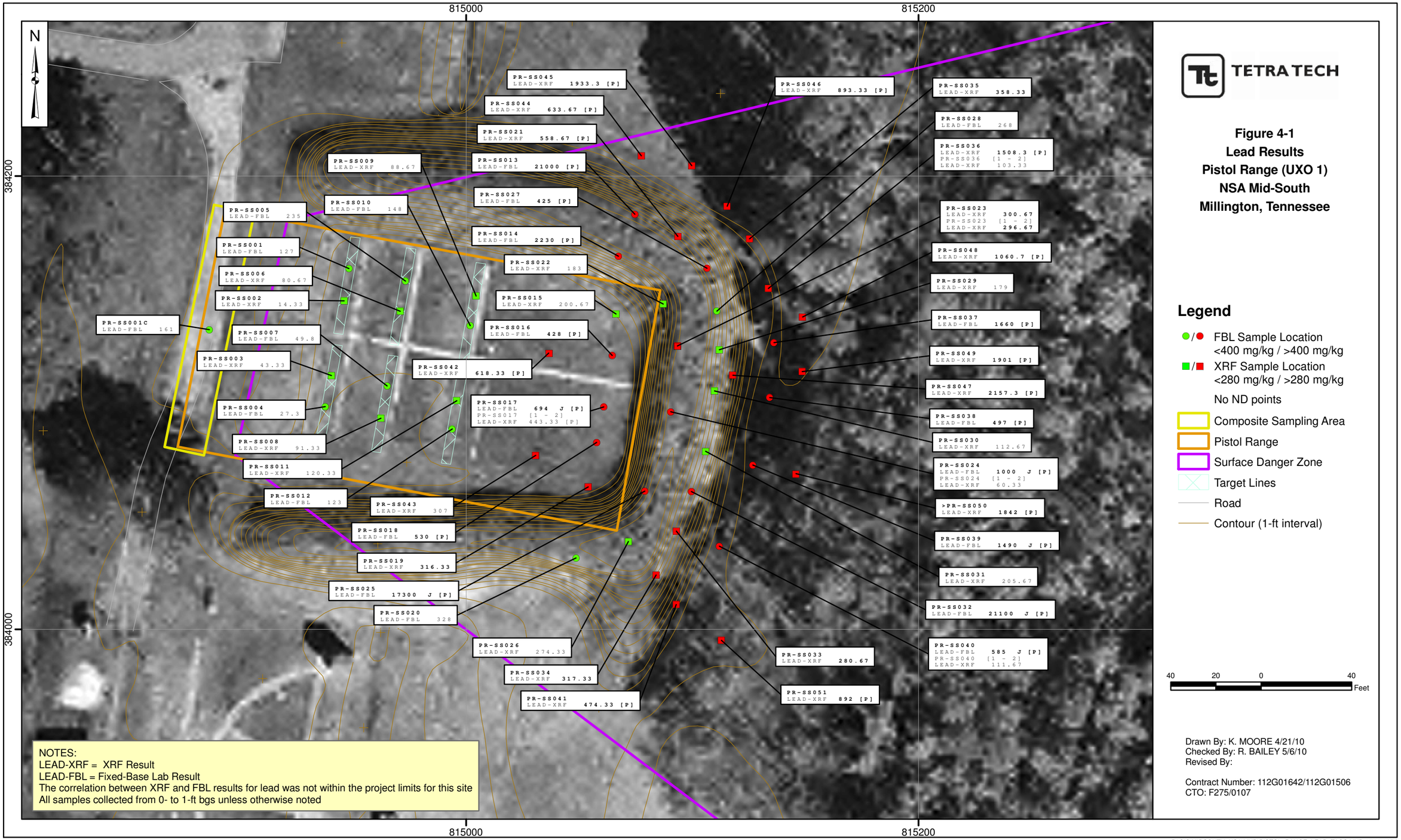


Figure 4-1
Lead Results
Pistol Range (UXO 1)
NSA Mid-South
Millington, Tennessee

P:\GIS\MIDSOUTH_NSA\MXD\PISTOL_RANGE_LEAD_TAGS.MXD 4/28/10 KM

5.0 TRAP/SKEET RANGES #1 AND #2 (AOC 1)

5.1 SITE BACKGROUND

5.1.1 Historical Site Information and Current Land Use

The current conditions of the Trap/Skeet Ranges #1 and #2 are shown on Figures 5-1 and 5-2.

Trap/Skeet Ranges #1 and #2 consist of approximately 79 acres, located near the southern border of the installation, east of Singleton Avenue, off the Perimeter Security Patrol Road. The ranges were built around 1943, with Trap/Skeet Range #1 having an unrecorded closure date sometime after World War II and Trap/Skeet Range #2 closing in 2005. No remedial efforts are documented for closure of the ranges.

Property records indicate that the range, when active, had a firing line, skeet office and armory, two skeet storage buildings, an ammunition storage building, Instruction Building, and shooting stations and targets. Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells. Of note is Solid Waste Management Unit (SWMU) 2, a closed solid waste landfill that served NSA Mid-South located within the defined boundaries of the Trap/Skeet Ranges #1 and #2. To maintain the integrity of the landfill cap, inspection of the portion of the Trap/Skeet Ranges #1 and #2 that lies within the boundaries of SWMU 2 was removed from this SI.

Most of the concrete firing lines and structures associated with the ranges have been removed; however, Tetra Tech and Navy personnel observed concrete firing lines, two small structures, and skeet fragments immediately south of the Pistol Range during a September 15, 2008 site visit.

5.1.2 Munitions Used

Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells. The ranges were used only for small arms training; there is no known historical evidence of explosives use at the site and no evidence of MEC. Therefore, MEC was not suspected to be present.

5.1.3 Munitions Constituents

Lead is assumed to be the primary inorganic MC of concern because it was the primary constituent in the spent munitions used during operation of each skeet range and because of its documented toxicity to both human and ecological receptors. The other inorganic MCs associated with the munitions used at the skeet ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller

fractions than lead and are accepted to be historically co-located with the lead. Therefore, the BCT decided that lead would be the only inorganic MC investigated under this SI (see Worksheet #9 of the UFP-SAP). Other MC of concern associated with skeet ranges are nitroglycerin (NG) and PAHs. NG, as a constituent of smokeless powder and ejected unburned propellants, is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points. PAHs may be present due to fragmentation of skeet targets containing pitch tar, which was used as a binding agent.

5.2 SITE FIELDWORK

5.2.1 Site Field Activities

Initial soil sampling at the Trap/Skeet Ranges #1 and #2 was limited to surface soil (0- to 1-foot bgs) because the penetration depths were limited to surface soil and lead and PAHs typically have limited mobility in soil and would be expected to remain in the surface soil. All samples were analyzed for lead in the field using XRF and 23 of the 65 samples were submitted to the FBL for definitive lead analysis.

Surface soil sample locations were selected based on a bias towards areas that were believed most likely to be contaminated by past operations at the site (i.e., firing lines, shot fall zones and target break zones). Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the NAD 83 Tennessee State Plane coordinate system. Each sample location was marked by a brightly colored pin flag bearing the sample location ID number. Vertical step-out sample locations were collected from the same location as the original sample and did not require resurveying. Discretionary sample locations were also marked with a brightly colored pin flag bearing the sample location ID number and surveyed with the Trimble GeoXH GPS unit.

Trap/Skeet Ranges #1 and #2 was primarily wooded land with sparse undergrowth; however, due to the season, limited vegetation clearance was required. Grass, leaves, and small underbrush around the sampling points were removed using shovels to facilitate sampling.

5.2.2 Work Plan Deviations

The north end of the Trap/Skeet Ranges #1 and #2 firing line locations are located beneath the existing asphalt parking lot of the NSA Mid-South Commissary (CO1 and CO2) and within close proximity to stormwater drainage conveyance (CO3); therefore, it was determined that composite samples CO1, CO2, and CO3 would be omitted from the firing line composite samples to be collected and that the samples collected from CO4-CO10 would be considered representative of the omitted firing line areas. It was also noted that firing line CO7 at Trap/Skeet Ranges #1 and #2 was overlain by firing line CO1 at the Pistol

Range; therefore, the analytical results from Pistol Range firing line CO1 is considered to be representative of Trap/Skeet Ranges #1 and #2 CO7.

5.2.3 Field Data Collection

Sixty-seven surface soil samples (including QA/QC duplicates) were collected from 65 sample locations during the SI at the Trap/Skeet Ranges #1 and #2. Table 5-1 lists the samples collected at each location. A 0- to 1-foot bgs sample was collected at each location via soil probe. All samples underwent field XRF analysis for lead. After evaluating the initial XRF results, six exceedances of the XRF PAL for lead (280 mg/kg, or 70% of the FBL PAL of 400 mg/kg) were identified and selected for additional sampling to evaluate the potential leaching of lead to the deeper soil intervals. As a result, six vertical step-out samples (from the 1- to 2-foot interval) were collected and also underwent field XRF analysis for lead. Horizontal step-out samples were not collected as XRF concentrations for the last three or four sample locations at the end of each transect were well below the XRF PAL, and the XRF concentrations for all samples south of the SWMU 2 landfill were non-detect. See Figure 5-1 for the sampling locations and XRF detections measured at the Trap/Skeet Range #1 and #2. Soil sample log sheets are included on a disc in Appendix A.

All collected samples were placed in large Ziploc® bags and thoroughly homogenized prior to processing a portion for XRF analysis. For select samples, an additional portion was placed in the appropriate sample jar and shipped to the FBL for lead analysis. Most of the XRF concentrations were either less than 100 mg/kg or greater than 1,000 mg/kg, and when mapped (see Figure 5-1), they displayed a well-defined pattern of contamination. There is a very abrupt falloff in concentration approximately 600 feet from the firing lines. The majority of samples chosen for FBL lead analysis were those having XRF lead concentrations greater than 200 mg/kg. Low XRF concentration samples were selected for FBL analysis to confirm the boundary of the apparently well-defined area of contamination.

5.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 5.2.3, a total of 21 samples were selected from the initial and step-out samples for lead only analysis at the FBL. An additional 21 samples were shipped to the FBL for PAH analysis (but not necessarily the same samples identified for lead analysis), including two non-transect locations selected by the FOL based on field observations of skeet fragments. Table 5-1 identifies the specific samples that were selected for FBL analysis and Table 5-2 presents a comparison between the XRF and FBL lead concentrations for the collected samples.

The FOL also selected three samples to submit to the FBL for pH, TOC, and CEC analyses, and six composite surface soil samples (each comprised of 10 grab samples) along the firing lines were submitted for FBL NG and lead analyses.

USEPA has developed a toxicity equivalency factor (TEF) for each potentially carcinogenic PAH that can be used to convert the concentration of that PAH to an equivalent concentration of benzo(a)pyrene. Since benzo(a)pyrene is often abbreviated BaP, this process is known as determining the BaP equivalent concentration. BaP equivalent concentrations were calculated for all PAH samples to facilitate the evaluation and display of the PAH data. BaP was selected to represent the entire group of PAH compounds because it has the most stringent screening level or PAL.

The results for the samples collected at Trap/Skeet Ranges #1 and #2 are summarized as follows:

- Firing lines – Six samples were collected from the 0- to 1-foot interval and were all non-detect for NG. One sample (TSR-SS006C) contained lead at a concentration (408 mg/kg) that marginally exceeded the PAL of 400 mg/kg. Also of note, the sample from the Pistol Range firing line that is considered representative of TSR-SS007C (i.e., PR-SS001C) was non-detect for NG and contained lead at a concentration that did not exceed the PAL of 400 mg/kg.

- Shot and skeet fall areas –

  Lead:

  - Sixty-five initial samples were collected from the 0- to 1-foot interval, with 23 exceeding the XRF PAL of 280 mg/kg with average XRF concentrations ranging from 281 mg/kg to 1,693 mg/kg. All 18 samples from the two transects south of the SWMU 2 landfill and the last three sample locations (i.e., furthest from the firing lines) in all transects were non-detect for XRF lead.

  - Six vertical step-out samples were collected from the 1- to 2-foot interval, with one sample exceeding the XRF PAL of 280 mg/kg at an average XRF concentration of 619 mg/kg.

  - Twenty-one initial samples collected from the 0- to 1-foot interval were submitted for FBL analysis of lead, with 11 exceeding the FBL PAL of 400 mg/kg with concentrations ranging from 466 mg/kg to 12,500 mg/kg.

- Two discretionary samples collected from the 0- to 1-foot interval in the areas of observed skeet fragments were submitted for FBL analysis of lead, with one sample exceeding the FBL PAL of 400 mg/kg at a concentration of 2,090 mg/kg.

PAHs (BaP equivalents):

- Nineteen initial samples collected from the 0- to 1- foot interval were submitted for FBL analysis of PAHs, with 15 exceeding the BaP equivalent PAL of 0.015 mg/kg at concentrations ranging from 0.02 mg/kg to 29 mg/kg. Eight of the 19 samples exceeded the NSA Mid-South background BaP equivalent concentration of 0.565 mg/kg established during the RCRA Facility Investigation.

- Two discretionary samples collected from the 0- to 1- foot interval were submitted for FBL analysis of PAHs, with both exceeding the BaP equivalent PAL of 0.015 mg/kg at concentrations of 7 mg/kg and 11 mg/kg.

Table 5-3 presents the positive detections for the samples submitted for all FBL analyses of lead and PAHs, the corresponding XRF concentrations for the lead samples, the calculated BaP equivalents of the PAH samples, and the pH, TOC and CEC data for the Trap/Skeet Ranges #1 and #2. Figure 5-1 presents the XRF and FBL lead results and Figure 5-2 presents the BaP equivalent concentrations for Trap/Skeet Ranges #1 and #2.

5.4 DATA PRESENTATION/DATA USABILITY

5.4.1 Data Validation Process

All of the results from analytical FBL samples were validated according to multiple specifications. The DQOs presented in the UFP-SAP were maintained throughout the course of the sampling event. Worksheets #15 and #19 of the UFP-SAP present the analytical methods and compounds analyzed. Sample data validation generally followed USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (October, 2004) guidelines. Validated analytical data is presented in Appendix B.

No data collected for the Trap/Skeet Ranges #1 and #2 were rejected. All data for the Trap/Skeet Ranges #1 and #2 are considered valid for their intended purpose.

5.4.2 Data Quality Review

5.4.2.1 Completeness

The sample collection and FBL analytical completeness for the Trap/Skeet Ranges #1 and #2 were 100 percent.

5.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Trap/Skeet Ranges #1 and #2 was satisfactory to meet DQOs presented in the UFP-SAP.

5.4.2.3 Field and Laboratory Accuracy

Lead was qualified for calibration noncompliance in two soil samples from the trap/skeet range. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

Laboratory control sample percent recovery noncompliance was noted for nitroglycerin in three soil samples. With the exception of these nitroglycerin laboratory control sample results, quality control samples were compliance with quality control criteria indicating that laboratory procedures and analytical equipment were functioning properly.

Three non-detected results for nitroglycerin were qualified due to holding time exceedance. The initial analysis resulted in laboratory control sample recoveries less than the quality control limits; therefore, the samples were re-extracted outside of the hold time. The re-extracted samples were used for validation as the nitroglycerin concentrations were non-detects in the original and re-analyzed sample. Any loss of analyte due to delayed analysis was considered not to be a significant concern. The nitroglycerin data qualified due to holding time exceedance are considered acceptable for the usability assessment.

5.4.2.4 Field and Laboratory Precision

Lead was qualified for field duplicate imprecision in most soil samples. Cation exchange capacity was qualified for laboratory duplicate imprecision in three soil samples. Qualified data due to field and laboratory duplicate imprecision were not rejected and therefore are considered acceptable for the data usability assessment.

5.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Trap/Skeet Ranges #1 and #2 data.

5.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all reported data are adequately representative of site conditions and intended populations for the Trap/Skeet Ranges #1 and #2.

5.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and the R squared value were calculated, as discussed in Section 3.3. The correlation between the FBL lead concentrations and the field XRF average lead concentrations at the Trap/Skeet Ranges #1 and #2 was 0.87, indicating a strong correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Trap/Skeet Ranges #1 and #2 was 0.76. This R Squared value is considered to indicate a strong relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given R-squared value of 0.76, and a correlation between the XRF and FBL of 0.87, the following predictive formula can be used to estimate FBL lead concentrations at Trap/Skeet Ranges #1 and #2 for samples only analyzed by XRF: FBL = 47.3 + 1.0*XRF. As outlined in the UFP- SAP, the correlation coefficient must be between 0.65 and 1.00 to be able to calculate a predictive formula such as this. Table 5-2 and Figure 5-1 present a comparison of XRF lead concentrations, the FBL lead results predicted by the correlation, and the actual FBL results. The regression analysis is included in Appendix C.2.

5.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 5-3 summarizes the positive FBL lead and PAH detections and compares them to their respective PALs. NG was not detected in any of the samples collected along the firing lines, and is therefore not

included in the table. The exceedances of the FBL PALs for lead and BaP are fairly widespread over the majority of the undeveloped, shot fall area of the site (approximately 21 acres). The exceedances of the FBL PAL were also generally confined to the 0- to 1-foot interval with XRF concentrations showing reductions in the lead present over the 1- to 2- foot intervals at the same locations. Figure 5-1 presents the XRF and FBL lead results and Figure 5-2 presents the BaP equivalent concentrations for the Trap/Skeet Ranges #1 and #2.

5.7 UPDATED CONCEPTUAL SITE MODEL

MC (lead and PAHs) are present at the site, and are primarily retained in surface soil (0 to 1 feet bgs). As shown in Figures 5-1 and 5-2, the soil in the northern and southern ends of the site do not exceed PALs; lead contamination in soil is found on the surface in a well-defined area approximately 600 feet out from the firings lines; and, PAH contamination (evaluated as BaP equivalents) in soil is primarily within the lead-contaminated area, but typically does not extend as far out from the firing points. There are two instances of PAH PAL exceedances on the northern end of the site that could be associated with parking lot runoff rather than historical site activities.

Lead would generally be more likely to mobilize into subsurface soil and shallow groundwater than PAHs. Soil pH, TOC and CEC affect the mobility of lead in soil. In general, high TOC combined with high CEC would increase adsorption of lead to soil, and when pH conditions are near neutral (6 to 8 S.U.) there is very limited aqueous solubility for lead compounds in soil. The greatest solubilities of lead compounds in soil have been shown to occur at more acidic (pH < 4) and more alkaline (pH > 11) conditions.

Samples from the Trap/Skeet Ranges #1 and #2 contained 9,710 mg/kg to 10,700 mg/kg (or about 0.971 to 1.07 percent) TOC and had measured CECs of 22 to 30.2 milliequivalents per 100 grams. The TOC value is consistent with the lower average organic content for surface soils in the central U.S. which typically average from 1% to 3.5% organic matter. The CEC value is typical for higher range silt loam soils and moderate clay loam soils, but is still regarded to be on the lower end of the CEC scale, and indicates lower adsorptive capacities. The soil pH was on the slightly acidic side of neutral, ranging from 5.53 to 5.97 S.U. While these conditions do not appear to be highly limiting to the mobility of lead, they also do not suggest an environment that would promote significant downward migration either. Given the nearly neutral pH, the discontinuous nature of groundwater in the loess/alluvium, and the depth to fluvial deposits groundwater, migration to groundwater is not expected. So, the primary migration pathway is runoff from precipitation. Standing water was observed throughout the wooded portion of the site during SI field work. Significant migration of lead and PAHs is not expected because of the relatively flat terrain.

Current human receptors include Navy personnel, Navy-escorted visitors (e.g., contractors conducting environmental or ecological surveys), and trespassers (e.g., authorized personnel who may wander outside of designated areas). The facility's current land uses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds and perform other maintenance tasks such as utilities repair may be exposed to MC from former range activities. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the sites.

Completion of the SI activities did not result in any field observations that revise the CSM from that presented in the UFP-SAP. However, the FBL analytical results did refine the anticipated nature and extent of contamination. As shown in Figures 5-1 and 5-2, the exposure source remains fragments from small arms munitions and metals and PAHs bound to the soil that may present a risk to receptors. Receptors would most likely be trespassers with exposure by ingestion, dermal contact, and inhalation of the surface soil. Potentially complete exposure pathways exist for human receptors under both current and hypothetical future land uses.

5.8 CONCLUSIONS

The SI results show that lead and PAHs are present in surface soil at concentrations that could present potential risks to human receptors. Eleven of 21 FBL soil sample results and 11 of 46 FBL results calculated from the correlation contain lead concentrations above the applicable 400 mg/kg PAL. Fifteen of 19 FBL soil sample results displayed BaP equivalent concentrations above the corresponding PAL, but only 8 of these exceeded the NSA Mid-South BaP equivalent background concentration. NG was not detected above FBL method detection limits in any of the samples collected from the firing line locations.

The Pearson Correlation and R squared value that were calculated both indicated a strong correlation, between the XRF and FBL results, which allows the XRF data to be used to better define the extent of contamination. As shown in Figures 5-1 and 5-2, the nature and extent of the co-located lead and PAH contamination at the site covers a well-defined area of approximately 22 acres.

5.9 RECOMMENDATIONS

Based upon the well-defined co-located lead- and PAH contamination identified in surface soil at the site, it is recommended that a Focused Feasibility Study (or similar document) be prepared for Trap/Skeet Ranges #1 and #2 to evaluate remedial options. TDEC concurred with this recommendation during a

review of the Navy responses (Appendix D) to TDEC comments on the draft version of this report at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 5-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
TRAP/SKEET RANGES #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
TSRSS 001	TSRSS 0010001	3/2/2010	SP	0-1	X			X	
TSRSS 002	TSRSS 0020001	3/2/2010	SP	0-1	X			X	
TSRSS 003	TSRSS 0030001	3/2/2010	SP	0-1	X			X	
TSRSS 004	TSRSS 0040001	3/2/2010	SP	0-1	X			X	
TSRSS 005	TSRSS 0050001	3/2/2010	SP	0-1	X			X	
TSRSS 006	TSRSS 0060001	3/2/2010	SP	0-1	X			X	
TSRSS 007	TSRSS 0070001	3/2/2010	SP	0-1	X				
TSRSS 008	TSRSS 0080001	3/2/2010	SP	0-1	X				
TSRSS 009	TSRSS 0090001	3/2/2010	SP	0-1	X	X		X	
TSRSS 010	TSRSS 0100001	3/2/2010	SP	0-1	X	X		X	
TSRSS 011	TSRSS 0110001	3/2/2010	SP	0-1	X	X			
TSRSS 012	TSRSS 0120001	3/2/2010	SP	0-1	X	X			
TSRSS 013	TSRSS 0130001	3/2/2010	SP	0-1	X	X		X	
TSRSS 014	TSRSS 0140001	3/2/2010	SP	0-1	X				
TSRSS 015	TSRSS 0150001	3/2/2010	SP	0-1	X			X	
TSRSS 016	TSRSS 0160001	3/2/2010	SP	0-1	X				
TSRSS 017	TSRSS 0170001	3/2/2010	SP	0-1	X				
TSRSS 018	TSRSS 0180001	3/2/2010	SP	0-1	X				
TSRSS 019	TSRSS 0190001	2/28/2010	SP	0-1	X	X		X	
TSRSS 020	TSRSS 0200001	2/28/2010	SP	0-1	X	X	X	X	
TSRSS 021	TSRSS 0210001	2/28/2010	SP	0-1	X	X			
TSRSS 022	TSRSS 0220001	2/28/2010	SP	0-1	X	X	X	X	
	TSRSS 0220102	3/2/2010	SP	1-2	X				
TSRSS 023	TSRSS 0230001	2/28/2010	SP	0-1	X				
TSRSS 024	TSRSS 0240001	2/28/2010	SP	0-1	X				
	TSRSS 0240102	3/2/2010	SP	1-2	X	X		X	
TSRSS 025	TSRSS 0250001	2/28/2010	SP	0-1	X			X	
TSRSS 026	TSRSS 0260001	2/28/2010	SP	0-1	X				
TSRSS 027	TSRSS 0270001	2/28/2010	SP	0-1	X				
TSRSS 028	TSRSS 0280001	2/28/2010	SP	0-1	X	X			
TSRSS 029	TSRSS 0290001	2/28/2010	SP	0-1	X	X			

TABLE 5-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
TRAP/SKEET RANGES #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
TSRSS 030	TSRSS 0300001	2/28/2010	SP	0-1	X	X		X	
	TSRSS 0300102	3/2/2010	SP	1-2	X				
TSRSS 031	TSRSS 0310001	2/28/2010	SP	0-1	X	X			
TSRSS 032	TSRSS 0320001	2/28/2010	SP	0-1	X				
	TSRSS 0320102	3/2/2010	SP	1-2	X				
TSRSS 033	TSRSS 0330001	2/28/2010	SP	0-1	X			X	
TSRSS 034	TSRSS 0340001	2/28/2010	SP	0-1	X				
TSRSS 035	TSRSS 0350001	2/28/2010	SP	0-1	X				
TSRSS 036	TSRSS 0360001	2/28/2010	SP	0-1	X			X	
TSRSS 037	TSRSS 0370001	2/27/2010	SP	0-1	X	X			
TSRSS 038	TSRSS 0380001	2/27/2010	SP	0-1	X				
	TSRSS 0380102	3/2/2010	SP	1-2	X				
TSRSS 039	TSRSS 0390001	2/27/2010	SP	0-1	X	X		X	
TSRSS 040	TSRSS 0400001	2/27/2010	SP	0-1	X				
TSRSS 041	TSRSS 0410001	2/27/2010	SP	0-1	X		X	X	
	TSRSS 0410102	3/2/2010	SP	1-2	X				
TSRSS 042	TSRSS 0420001	2/28/2010	SP	0-1	X	X		X	
TSRSS 043	TSRSS 0430001	2/28/2010	SP	0-1	X				
TSRSS 044	TSRSS 0440001	2/28/2010	SP	0-1	X				
TSRSS 045	TSRSS 0450001	2/28/2010	SP	0-1	X	X		X	
TSRSS 046	TSRSS 0460001	2/27/2010	SP	0-1	X				
TSRSS 047	TSRSS 0470001	2/27/2010	SP	0-1	X	X		X	
TSRSS 048	TSRSS 0480001	3/1/2010	SP	0-1	X				
TSRSS 049	TSRSS 0490001	3/1/2010	SP	0-1	X				
TSRSS 050	TSRSS 0500001	3/1/2010	SP	0-1	X				
TSRSS 051	TSRSS 0510001	3/1/2010	SP	0-1	X				
TSRSS 052	TSRSS 0520001	3/1/2010	SP	0-1	X				
TSRSS 053	TSRSS 0530001	3/1/2010	SP	0-1	X				
TSRSS 054	TSRSS 0540001	3/1/2010	SP	0-1	X				
TSRSS 055	TSRSS 0550001	3/1/2010	SP	0-1	X				
TSRSS 056	TSRSS 0560001	3/1/2010	SP	0-1	X				
TSRSS 057	TSRSS 0570001	3/1/2010	SP	0-1	X				

TABLE 5-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
TRAP/SKEET RANGES #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
TSRSS 058	TSRSS 0580001	2/28/2010	SP	0-1	X				
TSRSS 059	TSRSS 0590001	2/28/2010	SP	0-1	X				
TSRSS 060	TSRSS 0600001	2/28/2010	SP	0-1	X				
TSRSS 061	TSRSS 0610001	2/28/2010	SP	0-1	X				
TSRSS 062	TSRSS 0620001	2/28/2010	SP	0-1	X				
TSRSS 063	TSRSS 0630001	2/28/2010	SP	0-1	X				
TSRSS 064	TSRSS 0640001	2/28/2010	SP	0-1	X				
TSRSS 065	TSRSS 0650001	2/28/2010	SP	0-1	X	X		X	
TSRSS 066	TSRSS 0660001	3/2/2010	SP	0-1		X		X	
TSRSS 067	TSRSS 0670001	3/2/2010	SP	0-1					
TSRSS 04C	TSRSS 04C0001	3/3/2010	HA	0-1				X	X
TSRSS 05C	TSRSS 05C0001	3/3/2010	HA	0-1				X	X
TSRSS 06C	TSRSS 06C0001	3/3/2010	HA	0-1				X	X
TSRSS 08C	TSRSS 08C0001	3/3/2010	HA	0-1				X	X
TSRSS 09C	TSRSS 09C0001	3/3/2010	HA	0-1				X	X
TSRSS 010C	TSRSS 10C0001	3/3/2010	HA	0-1				X	X

bgs = below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
PAH = Polynuclear aromatic hydrocarbon
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP = Soil Probe
HA = Hand auger

TABLE 5-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
TRAP AND SKEET RANGE #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB VALUE[3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)	Lead (mg/kg)
TSRSS 0010001	3/2/2010	3/3/2010	122	107	88	105.67	85.30	
TSRSS 0020001	3/2/2010	3/3/2010	353	357	272	327.33	317.00	
TSRSS 0030001	3/2/2010	3/3/2010	36	33	58	42.33	36.80	
TSRSS 0040001	3/2/2010	3/3/2010	315	308	273	298.67	240.00	
TSRSS 0050001	3/2/2010	3/3/2010	320	376	407	367.67	466.00	
TSRSS 0060001	3/2/2010	3/3/2010	ND	15	17	14.00	20.80	
TSRSS 0070001	3/2/2010	3/3/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0080001	3/2/2010	3/3/2010	20	ND	ND	13.33	---	60.6
TSRSS 0090001	3/2/2010	3/3/2010	109	91	104	101.33	152.00	
TSRSS 0100001	3/2/2010	3/3/2010	105	92	94	97.00	118.00	
TSRSS 0110001	3/2/2010	3/3/2010	19	52	ND	27.00	--	74.3
TSRSS 0120001	3/2/2010	3/3/2010	2,452	2,145	2,218	2,271.67	---	2,319
TSRSS 0130001	3/2/2010	3/3/2010	576	662	780	672.67	785.00	
TSRSS 0140001	3/2/2010	3/3/2010	1422	1404	1449	1425.00	---	1472
TSRSS 0150001	3/2/2010	3/3/2010	75	72	51	66.00	265.00	
TSRSS 0160001	3/2/2010	3/3/2010	19	18	16	17.67	---	65
TSRSS 0170001	3/2/2010	3/3/2010	ND	17	ND	12.33	---	59.6
TSRSS 0180001	3/2/2010	3/3/2010	17	20	15	17.33	---	64.6
TSRSS 0190001	2/28/2010	2/28/2010	3,169	2,897	2,666	2,910.67	2,840.00	
TSRSS 0200001	2/28/2010	2/28/2010	4,040	4,751	4,241	4,344.00	---	4,391
TSRSS 0210001	2/28/2010	2/28/2010	3,718	3,246	3,657	3,540.33	---	3,588
TSRSS 0220001	2/28/2010	3/1/2010	5,468	6,417	6,675	6,186.67	12,500.00	
TSRSS 0220102	3/2/2010	3/3/2010	178	90	171	146.33	---	194
TSRSS 0230001	2/28/2010	3/1/2010	4,334	3,470	2,940	3,581.33	---	3,629
TSRSS 0240001	2/28/2010	3/1/2010	526	326	753	535.00	64.20	
TSRSS 0240102	3/2/2010	3/3/2010	94	28	22	48.00	---	95.3
TSRSS 0250001	2/28/2010	3/1/2010	133	124	163	140.00	110.00	
TSRSS 0260001	2/28/2010	3/1/2010	50	35	48	44.33	---	91.6
TSRSS 0270001	2/28/2010	3/1/2010	22	25	21	22.67	---	70
TSRSS 0280001	2/28/2010	2/28/2010	2,102	2,125	1,950	2,059.00	---	2,106
TSRSS 0290001	2/28/2010	2/28/2010	1,778	1,599	1,994	1,790.33	---	1,838
TSRSS 0300001	2/28/2010	2/28/2010	1,702	1,629	1,311	1,547.33	2,520.00	
TSRSS 0300102	3/2/2010	3/3/2010	918	607	334	619.67	---	667
TSRSS 0310001	2/28/2010	2/28/2010	3,510	3,642	2,695	3,282.33	---	3,330
TSRSS 0320001	2/28/2010	2/28/2010	1,702	1,943	1,376	1,673.67	---	1,721
TSRSS 0320102	3/2/2010	3/3/2010	60	46	57	54.33	---	102
TSRSS 0330001	2/28/2010	2/28/2010	127	129	161	139.00	179.00	
TSRSS 0340001	2/28/2010	2/28/2010	15	15	ND	13.33	---	60.6
TSRSS 0350001	2/28/2010	2/28/2010	18	15	ND	14.33	---	61.6
TSRSS 0360001	2/28/2010	2/28/2010	16	ND	ND	12.00	18.10	
TSRSS 0370001	2/27/2010	2/28/2010	2,184	1,911	2,020	2,038.33	---	2,086
TSRSS 0380001	2/27/2010	2/28/2010	1,429	1,230	936	1,198.33	---	1,246
TSRSS 0380102	3/2/2010	3/3/2010	120	239	274	211.00	---	258
TSRSS 0390001	2/27/2010	2/28/2010	1,665	1,629	2,335	1,876.33	1,410.00	
TSRSS 0400001	2/27/2010	2/28/2010	2,958	3,438	2,185	2,860.33	---	2,908
TSRSS 0410001	2/27/2010	2/28/2010	766	687	1,119	857.33	1,860.00	
TSRSS 0410102	3/2/2010	3/3/2010	65	39	61	55.00	---	102
TSRSS 0420001	2/28/2010	2/28/2010	ND	ND	ND	10.00	9.24	
TSRSS 0430001	2/28/2010	2/28/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0440001	2/28/2010	2/28/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0450001	2/28/2010	3/1/2010	7,366	3,387	5,315	5,356.00	2,820.00	
TSRSS 0460001	2/27/2010	2/28/2010	2,290	2,242	1,380	1,970.67	---	2,018

TABLE 5-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
TRAP AND SKEET RANGE #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB VALUE[3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)	Lead (mg/kg)
TSRSS 0470001	2/27/2010	2/28/2010	223	177	376	258.67	239.00	
TSRSS 0480001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0490001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0500001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0510001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0520001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0530001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0540001	3/1/2010	3/2/2010	ND	23	ND	14.33	---	61.6
TSRSS 0550001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0560001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0570001	3/1/2010	3/2/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0580001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0590001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0600001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0610001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0620001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0630001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0640001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3
TSRSS 0650001	2/28/2010	3/1/2010	ND	ND	ND	10.00	---	57.3

FBL = Fixed-base laboratory
mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.

1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.

2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of 400 mg/kg.

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS001	TSR-SS002	TSR-SS003	TSR-SS004	TSR-SS004C	TSR-SS005	TSR-SS005C
SAMPLE ID		TSR-SS001-0001	TSR-SS002-0001	TSR-SS003-0001	TSR-SS004-0001	TSR-SS04C-0001	TSR-SS005-0001	TSR-SS05C-0001
SAMPLE DATE	Project	20100302	20100302	20100302	20100302	20100303	20100302	20100303
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	85.3 J	317 J	36.8 J	240 J	103	**466 J**	188
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	15	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	NA	NA	NA	NA	NA	NA	NA
FLUORENE	2300	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	NA	NA	NA	NA	NA	NA	NA
PYRENE	1700	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	280	105.67	**327.33**	42.33	**298.67**	NA	**367.67**	NA

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS006	TSR-SS006C	TSR-SS007	TSR-SS008	TSR-SS008C	TSR-SS009	TSR-SS009C
SAMPLE ID		TSR-SS006-0001	TSR-SS06C-0001	TSR-SS007-0001	TSR-SS008-0001	TSR-SS08C-0001	TSR-SS009-0001	TSR-SS09C-0001
SAMPLE DATE	Project	20100302	20100303	20100302	20100302	20100303	20100302	20100303
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	20.8 J	**408**	NA	NA	97.3	152 J	195
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	0.0225	NA
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	0.0221	NA
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	0.196	NA
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	0.00464 J	NA
ANTHRACENE	17000	NA	NA	NA	NA	NA	0.377	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	**10**	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	**5**	NA
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	**6.15**	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	**8.79**	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	3.72	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	**2.65**	NA
CHRYSENE	15	NA	NA	NA	NA	NA	6.28	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	**1.65**	NA
FLUORANTHENE	2300	NA	NA	NA	NA	NA	4.72	NA
FLUORENE	2300	NA	NA	NA	NA	NA	0.137	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	**4.17**	NA
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	0.0345	NA
PHENANTHRENE	1700	NA	NA	NA	NA	NA	1.75	NA
PYRENE	1700	NA	NA	NA	NA	NA	4.81	NA
XRF (MG/KG)								
LEAD	280	14	NA	10 U	13.33	NA	101.33	NA

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS010	TSR-SS010C	TSR-SS011	TSR-SS012	TSR-SS013	TSR-SS014
SAMPLE ID		TSR-SS010-0001	TSR-SS10C-0001	TSR-SS011-0001	TSR-SS012-0001	TSR-SS013-0001	TSR-SS014-0001
SAMPLE DATE	Project	20100302	20100303	20100302	20100302	20100302	20100302
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG
MATRIX	Limit	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1
METALS (MG/KG)							
LEAD	400	118 J	145	NA	NA	785 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NC	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	22	0.00956 J	NA	0.00836 U	0.00517 J	0.00745 U	NA
2-METHYLNAPHTHALENE	310	0.00859 J	NA	0.00836 U	0.0044 J	0.00745 U	NA
ACENAPHTHENE	3400	0.0381	NA	0.00836 U	0.0174 J	0.00745 U	NA
ACENAPHTHYLENE	3400	0.0198 U	NA	0.00836 U	0.0188 U	0.00745 U	NA
ANTHRACENE	17000	0.0512	NA	0.00836 U	0.0289	0.00745 U	NA
BAP EQUIVALENT-HALFND	0.015	5	NA	0.1	2	0.01	NA
BENZO(A)ANTHRACENE	0.15	2.31	NA	0.0486	0.966	0.00745 U	NA
BENZO(A)PYRENE	0.015	3.46	NA	0.0767	1.54	0.00817	NA
BENZO(B)FLUORANTHENE	0.15	4.62	NA	0.105	2.08	0.0138	NA
BENZO(G,H,I)PERYLENE	1700	2.4	NA	0.0618	1.03	0.00745 U	NA
BENZO(K)FLUORANTHENE	0.15	1.55	NA	0.0351	0.657	0.0046 J	NA
CHRYSENE	15	3.09	NA	0.0673	1.36	0.0089	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.701	NA	0.0161	0.273	0.00745 U	NA
FLUORANTHENE	2300	1.51	NA	0.0372	0.681	0.00957	NA
FLUORENE	2300	0.0154 J	NA	0.00836 U	0.00794 J	0.00745 U	NA
INDENO(1,2,3-CD)PYRENE	0.15	2.58	NA	0.063	1.13	0.00745 U	NA
NAPHTHALENE	3.9	0.0271	NA	0.00836 U	0.0141 J	0.00745 U	NA
PHENANTHRENE	1700	0.218	NA	0.00885	0.122	0.0038 J	NA
PYRENE	1700	1.78	NA	0.0415	0.784	0.00896	NA
XRF (MG/KG)							
LEAD	280	97	NA	27	2271.67	672.67	1425

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS014		TSR-SS015	TSR-SS016	TSR-SS017	TSR-SS018	TSR-SS019
SAMPLE ID		TSR-SS014-0001-AVG	TSR-SS014-0001-D	TSR-SS015-0001	TSR-SS016-0001	TSR-SS017-0001	TSR-SS018-0001	TSR-SS019-0001
SAMPLE DATE	Project	20100302	20100302	20100302	20100302	20100302	20100302	20100228
SAMPLE CODE	Action	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	NA	NA	265 J	NA	NA	NA	**2840 J**
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	NA	0.0567
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	NA	0.0608
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	NA	0.276
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	NA	0.00535 J
ANTHRACENE	17000	NA	NA	NA	NA	NA	NA	0.521
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	NA	**29**
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	NA	**14.2**
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	NA	**19.3**
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	**24**
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	NA	16.1
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	**7.22**
CHRYSENE	15	NA	NA	NA	NA	NA	NA	**18.7**
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	NA	**3.94**
FLUORANTHENE	2300	NA	NA	NA	NA	NA	NA	10.2
FLUORENE	2300	NA	NA	NA	NA	NA	NA	0.125
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	NA	**16.9**
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	NA	0.22
PHENANTHRENE	1700	NA	NA	NA	NA	NA	NA	2.15
PYRENE	1700	NA	NA	NA	NA	NA	NA	10.9
XRF (MG/KG)								
LEAD	280	**1423.165**	**1421.33**	66	17.67	12.33	17.33	**2910.67**

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS020	TSR-SS021	TSR-SS022		TSR-SS022		TSR-SS023
SAMPLE ID		TSR-SS020-0001	TSR-SS021-0001	TSR-SS022-0001	TSR-SS022-0001-AVG	TSR-SS022-0001-D	TSR-SS022-0102	TSR-SS023-0001
SAMPLE DATE	Project	20100228	20100228	20100228	20100228	20100228	20100302	20100228
SAMPLE CODE	Action	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	1	0
BOTTOM DEPTH		1	1	1	1	1	2	1
METALS (MG/KG)								
LEAD	400	NA	NA	**12500 J**	**8170 J**	**3840 J**	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	20.4 J	NA	30.2 J	30.2 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	10400	NA	9710	9710	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	5.97	NA	5.53	5.53	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA	NA
ACENAPHTHENE	3400	0.00204 J	0.0039 J	0.00713 U	0.00713 U	NA	NA	NA
ACENAPHTHYLENE	3400	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA	NA
ANTHRACENE	17000	0.00573 J	0.00684 J	0.00319 J	0.00319 J	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	**0.2**	**0.3**	**0.06**	**0.06**	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.0868	**0.153**	0.0347	0.0347	NA	NA	NA
BENZO(A)PYRENE	0.015	**0.108**	**0.23**	**0.0462**	**0.0462**	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	**0.158**	**0.327**	0.0667	0.0667	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.0675	0.146	0.029	0.029	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.0532	0.105	0.022	0.022	NA	NA	NA
CHRYSENE	15	0.113	0.215	0.0472	0.0472	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	**0.0192**	**0.0371**	0.00713 U	0.00713 U	NA	NA	NA
FLUORANTHENE	2300	0.0964	0.148	0.0438	0.0438	NA	NA	NA
FLUORENE	2300	0.00731 U	0.0023 J	0.00713 U	0.00713 U	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.0753	**0.158**	0.0313	0.0313	NA	NA	NA
NAPHTHALENE	3.9	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA	NA
PHENANTHRENE	1700	0.0283	0.0382	0.014	0.014	NA	NA	NA
PYRENE	1700	0.0949	0.153	0.0429	0.0429	NA	NA	NA
XRF (MG/KG)								
LEAD	280	**4344**	**3540.33**	**6506**	**6673.665**	**6841.33**	146.33	**3581.33**

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS024	TSR-SS024	TSR-SS025	TSR-SS026	TSR-SS027	TSR-SS028	TSR-SS029
SAMPLE ID		TSR-SS024-0001	TSR-SS024-0102	TSR-SS025-0001	TSR-SS026-0001	TSR-SS027-0001	TSR-SS028-0001	TSR-SS029-0001
SAMPLE DATE	Project	20100228	20100302	20100228	20100228	20100228	20100228	20100228
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	1	0	0	0	0	0
BOTTOM DEPTH		1	2	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	64.2 J	NA	110 J	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	0.00897 U	NA	NA	NA	NA	0.0237	0.00747 U
2-METHYLNAPHTHALENE	310	0.00897 U	NA	NA	NA	NA	0.028	0.00747 U
ACENAPHTHENE	3400	0.00897 U	NA	NA	NA	NA	0.145	0.00213 J
ACENAPHTHYLENE	3400	0.00897 U	NA	NA	NA	NA	0.00401 J	0.00747 U
ANTHRACENE	17000	0.00897 U	NA	NA	NA	NA	0.461	0.00747 U
BAP EQUIVALENT-HALFND	0.015	**0.04**	NA	NA	NA	NA	**15**	**0.1**
BENZO(A)ANTHRACENE	0.15	0.00897 U	NA	NA	NA	NA	**7.14**	0.0726
BENZO(A)PYRENE	0.015	**0.0251**	NA	NA	NA	NA	**9.39**	**0.0988**
BENZO(B)FLUORANTHENE	0.15	0.0327	NA	NA	NA	NA	**12.8**	0.135
BENZO(G,H,I)PERYLENE	1700	0.0216	NA	NA	NA	NA	6.07	0.0707
BENZO(K)FLUORANTHENE	0.15	0.0117	NA	NA	NA	NA	**3.79**	0.0457
CHRYSENE	15	0.0245	NA	NA	NA	NA	8.58	0.094
DIBENZO(A,H)ANTHRACENE	0.015	0.00897 U	NA	NA	NA	NA	**2.51**	**0.017**
FLUORANTHENE	2300	0.0203	NA	NA	NA	NA	6.09	0.0709
FLUORENE	2300	0.00897 U	NA	NA	NA	NA	0.105	0.00158 J
INDENO(1,2,3-CD)PYRENE	0.15	0.0215	NA	NA	NA	NA	**6.76**	0.0743
NAPHTHALENE	3.9	0.00897 U	NA	NA	NA	NA	0.0899	0.00747 U
PHENANTHRENE	1700	0.00644 J	NA	NA	NA	NA	2	0.021
PYRENE	1700	0.0195	NA	NA	NA	NA	6.16	0.0723
XRF (MG/KG)								
LEAD	280	**535**	48	140	44.33	22.67	**2059**	**1790.33**

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS030		TSR-SS031	TSR-SS032	TSR-SS032	TSR-SS033	TSR-SS034
SAMPLE ID		TSR-SS030-0001	TSR-SS030-0102	TSR-SS031-0001	TSR-SS032-0001	TSR-SS032-0102	TSR-SS033-0001	TSR-SS034-0001
SAMPLE DATE	Project	20100228	20100302	20100228	20100228	20100302	20100228	20100228
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	1	0	0	1	0	0
BOTTOM DEPTH		1	2	1	1	2	1	1
METALS (MG/KG)								
LEAD	400	**2520 J**	NA	NA	NA	NA	179 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
ACENAPHTHENE	3400	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
ACENAPHTHYLENE	3400	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
ANTHRACENE	17000	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	**0.02**	NA	**0.02**	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	0.0125	NA	0.0122	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.0173	NA	0.0187	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00666 J	NA	0.00694 J	NA	NA	NA	NA
CHRYSENE	15	0.013	NA	0.0151	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
FLUORANTHENE	2300	0.0121	NA	0.0165	NA	NA	NA	NA
FLUORENE	2300	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
NAPHTHALENE	3.9	0.00911 U	NA	0.00807 U	NA	NA	NA	NA
PHENANTHRENE	1700	0.00471 J	NA	0.00661 J	NA	NA	NA	NA
PYRENE	1700	0.0113	NA	0.0151	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	280	**1547.33**	**619.67**	**3282.33**	**1673.67**	54.33	139	13.33

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS035	TSR-SS036	TSR-SS037	TSR-SS038		TSR-SS039	TSR-SS040
SAMPLE ID		TSR-SS035-0001	TSR-SS036-0001	TSR-SS037-0001	TSR-SS038-0001	TSR-SS038-0102	TSR-SS039-0001	TSR-SS040-0001
SAMPLE DATE	Project	20100228	20100228	20100227	20100227	20100302	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	1	0	0
BOTTOM DEPTH		1	1	1	1	2	1	1
METALS (MG/KG)								
LEAD	400	NA	18.1 J	NA	NA	NA	**1410 J**	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	0.00894 U	NA	NA	0.00853 U	NA
2-METHYLNAPHTHALENE	310	NA	NA	0.00191 J	NA	NA	0.00853 U	NA
ACENAPHTHENE	3400	NA	NA	0.00454 J	NA	NA	0.0024 J	NA
ACENAPHTHYLENE	3400	NA	NA	0.00894 U	NA	NA	0.00853 U	NA
ANTHRACENE	17000	NA	NA	0.0152	NA	NA	0.00443 J	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	**0.4**	NA	NA	**0.1**	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	**0.241**	NA	NA	0.0694	NA
BENZO(A)PYRENE	0.015	NA	NA	**0.295**	NA	NA	**0.0981**	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	**0.413**	NA	NA	0.137	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.185	NA	NA	0.0659	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.145	NA	NA	0.0458	NA
CHRYSENE	15	NA	NA	0.307	NA	NA	0.0911	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	**0.0502**	NA	NA	**0.0163**	NA
FLUORANTHENE	2300	NA	NA	0.255	NA	NA	0.0694	NA
FLUORENE	2300	NA	NA	0.00323 J	NA	NA	0.00853 U	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	**0.201**	NA	NA	0.0698	NA
NAPHTHALENE	3.9	NA	NA	0.00894 U	NA	NA	0.00853 U	NA
PHENANTHRENE	1700	NA	NA	0.072	NA	NA	0.0193	NA
PYRENE	1700	NA	NA	0.247	NA	NA	0.07	NA
XRF (MG/KG)								
LEAD	280	14.33	12	**2038.33**	**1198.33**	211	**1876.33**	**2860.33**

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS041		TSR-SS042	TSR-SS043	TSR-SS044	TSR-SS045	TSR-SS046
SAMPLE ID		TSR-SS041-0001	TSR-SS041-0102	TSR-SS042-0001	TSR-SS043-0001	TSR-SS044-0001	TSR-SS045-0001	TSR-SS046-0001
SAMPLE DATE	Project	20100227	20100302	20100228	20100228	20100228	20100228	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	1	0	0	0	0	0
BOTTOM DEPTH		1	2	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	**1860 J**	NA	9.24 J	NA	NA	**2820 J**	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	22 J	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	10700	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	5.96	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	0.00772 U	NA	NA	0.0183 J	NA
2-METHYLNAPHTHALENE	310	NA	NA	0.00772 U	NA	NA	0.0229	NA
ACENAPHTHENE	3400	NA	NA	0.00772 U	NA	NA	0.12	NA
ACENAPHTHYLENE	3400	NA	NA	0.00772 U	NA	NA	0.00521 J	NA
ANTHRACENE	17000	NA	NA	0.00772 U	NA	NA	0.692	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	0.009	NA	NA	**8**	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	0.00772 U	NA	NA	**5.63**	NA
BENZO(A)PYRENE	0.015	NA	NA	0.00401 J	NA	NA	**5.07**	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	0.00577 J	NA	NA	**6.87**	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.00772 U	NA	NA	2.72	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.00772 U	NA	NA	**2.32**	NA
CHRYSENE	15	NA	NA	0.00543 J	NA	NA	6.22	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	0.00772 U	NA	NA	**0.835**	NA
FLUORANTHENE	2300	NA	NA	0.00642 J	NA	NA	7.81	NA
FLUORENE	2300	NA	NA	0.00772 U	NA	NA	0.101	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	0.00772 U	NA	NA	**3.17**	NA
NAPHTHALENE	3.9	NA	NA	0.00772 U	NA	NA	0.0651	NA
PHENANTHRENE	1700	NA	NA	0.00291 J	NA	NA	2.99	NA
PYRENE	1700	NA	NA	0.00582 J	NA	NA	6.98	NA
XRF (MG/KG)								
LEAD	280	**857.33**	55	10 U	10 U	10 U	**5356**	**1970.67**

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS047	TSR-SS048	TSR-SS049	TSR-SS050	TSR-SS051	TSR-SS052	TSR-SS053
SAMPLE ID		TSR-SS047-0001	TSR-SS048-0001	TSR-SS049-0001	TSR-SS050-0001	TSR-SS051-0001	TSR-SS052-0001	TSR-SS053-0001
SAMPLE DATE	Project	20100227	20100301	20100301	20100301	20100301	20100301	20100301
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	239 J	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	0.00731 U	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00731 U	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	0.00731 U	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	0.00731 U	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	0.00442 J	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	**0.03**	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.0247	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	**0.022**	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.0312	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00731 U	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.0106	NA	NA	NA	NA	NA	NA
CHRYSENE	15	0.0285	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00731 U	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	0.0404	NA	NA	NA	NA	NA	NA
FLUORENE	2300	0.00731 U	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00731 U	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	0.00731 U	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	0.0171	NA	NA	NA	NA	NA	NA
PYRENE	1700	0.0354	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	280	258.67	10 U	10 U	10 U	10 U	10 U	10 U

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS054	TSR-SS055	TSR-SS056	TSR-SS057	TSR-SS058	TSR-SS059	TSR-SS060
SAMPLE ID		TSR-SS054-0001	TSR-SS055-0001	TSR-SS056-0001	TSR-SS057-0001	TSR-SS058-0001	TSR-SS059-0001	TSR-SS060-0001
SAMPLE DATE	Project	20100301	20100301	20100301	20100301	20100228	20100228	20100228
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	15	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	NA	NA	NA	NA	NA	NA	NA
FLUORENE	2300	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	NA	NA	NA	NA	NA	NA	NA
PYRENE	1700	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	280	10 U	10 U	10 U	10 U	10 U	10 U	10 U

TABLE 5-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
TRAP/SKEET RANGE #1 AND #2 (AOC 1)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		TSR-SS061	TSR-SS062	TSR-SS063	TSR-SS064	TSR-SS065	TSR-SS066	TSR-SS067
SAMPLE ID		TSR-SS061-0001	TSR-SS062-0001	TSR-SS063-0001	TSR-SS064-0001	TSR-SS065-0001	TSR-SS066-0001	TSR-SS067-0001
SAMPLE DATE	Project	20100228	20100228	20100228	20100228	20100228	20100302	20100302
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	NA	NA	NA	NA	NA	**2090 J**	20 J
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	0.0207 J	0.0291
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	0.0253	0.0414
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	0.117	0.167
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	0.0216 U	0.021 U
ANTHRACENE	17000	NA	NA	NA	NA	NA	0.585	0.852
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	**7**	**11**
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	**5.04**	**8.54**
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	**4.42**	**7.65**
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	**5.67**	**9.09**
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	2.97	4.49
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	**1.82**	**3.13**
CHRYSENE	15	NA	NA	NA	NA	NA	5.56	9.96
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	**1.04**	**1.37**
FLUORANTHENE	2300	NA	NA	NA	NA	NA	6.36	9.41
FLUORENE	2300	NA	NA	NA	NA	NA	0.103	0.123
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	**3.27**	**4.65**
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	0.0873	0.109
PHENANTHRENE	1700	NA	NA	NA	NA	NA	2.63	3.91
PYRENE	1700	NA	NA	NA	NA	NA	5.69	9.35
XRF (MG/KG)								
LEAD	280	10 U	10 U	10 U	10 U	10 U	NA	NA

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations greater than PAL.

TETRA TECH

Figure 5-1
Lead Results
Trap/Skeet Ranges #1 & #2 (AOC 1)
NSA Mid-South
Millington, Tennessee

Legend

- Composite Sampling Area
- Trap/Skeet Ranges
- Firing Line
- SWMU 2 Boundary
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)
- Non-Detect
- FBL Sample Location <400 mg/kg / >400 mg/kg
- FBL-XRF Correlation Results <400 mg/kg / >400 mg/kg
- XRF Sample Location <280 mg/kg / >280 mg/kg

300 150 0 300 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\TRAP_SKEET_RANGE_LEAD_TAGS.MXD 5/6/10 KM

TETRA TECH

Figure 5-2
Benzo(a)pyrene (BaP) Equivalent Results
Trap/Skeet Ranges #1 & #2 (AOC 1)
NSA Mid-South
Millington, Tennessee

Legend

- BaP > 0.565 mg/kg
- BaP > 0.015 mg/kg and < 0.565 mg/kg
- BaP < 0.015 mg/kg
- Not Analyzed
- Composite Sampling Area
- Trap/Skeet Ranges
- Firing Line
- SWMU 2 Boundary
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)

300 150 0 300 Feet

Drawn By: K. MOORE 4/20/10
Checked By: R. BAILEY 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\TRAP_SKEET_RANGE_BAP_TAGS.MXD 5/6/10 KM

6.0 AIRCRAFT FIRING RANGE (AOC 2)

6.1 SITE BACKGROUND

6.1.1 Historical Site Information and Current Land Use

The current conditions of the Aircraft Firing Range are shown on Figure 6-1.

The Aircraft Firing Range consists of approximately 8.5 acres located near the southern border of the installation, west of Singleton Avenue, directly south of Integrity (formerly "B") Street. The Aircraft Firing Range was constructed in 1942 and was used for bore sighting of fixed-wing machine guns on aircraft through World War II. Later, the range was converted to an aircraft maintenance garage and remained in use until 1995 when the Army Reserve began using the area. Two containment berms (east and west) were previously associated with the Aircraft Firing Range but were removed prior to use of the area by the Army Reserve. A review of historical records and previous environmental reports available (including the PA) was unable to identify when the berms were removed or where the soil was transported.

Property records indicate that the range, when active, consisted of the Machine Gun Test Building, which later became an aircraft maintenance garage, Instruction Building, offices, and two berms. According to information presented in the PA, the targets were typically wooden stands covered with cloth placed in front of the containment berms. The containment berms, each approximately 200 feet long, were located south of, and parallel to, the former building.

A visual inspection conducted during the PA did not identify any MC between the areas of the former firing lines and former containment berms. A site visit was conducted by Tetra Tech and Navy personnel on September 15, 2008, with no expended munitions fragments, nor any signs of past range activities, visually noted at the former Aircraft Firing Range.

6.1.2 Munitions Used

Munitions use was limited to small arms ammunition, including 0.30- and 0.50-caliber machine gun ammunition. The range was used only for bore sighting of fixed-wing aircraft; there is no known historical evidence of explosives use at the site and no evidence of MEC. Therefore, MEC was not suspected to be present.

6.1.3 Munitions Constituents

Lead is the primary inorganic MC of concern because it was the primary component of the spent munitions used during operation of each small arms range; and because of its documented toxicity to both human and ecological receptors. The other inorganic MCs associated with the munitions used at the firing ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller fractions than lead and are accepted to be historically co-located with the lead. Therefore, the BCT decided that lead would be the only inorganic MC investigated under this SI (see Worksheet #9 of the UFP-SAP). Nitroglycerin (NG), as a constituent of smokeless powder and ejected unburned propellants, is another MC associated with firing ranges and is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points.

6.2 SITE FIELDWORK

6.2.1 Site Field Activities

Initial soil sampling at the former Aircraft Firing Range was limited to surface soil (0- to 1-foot bgs) because the penetration depth was limited to surface soil and lead typically has limited mobility in soil and would be expected to remain in the surface soil. All 29 samples collected in the area of the western berm were analyzed for lead in the field using XRF, and 20 of the 29 samples were submitted to the FBL for definitive lead analysis. The eastern portion of the Aircraft Firing Range is currently covered by an asphalt parking lot. Delays were experienced in gaining site access for the coring subcontractor. Therefore, all 30 of the samples collected from the eastern portion of the site were submitted for FBL analysis (without prior screening by XRF) in order to ensure adherence to the overall project schedule.

Surface soil sample locations were selected based on a bias towards areas that were believed most likely to be contaminated by past operations at the site (i.e., the firing lines and berms). Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the NAD 83 Tennessee State Plane coordinate system. Sample locations in the area of the former western berm were marked by brightly colored pin flags bearing the sample location ID number. Sample locations beneath the asphalt parking lot were marked on the asphalt with white spray paint bearing the sample location ID number.

The Aircraft Firing Range consisted of primarily cleared or paved land; therefore, limited vegetation clearance was required. Grass and surface gravel around the western sampling points were removed using shovels to facilitate sampling. The coring subcontractor used a 12-inch diameter coring machine to

remove cut through the asphalt (and underlying gravel base) at each location to access the eastern sampling points.

6.2.2 Work Plan Deviations

As stated in Section 6.2.1, delays were experienced in gaining site access for the coring subcontractor. Due to the additional time required for the coring subcontractor to gain access and completion of the SI activities at the Aircraft Firing Range after the scheduled end of all field activities, all the samples collected from the eastern portion of the site were submitted for FBL analysis without prior screening by XRF.

6.2.3 Field Data Collection

A total of 58 surface soil samples (56 initial sampling locations and 2 QA/QC duplicates) were collected from 56 sample locations during the SI at the Aircraft Firing Range. A 0- to 1-foot bgs sample was collected at each location via soil probe. The samples from the western portion of the site underwent field XRF analysis for lead, None of the samples from the western portion of the site exceeded the XRF PAL for lead (280 mg/kg, or 70% of the FBL PAL of 400 mg/kg); therefore, the samples chosen for FBL analysis were selected based upon the 20 highest XRF concentrations recorded. The 29 samples collected from the eastern portion of the site (beneath the parking lot) were also submitted for FBL analysis of lead. See Figure 6-1 for all sampling locations and XRF detections measured at the Aircraft Firing Range. Soil sample log sheets are included on a disc in Appendix A of this SI Report.

6.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 6.2.3, a total of 49 samples were selected for lead only analysis at the FBL; however, due to an oversight by the FBL, only 48 samples were analyzed. The sample that was not analyzed by the FBL (AFRSS0028) had an XRF result of 18.67 mg/kg, indicating a low likelihood of contamination present at this location. Table 6-1 identifies the specific samples that were selected for FBL analysis and Table 6-2 presents a comparison between the XRF and FBL lead concentrations for the collected samples. The FOL selected one surface soil sample to submit to the FBL for pH, TOC, and CEC analysis. Two composite surface soil samples (comprised of 10 grab samples each) collected along the firing lines on the western portion of the site were submitted for fixed-base laboratory NG and lead analyses. To reduce the number of boring holes cored through the parking area, FBL results from the firing line composite samples on the western portion of the site are accepted to be representative of the entire site.

The results of the samples collected at the Aircraft Firing Range are summarized as follows:

- Firing Line – Two samples were collected from the 0- to 1-foot interval on the western portion of the site and were non-detect for NG and contained lead at concentrations below the PAL of 400 mg/kg.

- Berms –

  - Fifty-eight samples were collected from the 0- to 1-foot interval, with no exceedances of the XRF PAL of 280 mg/kg with average XRF concentrations ranging from non-detect to 39 mg/kg.

  - Forty-eight samples collected from the 0- to 1-foot interval were analyzed by the FBL for lead, with only one sample (AFRSS0037) exceeding the FBL PAL of 400 mg/kg with a concentration of 20,500 mg/kg.

Table 6-3 presents the positive detections for the samples submitted for FBL analysis of lead; as well as, the corresponding XRF concentration, and the pH, TOC and CEC data for the Aircraft Firing Range. Figure 6-1 presents the XRF and FBL lead results for the Aircraft Firing Range.

6.4 DATA PRESENTATION/DATA USABILITY

6.4.1 Data Validation Process

FBL laboratory data was validated following USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (October, 2004) guidelines. Validated analytical data is presented in Appendix B.6.

6.4.2 Data Quality Review

6.4.2.1 Completeness

The sample collection and FBL analytical completeness for the Aircraft Firing Range were 100 percent and 98 percent, respectively.

6.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Aircraft Firing Range was satisfactory to meet DQOs presented in the UFP-SAP.

6.4.2.3 Field and Laboratory Accuracy

Lead was qualified for calibration noncompliance in five soil samples from the Aircraft Firing Range. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

Results for lead in several samples were qualified due to matrix spike/matrix spike duplicate percent recovery noncompliance in soil. MS noncompliance indicates that the sample matrix is interfering with the accurate quantitation of target analytes. As soil is not homogenous, only inorganic results from samples actually spiked truly indicate that the accuracy of those results are impacted due to MS noncompliance.

Laboratory control sample percent recovery noncompliance was noted for nitroglycerin in five soil samples. With the exception of these nitroglycerin laboratory control sample results, quality control samples were compliance with quality control criteria indicating that laboratory procedures and analytical equipment were functioning properly.

6.4.2.4 Field and Laboratory Precision

Cation exchange capacity was qualified for laboratory duplicate imprecision in one soil sample. Qualified data due to laboratory duplicate imprecision were not rejected and therefore are considered acceptable for the data usability assessment.

6.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Aircraft Firing Range data.

6.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all reported data are adequately representative of site conditions and intended populations for the Aircraft Firing Range.

6.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the 19 samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and the R squared value were calculated, as discussed in Section 3.3. One sample (AFRSS0023) had a FBL concentration of 124 mg/kg and a corresponding XRF concentration (11.67 mg/kg) within the ranges of the other XRF concentrations. As a result, the correlation between the FBL lead concentrations and the field XRF average lead concentrations was calculated to be -0.041, indicating a weak correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Aircraft Firing Range was 0.0016. An R Squared value near zero is considered to indicate a very weak relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given a R-squared value of 0.0016, and a correlation between the XRF and FBL of -0.041, a predictive formula for estimating FBL lead concentrations from samples by XRF cannot be determined. As outlined in the UFP-SAP, the correlation coefficient must be between 0.65 and 1.00 to convert field XRF data into equivalent laboratory lead concentrations. The regression analysis for the Aircraft Firing Range is included in Appendix C.4.

6.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 6-2 summarizes the positive FBL lead detections and compares them to the PAL for lead (400 mg/kg). NG was not detected in the sample collected at the firing line, and is therefore not included in the table. Only one sample (AFRSS037) contained an FBL result exceeding the PAL for lead and was located on the eastern portion of the site, beneath the asphalt parking area. Figure 6-1 presents the XRF and FBL lead detections in soil at the Aircraft Firing Range.

6.7 UPDATED CONCEPTUAL SITE MODEL

With one exception, lead was detected at low concentrations across the site. FBL lead results for both firing line composite samples were less than 100 mg/kg (and non-detect for NG). All FBL lead results for the grid sampling in the former berm areas were less than 100 mg/kg, except for one location on the western berm (124 mg/kg) and one location on the eastern berm (20,500 mg/kg). Thus, only one sample exceeded the 400 mg/kg PAL for lead.

Lead contamination was identified at one location in surface soil (0- to 1-foot bgs) beneath an asphalt parking lot. If the lead were to enter the shallow water-bearing zone, it would be expected to migrate

laterally southward to Big Creek Drainage Canal, the lowest hydraulic point in the area. So long as the parking lot is in place, precipitation infiltration is not likely to mobilize lead into subsurface soil and shallow groundwater.

Current human receptors for the Aircraft Firing Range include Navy and Army Reserve personnel, Navy and/or Army-escorted visitors (e.g., contractors conducting environmental or ecological surveys), and trespassers (e.g., authorized personnel who may wander outside of designated areas). The facility's current land uses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds and perform other maintenance tasks such as sewer repair may be exposed to MC from former range activities. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the site.

As shown in Figure 6-1, the only location that contained lead at a concentration exceeding the FBL PAL is beneath an existing asphalt parking area surrounded by a fence. The parking lot and controlled access act as barriers against exposure as long as the parking surface and fence are maintained. The exposure source is limited to the one sample location under the parking lot where metals bound to the soil could present a risk to receptors under the right conditions (i.e., breaching of the exposure barrier). The primary migration pathway is leaching from soil into groundwater, but that was previously eliminated as a pathway, due to the immobility of lead, and the depth to groundwater. The most likely receptors to be affected would be contractors or maintenance workers who had to breach the exposure barrier (parking lot) for some reason in the vicinity of the one sample that exceeded the PAL. For the remainder of the site, there is no contamination so no receptors would be affected.

6.8 CONCLUSIONS

The majority of SI FBL results (47 of 48 samples) shows that lead is not present in surface soil at concentrations above the applicable 400 mg/kg PAL, and thus do not present potential risks to human receptors. However, there was one exception - Sample AFRSS0037 at 20,500 mg/kg. This sample was located in the northernmost row of samples collected at the former eastern berm, as shown on Figure 6-1. The samples immediately to the east, west, and south of AFRSS0037 had very low FBL lead concentrations ranging from 25.0 to 48.5 mg/kg. No samples were collected north of AFRSS0037.

6.9 RECOMMENDATIONS

Based upon the anomalously high lead concentration detected in Sample AFRSS0037, resampling of this location and collection of additional samples immediately adjacent to and north of it are proposed. Details of the proposed sampling and a map showing sample locations are included in the Navy responses to TDEC comments on the draft version of this report (Appendix D). TDEC concurred with this recommendation during a review of the responses to comments at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 6-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
AIRCRAFT FIRING RANGE (AOC 2)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
AFRSS 001	AFRSS 0010001	3/2/2010	SP	0-1	X		X	
AFRSS 002	AFRSS 0020001	3/2/2010	SP	0-1	X		X	
AFRSS 003	AFRSS 0030001	3/2/2010	SP	0-1	X		X	
AFRSS 004	AFRSS 0040001	3/2/2010	SP	0-1	X		X	
AFRSS 005	AFRSS 0050001	3/2/2010	SP	0-1	X		X	
AFRSS 006	AFRSS 0060001	3/2/2010	SP	0-1	X		X	
AFRSS 007	AFRSS 0070001	3/2/2010	SP	0-1	X		X	
AFRSS 008	AFRSS 0080001	3/2/2010	SP	0-1	X		X	
AFRSS 009	AFRSS 0090001	3/2/2010	SP	0-1	X			
AFRSS 010	AFRSS 0100001	3/2/2010	SP	0-1	X			
AFRSS 011	AFRSS 0110001	3/2/2010	SP	0-1	X			
AFRSS 012	AFRSS 0120001	3/2/2010	SP	0-1	X		X	
AFRSS 013	AFRSS 0130001	3/2/2010	SP	0-1	X		X	
AFRSS 014	AFRSS 0140001	3/2/2010	SP	0-1	X			
AFRSS 015	AFRSS 0150001	3/2/2010	SP	0-1	X	X	X	
AFRSS 016	AFRSS 0160001	3/2/2010	SP	0-1	X		X	
AFRSS 017	AFRSS 0170001	3/2/2010	SP	0-1	X		X	
AFRSS 018	AFRSS 0180001	3/2/2010	SP	0-1	X		X	
AFRSS 019	AFRSS 0190001	3/2/2010	SP	0-1	X		X	
AFRSS 020	AFRSS 0200001	3/2/2010	SP	0-1	X		X	
AFRSS 021	AFRSS 0210001	3/2/2010	SP	0-1	X			
AFRSS 022	AFRSS 0220001	3/2/2010	SP	0-1	X		X	
AFRSS 023	AFRSS 0230001	3/2/2010	SP	0-1	X		X	
AFRSS 024	AFRSS 0240001	3/2/2010	SP	0-1	X		X	
AFRSS 025	AFRSS 0250001	3/2/2010	SP	0-1	X			
AFRSS 026	AFRSS 0260001	3/2/2010	SP	0-1	X			
AFRSS 027	AFRSS 0270001	3/2/2010	SP	0-1	X		X	
AFRSS 028	AFRSS 0280001	3/2/2010	SP	0-1	X			
AFRSS 029	AFRSS 0290001	3/9/2010	SP	0-1			X	
AFRSS 030	AFRSS 0300001	3/9/2010	SP	0-1			X	
AFRSS 031	AFRSS 0310001	3/9/2010	SP	0-1			X	
AFRSS 032	AFRSS 0320001	3/9/2010	SP	0-1			X	
AFRSS 033	AFRSS 0330001	3/9/2010	SP	0-1			X	
AFRSS 034	AFRSS 0340001	3/9/2010	SP	0-1			X	
AFRSS 035	AFRSS 0350001	3/9/2010	SP	0-1			X	
AFRSS 036	AFRSS 0360001	3/9/2010	SP	0-1			X	

TABLE 6-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
AIRCRAFT FIRING RANGE (AOC 2)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
AFRSS 037	AFRSS 0370001	3/9/2010	SP	0-1			X	
AFRSS 038	AFRSS 0380001	3/9/2010	SP	0-1			X	
AFRSS 039	AFRSS 0390001	3/9/2010	SP	0-1			X	
AFRSS 040	AFRSS 0400001	3/9/2010	SP	0-1			X	
AFRSS 041	AFRSS 0410001	3/10/2010	SP	0-1			X	
AFRSS 042	AFRSS 0420001	3/10/2010	SP	0-1			X	
AFRSS 043	AFRSS 0430001	3/9/2010	SP	0-1			X	
AFRSS 044	AFRSS 0440001	3/9/2010	SP	0-1			X	
AFRSS 045	AFRSS 0450001	3/10/2010	SP	0-1			X	
AFRSS 046	AFRSS 0460001	3/10/2010	SP	0-1			X	
AFRSS 047	AFRSS 0470001	3/10/2010	SP	0-1			X	
AFRSS 048	AFRSS 0480001	3/10/2010	SP	0-1			X	
AFRSS 049	AFRSS 0490001	3/10/2010	SP	0-1			X	
AFRSS 050	AFRSS 0500001	3/10/2010	SP	0-1			X	
AFRSS 051	AFRSS 0510001	3/10/2010	SP	0-1			X	
AFRSS 052	AFRSS 0520001	3/10/2010	SP	0-1			X	
AFRSS 053	AFRSS 0530001	3/10/2010	SP	0-1			X	
AFRSS 054	AFRSS 0540001	3/10/2010	SP	0-1			X	
AFRSS 055	AFRSS 0550001	3/10/2010	SP	0-1			X	
AFRSS 056	AFRSS 0560001	3/10/2010	SP	0-1			X	
AFRSS 01C	AFRSS 01C0001	3/9/2010	HA	0-1			X	X
AFRSS 02C	AFRSS 02C0001	3/9/2010	HA	0-1			X	X

bgs = below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP=Soil probe
HA = Hand auger

TABLE 6-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
TRAP AND SKEET RANGE #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2,3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)
AFRSS 0010001	3/2/2010	3/2/2010	15	15	ND	13.33	16.50
AFRSS 0020001	3/2/2010	3/3/2010	81	16	20	39.00	28.10
AFRSS 0030001	3/2/2010	3/2/2010	25	18	ND	17.67	20.00
AFRSS 0040001	3/2/2010	3/2/2010	15	ND	ND	11.67	17.50
AFRSS 0050001	3/2/2010	3/2/2010	20	22	19	20.33	21.60
AFRSS 0060001	3/2/2010	3/2/2010	26	33	ND	23.00	25.20
AFRSS 0070001	3/2/2010	3/2/2010	34	ND	ND	18.00	29.20
AFRSS 0080001	3/2/2010	3/2/2010	22	15	ND	15.67	15.00
AFRSS 0090001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0100001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0110001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0120001	3/2/2010	3/2/2010	19	ND	ND	13.00	19.60
AFRSS 0130001	3/2/2010	3/2/2010	ND	ND	ND	10.00	17.40
AFRSS 0140001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0150001	3/2/2010	3/2/2010	24	48	23	31.67	23.00
AFRSS 0160001	3/2/2010	3/2/2010	25	ND	ND	15.00	17.40
AFRSS 0170001	3/2/2010	3/2/2010	16	ND	ND	12.00	15.70
AFRSS 0180001	3/2/2010	3/2/2010	22	ND	16	16.00	18.60
AFRSS 0190001	3/2/2010	3/2/2010	19	50	17	28.67	24.30
AFRSS 0200001	3/2/2010	3/2/2010	18	14	16	16.00	18.50
AFRSS 0210001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0220001	3/2/2010	3/2/2010	ND	ND	16	12.00	12.20
AFRSS 0230001	3/2/2010	3/2/2010	15	ND	ND	11.67	124.00
AFRSS 0240001	3/2/2010	3/2/2010	25	17	29	23.67	30.80
AFRSS 0250001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0260001	3/2/2010	3/2/2010	ND	ND	ND	10.00	---
AFRSS 0270001	3/2/2010	3/2/2010	14	ND	ND	11.33	17.80
AFRSS 0280001	3/2/2010	3/2/2010	18	16	22	18.67	N/A
AFRSS 0290001	3/9/2010	***	***	***	***	***	28.70
AFRSS 0300001	3/9/2010	***	***	***	***	***	13.70
AFRSS 0310001	3/9/2010	***	***	***	***	***	34.30
AFRSS 0320001	3/9/2010	***	***	***	***	***	19.50
AFRSS 0330001	3/9/2010	***	***	***	***	***	48.50
AFRSS 0340001	3/9/2010	***	***	***	***	***	25.70
AFRSS 0350001	3/9/2010	***	***	***	***	***	26.70
AFRSS 0360001	3/9/2010	***	***	***	***	***	12.80
AFRSS 0370001	3/9/2010	***	***	***	***	***	20,500
AFRSS 0380001	3/9/2010	***	***	***	***	***	25.00
AFRSS 0390001	3/9/2010	***	***	***	***	***	42.50
AFRSS 0400001	3/9/2010	***	***	***	***	***	48.50
AFRSS 0410001	3/10/2010	***	***	***	***	***	33.50
AFRSS 0420001	3/10/2010	***	***	***	***	***	47.80
AFRSS 0430001	3/9/2010	***	***	***	***	***	40.40
AFRSS 0440001	3/9/2010	***	***	***	***	***	42.80
AFRSS 0450001	3/10/2010	***	***	***	***	***	60.00
AFRSS 0460001	3/10/2010	***	***	***	***	***	19.10
AFRSS 0470001	3/10/2010	***	***	***	***	***	19.50
AFRSS 0480001	3/10/2010	***	***	***	***	***	37.40
AFRSS 0490001	3/10/2010	***	***	***	***	***	22.10
AFRSS 0500001	3/10/2010	***	***	***	***	***	16.20
AFRSS 0510001	3/10/2010	***	***	***	***	***	19.20
AFRSS 0520001	3/10/2010	***	***	***	***	***	16.80

TABLE 6-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
TRAP AND SKEET RANGE #1 AND #2 (AOC 1)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2,3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)
AFRSS 0530001	3/10/2010	***	***	***	***	***	26.40
AFRSS 0540001	3/10/2010	***	***	***	***	***	26.90
AFRSS 0550001	3/10/2010	***	***	***	***	***	27.90
AFRSS 0560001	3/10/2010	***	***	***	***	***	27.70

FBL = Fixed-base laboratory
mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.
N/A = sample not analyzed due to lab oversight.
*** = sample not analyzed by XRF.
1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.
2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of
3 - Per the December 2009 SAP, the correlation between the XRF and FBL results for this site is not acceptable; therefore, a predictive formula for samples analyzed by XRF only cannot be determined.

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS001	AFR-SS001C			AFR-SS002	AFR-SS002		AFR-SS002C	AFR-SS003	AFR-SS004
SAMPLE ID		AFR-SS001-0001	AFR-SS01C-0001	AFR-SS01C-0001-AVG	AFR-SS01C-0001-D	AFR-SS002-0001	AFR-SS002-0001-AVG	AFR-SS002-0001-D	AFR-SS02C-0001	AFR-SS003-0001	AFR-SS004-0001
SAMPLE DATE	Project	20100302	20100310	20100310	20100310	20100302	20100302	20100302	20100309	20100302	20100302
SAMPLE CODE	Action	NORMAL	ORIG	AVG	DUP	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1	1
METALS (MG/KG)											
LEAD	400	16.5 J	96.9	96.9	NA	28.1 J	32.35 J	36.6 J	54.2	20 J	17.5 J
MISCELLANEOUS PARAMETERS (MEQ/100)											
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)											
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)											
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)											
LEAD	280	13.33	NA	NA	NA	39	37	35	NA	17.67	11.67

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS005	AFR-SS006	AFR-SS007	AFR-SS008	AFR-SS009	AFR-SS010	AFR-SS011	AFR-SS012	AFR-SS013
SAMPLE ID		AFR-SS005-0001	AFR-SS006-0001	AFR-SS007-0001	AFR-SS008-0001	AFR-SS009-0001	AFR-SS010-0001	AFR-SS011-0001	AFR-SS012-0001	AFR-SS013-0001
SAMPLE DATE	Project	20100302	20100302	20100302	20100302	20100302	20100302	20100302	20100302	20100302
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	21.6	25.2	29.2	15	NA	NA	NA	19.6	17.4
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	20.33	23	18	15.67	10 U	10 U	10 U	13	10 U

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS014	AFR-SS015	AFR-SS016	AFR-SS017	AFR-SS018	AFR-SS019	AFR-SS020	AFR-SS021	AFR-SS022
SAMPLE ID		AFR-SS014-0001	AFR-SS015-0001	AFR-SS016-0001	AFR-SS017-0001	AFR-SS018-0001	AFR-SS019-0001	AFR-SS020-0001	AFR-SS021-0001	AFR-SS022-0001
SAMPLE DATE	Project	20100302	20100302	20100302	20100302	20100302	20100302	20100302	20100302	20100302
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	NA	23	17.4	15.7	18.6	24.3	18.5	NA	12.2
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	38.5 J	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	25100	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	5.46	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	10 U	31.67	15	12	16	28.67	16	10 U	12

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS023	AFR-SS024	AFR-SS025	AFR-SS026	AFR-SS027	AFR-SS028	AFR-SS029	AFR-SS030	AFR-SS031
SAMPLE ID		AFR-SS023-0001	AFR-SS024-0001	AFR-SS025-0001	AFR-SS026-0001	AFR-SS027-0001	AFR-SS028-0001	AFR-SS029-0001	AFR-SS030-0001	AFR-SS031-0001
SAMPLE DATE	Project	20100302	20100302	20100302	20100302	20100302	20100302	20100309	20100309	20100309
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	124	30.8	NA	NA	17.8	NA	28.7 J	13.7 J	34.3 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	11.67	23.67	10 U	10 U	11.33	18.67	NA	NA	NA

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS032	AFR-SS033	AFR-SS034	AFR-SS035	AFR-SS036	AFR-SS037	AFR-SS038	AFR-SS039	AFR-SS040
SAMPLE ID		AFR-SS032-0001	AFR-SS033-0001	AFR-SS034-0001	AFR-SS035-0001	AFR-SS036-0001	AFR-SS037-0001	AFR-SS038-0001	AFR-SS039-0001	AFR-SS040-0001
SAMPLE DATE	Project	20100309	20100309	20100309	20100309	20100309	20100309	20100309	20100309	20100309
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	19.5 J	48.5 J	25.7 J	26.7 J	12.8 J	**20500 J**	25 J	42.5 J	48.5 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS041	AFR-SS042	AFR-SS043	AFR-SS044	AFR-SS045	AFR-SS046			AFR-SS047
SAMPLE ID		AFR-SS041-0001	AFR-SS042-0001	AFR-SS043-0001	AFR-SS044-0001	AFR-SS045-0001	AFR-SS046-0001	AFR-SS046-0001-AVG	AFR-SS046-0001-D	AFR-SS047-0001
SAMPLE DATE	Project	20100310	20100310	20100309	20100309	20100310	20100310	20100310	20100310	20100310
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	33.5 J	47.8 J	40.4 J	42.8 J	60 J	19.1 J	23.75 J	28.4 J	19.5 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS048	AFR-SS049	AFR-SS050	AFR-SS051	AFR-SS052	AFR-SS053	AFR-SS054	AFR-SS055	
SAMPLE ID		AFR-SS048-0001	AFR-SS049-0001	AFR-SS050-0001	AFR-SS051-0001	AFR-SS052-0001	AFR-SS053-0001	AFR-SS054-0001	AFR-SS055-0001	AFR-SS056-0001
SAMPLE DATE	Project	20100310	20100310	20100310	20100310	20100310	20100310	20100310	20100310	20100310
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	37.4 J	22.1 J	16.2 J	19.2 J	16.8 J	26.4 J	26.9 J	27.9 J	27.7 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 6-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
AIRCRAFT FIRING RANGE (AOC 2)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		AFR-SS056	
SAMPLE ID		AFR-SS056-0001-AVG	AFR-SS056-0001-D
SAMPLE DATE	Project	20100310	20100310
SAMPLE CODE	Action	AVG	DUP
MATRIX	Limit	SO	SO
SAMPLE TYPE		NORMAL	NORMAL
SUBMATRIX		SS	SS
TOP DEPTH		0	0
BOTTOM DEPTH		1	1
METALS (MG/KG)			
LEAD	400	28.65 J	29.6 J
MISCELLANEOUS PARAMETERS (MEQ/100)			
CATION EXCHANGE CAPACITY	NC	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)			
TOTAL ORGANIC CARBON	NC	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)			
PH	NC	NA	NA
XRF (MG/KG)			
LEAD	280	NA	NA

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations greater than PAL.

TETRA TECH

Figure 6-1
Lead Results
Aircraft Firing Range (AOC 2)
NSA Mid-South
Millington, Tennessee

Legend

- ●/● FBL Sample Location <400 mg/kg / >400 mg/kg
- ■/■ XRF Sample Location <280 mg/kg / >280 mg/kg
- No ND points
- Composite Sampling Area
- Aircraft Firing Range
- Firing Line
- Surface Danger Zone
- Target Berm
- Road
- Contour (1-ft interval)

80 40 0 80 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\AIRCRAFT_FIRING_RANGE_LEAD_TAGS.MXD 5/6/10 KM

7.0 HORSE STABLES SKEET RANGE #1 (AOC 3)

7.1 SITE BACKGROUND

7.1.1 Historical Site Information and Current Land Use

The current conditions of the former Horse Stables Skeet Range #1 are shown on Figure 7-1.

The former Horse Stables Skeet Range #1 MRP site covers approximately 36 acres on the northern portion of the installation, east of Attu Street Extended, adjacent to the Former Navy Rifle Range (UXO 000001) and Former Horse Stables Skeet Range #2 (UXO 000002). The range was built in 1945 and closed in the summer of 1952 for the construction of a Navy family housing area. No remedial efforts are documented for the closure of the range.

Property records indicate that the range had a magazine, shed, a skeet tower, a firing arch, and high and low houses. The magazine, a shed and skeet tower, were also used also for the adjacent Former Horse Stables Skeet Range #2 on the west side of Attu Street Extended. The site is currently vacant land.

A visual inspection conducted during the PA found no evidence of the former Horse Stables Skeet Range #1; as the structures formerly associated with the range were believed to have been removed prior to construction of the residential development. Tetra Tech and Navy personnel on did not observe expended munitions fragments or skeet targets at the former Horse Stables Skeet Range #1 during a September 15, 2008 site visit.

7.1.2 Munitions Used

Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells. The range was used only for small arms training; there is no known historical evidence of explosives use at the site and no evidence of MEC. Therefore, MEC was not suspected to be present.

7.1.3 Munitions Constituents

Lead is the primary inorganic MC of concern because it was the primary constituent in the spent munitions used during operation of each skeet range and because of its documented toxicity to both human and ecological receptors. The other inorganic MCs associated with munitions used at the skeet ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller fractions than lead and are accepted to be historically co-located with the lead present. Therefore, the BCT

decided that lead would be the only inorganic MC investigated under this SI. Other MC of concern associated with skeet ranges consists of NG and PAHs. Nitroglycerin (NG), as a constituent of smokeless powder and ejected unburned propellants, is another MC associated with firing ranges; and is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points. PAHs may be present due to fragmentation of skeet targets containing pitch tar, which was used as a binding agent.

7.2 SITE FIELDWORK

7.2.1 Site Field Activities

Soil sampling at Horse Stables Skeet Range #1 was limited to surface soil (0- to 1-foot bgs) because the penetration depths were limited to surface soil and lead and PAHs typically have limited mobility in soil and would be expected to remain in the surface soil. All samples were analyzed for lead in the field using XRF and 21 of the 60 samples were submitted to the FBL for definitive lead analysis.

Surface soil sample locations were selected based on a bias towards areas that were believed most likely to be contaminated by past operations at the site (i.e., firing lines, shot fall zones and target break zones). Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the NAD 83 Tennessee State Plane coordinate system. Each sample location was marked by a brightly colored pin flag bearing the sample location ID number. Vertical step-out sample locations were collected from the same location as the original sample and did not require resurveying.

The former Navy housing at the location of Horse Stables Skeet Range #1 was demolished prior to conducting the SI and the site topography reworked in anticipation of building a new housing area. As a result, the area is primarily grass-covered with scattered old-growth trees; so limited vegetation clearance was required. Grass around the sampling points was removed using shovels to facilitate sampling.

7.2.2 Work Plan Deviations

There were no deviations from the UFP-SAP for the NSA Mid-South Horse Stables Skeet Range #1.

7.2.3 Field Data Collection

A total of 62 surface soil samples (60 initial sampling locations and 2 QA/QC duplicates) were collected at the Horse Stables Skeet Range #1 as shown on Figure 7-1. Table 7-1 lists the samples that were

collected at each location. A 0- to 1-foot bgs sample was collected at each location via soil probe. All samples underwent field XRF analysis for lead. After evaluating the initial XRF results, one exceedance of the XRF PAL for lead (280 mg/kg, or 70 percent of the FBL PAL of 400 mg/kg) was identified and selected to evaluate the potential leaching of lead to the deeper soil intervals. As a result, a vertical step-out sample (from the 1- to 2-foot interval) was collected and also underwent field XRF analysis for lead. Horizontal step-out samples were not collected as seven sampling locations surround the XRF PAL exceedance and all were well below the XRF PAL. The 20 samples with the highest XRF lead concentrations were submitted to the FBL for definitive lead analysis. See Figure 7-1 for all sampling locations. Soil sample log sheets are included in Appendix A.

7.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 7.2.3, a total of 20 soil samples were selected from the initial XRF samples for lead only analysis at the FBL. An additional 21 samples were shipped to the FBL for PAH analysis (but not necessarily the same samples identified for lead analysis. The FOL also selected two samples to submit to the FBL for pH, TOC, and CEC analyses, and two composite surface soil samples (each comprised of 10 grab samples) along the firing lines were submitted for FBL NG and lead analyses. Table 7-1 identifies the specific samples that were selected for laboratory analysis.

USEPA has developed a TEF for each potentially carcinogenic PAH that can be used to convert the concentration of that PAH to an equivalent concentration of benzo(a)pyrene. Since benzo(a)pyrene is often abbreviated BaP, this process is known as determining the BaP equivalent concentration. BaP equivalent concentrations were calculated for all PAH samples to facilitate the evaluation and display of the PAH data. BaP was selected to represent the entire group of PAH compounds because it has the most stringent screening level or PAL.

The results for the samples collected at Horse Stables Skeet Range #1 are summarized as follows:

- Firing lines – Two samples were collected from the 0- to 1-foot interval and both were non-detect for NG. Both samples also contained lead at concentrations below the PAL of 400 mg/kg.

- Shot and skeet fall areas –

  Lead:

  - Sixty initial samples were collected from the 0- to 1-foot interval, with only one (HSRSS010) exceeding the XRF PAL of 280 mg/kg with an average XRF concentration of 384.67 mg/kg.

  - One vertical step-out sample was collected from the 1- to 2-foot interval at location HSRSS010, with the result having an average XRF concentration of 43.67 mg/kg.

  - Twenty initial XRF samples collected from the 0- to 1-foot interval were submitted for FBL analysis of lead, with none exceeding the FBL PAL of 400 mg/kg.

  PAHs (BaP equivalents):

  - Twenty initial samples collected from the 0- to 1- foot interval were submitted for FBL analysis of PAHs, with 16 exceeding the BaP equivalent PAL of 0.015 mg/kg at concentrations ranging from 0.02 mg/kg to 1 mg/kg. Only two of the 20 samples exceeded the NSA Mid-South background BaP equivalent concentration of 0.565 mg/kg established during the RCRA Facility Investigation.

Table 7-3 presents the positive detections for the samples submitted for all FBL analyses; the corresponding XRF concentrations; and, the calculated BaP equivalents. Figure 7-1 presents the XRF and FBL lead results for Horse Stables Skeet Range #1, and Figure 7-2 presents the BaP equivalent concentrations.

7.4 DATA PRESENTATION/DATA USABILITY

7.4.1 Data Validation Process

All of the results from analytical FBL analytical data samples were validated according to multiple specifications. The DQOs presented in the UFP-SAP were maintained through the course of the sampling event. Worksheets #15 and #19 of the UFP-SAP present the analytical methods and compounds analyzed. Sample data validation generally followed USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (October, 2004) guidelines. Validated analytical data is presented in Appendix B.7.

No data collected for the Horse Stables Skeet Range #1 were rejected. All data are considered valid for their intended purpose.

7.4.2 Data Quality Review

7.4.2.1 Completeness

The sample collection and FBL analytical completeness for the Horse Stables Skeet Range #1 was 100 percent.

7.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Horse Stables Skeet Range #1 was satisfactory to meet DQOs presented in the UFP-SAP.

7.4.2.3 Field and Laboratory Accuracy

Lead was qualified for calibration noncompliance in six soil samples from the Horse Stables Skeet Range #1. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

7.4.2.4 Field and Laboratory Precision

Cation exchange capacity was qualified for laboratory duplicate imprecision in two soil samples. Qualified data due to laboratory duplicate imprecision were not rejected and therefore are considered acceptable for the data usability assessment.

7.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Horse Stables Skeet Range #1 data.

7.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all

reported data are adequately representative of site conditions and intended populations for the Horse Stables Skeet Range #1.

7.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and the R squared value were calculated, as discussed in Section 3.3. The correlation between the FBL lead concentrations and the field XRF average lead concentrations at the Horse Stables Skeet Range #1 was 0.79, indicating a moderate correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Horse Stables Skeet Range #1 was 0.63. This R Squared value is considered to indicate a moderate relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given a R-squared value of 0.63, and a correlation between the XRF and FBL of 0.79, the following predictive formula can be used to estimate FBL lead concentrations at Horse Stable Skeet Range #1 for samples only analyzed by XRF: FBL = -9.3 + 0.7*XRF. As outlined in the UFP- SAP, the correlation coefficient must be between 0.65 and 1.00 to be able to calculate a predictive formula such as this. Table 7-2 presents a comparison of XRF lead concentrations, the FBL lead results predicted by the correlation, and the actual FBL results. The regression analysis is included in Appendix C.5.

7.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 7-3 summarizes the positive FBL lead and PAH detections and compares them to their respective PALs. NG was not detected in the samples collected at the firing lines, and is therefore not included in the table. The PAL for lead was not exceeded at any location. While 16 of 20 PAH samples exceeded the BaP PAL, PAHs are ubiquitous in surface soil at NSA Mid-South which resulted in the BCT establishing a background concentration for BaP equivalents of 0.565 mg/kg during the RCRA Facility Investigation. Only two locations at Horse Stables Skeet Range #1 exceeded the background concentration (at concentrations of 0.8 mg/kg and 1.0 mg/kg). Figure 7-1 presents all lead results for the site and Figure 7-2 presents the BaP equivalent concentrations.

7.7 UPDATED CSM

Lead was detected at low concentrations across the site (Figure 7-1). Reported values for lead were less than 100 mg/kg at all but three locations, and those locations were less than the 400 mg/kg PAL. NG was not detected at the firing lines, and BaP equivalent concentrations exceeded the background concentration for NSA Mid-South (and the PAL) at only two locations more than 200 feet apart with a sample point in-between (Figure 7-2). Thus, the site is not contaminated based on the data.

Lead and PAHs detected at the site would be primarily retained in surface soil (0- to 1- feet bgs). Lead would generally be more likely to mobilize into subsurface soil and shallow groundwater than PAHs. Soil pH, TOC and CEC affect the mobility of lead in soil. In general, high TOC combined with high CEC would increase adsorption of lead to soil, and when pH conditions are near neutral (6 to 8 S.U.) there is very limited aqueous solubility for lead compounds in soil. The greatest solubilities of lead compounds in soil have been shown to occur at more acidic (pH < 4) and more alkaline (pH > 11) conditions.

Samples from Horse Stables Skeet Range #1 contained 10,900 mg/kg to 30,400 mg/kg (or about 1.07 to 3.04 percent) TOC and had measured CECs of 17.2 to 26.9 milliequivalents per 100 grams. The TOC value is consistent with the average organic content for surface soils in the central U.S. which typically average from 1% to 3.5% organic matter. The CEC value is typical for higher range silt loam soils and moderate clay loam soils, but is still regarded to be on the lower end of the CEC scale, and indicates lower adsorptive capacities. The soil pH was on the slightly acidic side of neutral, ranging from 5.48 to 5.75 S.U. While these conditions do not appear to be highly limiting to the mobility of lead, they also do not suggest an environment that would promote significant downward migration. Given the nearly neutral pH, the discontinuous nature of groundwater in the loess/alluvium, and the depth to fluvial deposits groundwater, migration to groundwater is not expected. So, the primary migration pathway is runoff from precipitation.

Current human receptors include Navy personnel, Navy-escorted visitors (e.g., contractors conducting environmental or ecological surveys), and trespassers (e.g., authorized personnel who may wander outside of designated areas). Military family housing is the anticipated future land use. Therefore, future receptors, including residents, construction workers, and contractors hired to maintain grounds or perform other maintenance tasks such as utility repairs, could be exposed to MC from former range activities, if they were present. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the installation.

The FBL analytical results did not identify any areas of contamination at the Horse Stables Skeet Range #1. The exposure source is limited to the two sample locations where the BaP equivalent concentration exceeded the installation background concentration. The primary migration pathway is runoff from precipitation. Leaching from soil into groundwater was previously eliminated as a pathway, due to the immobility of lead and PAHs and the depth to groundwater. Receptors would be exposed via ingestion, dermal contact, and inhalation of the surface soil. However, there is limited contamination, thus the exposure pathways are largely incomplete for human receptors under both current and hypotehtical future land uses.

7.8 CONCLUSIONS

The SI results show that NG was not detected in any of the samples collected from the firing line locations and lead is not present in surface soil at concentrations that could present potential risks to human receptors. Only two of 20 FBL soil sample results displayed B(a)P equivalent concentrations above the NSA Mid-South BaP equivalent background concentration.

7.9 RECOMMENDATIONS

Soil excavation and confirmation sampling are recommended for the two PAH sample locations exceeding the NSA Mid-South BaP equivalent background concentration in order to achieve a determination of No Further Action for the Horse Stables Skeet Range #1. Details of the proposed soil excavations and sampling are provided in the Navy responses (Appendix D) to TDEC comments on the draft version of this report. TDEC concurred with this recommendation during a review of the responses to comments at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 7-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLE SKEET RANGE #1 (AOC 3)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR1SS 001	HSR1SS 0010001	2/25/2010	SP	0-1	X			X	
HSR1SS 002	HSR1SS 0020001	2/25/2010	SP	0-1	X	X		X	
HSR1SS 003	HSR1SS 0030001	2/25/2010	SP	0-1	X				
HSR1SS 004	HSR1SS 0040001	2/25/2010	SP	0-1	X				
HSR1SS 005	HSR1SS 0050001	2/25/2010	SP	0-1	X				
HSR1SS 006	HSR1SS 0060001	2/25/2010	SP	0-1	X				
HSR1SS 007	HSR1SS 0070001	2/25/2010	SP	0-1	X				
HSR1SS 008	HSR1SS 0080001	2/25/2010	SP	0-1	X	X		X	
HSR1SS 009	HSR1SS 0090001	2/25/2010	SP	0-1	X	X		X	
HSR1SS 010	HSR1SS 0100001	2/25/2010	SP	0-1	X	X	X	X	
HSR1SS 011	HSR1SS 0110001	2/25/2010	SP	0-1	X	X		X	
HSR1SS 012	HSR1SS 0120001	2/25/2010	SP	0-1	X				
HSR1SS 013	HSR1SS 0130001	2/25/2010	SP	0-1	X			X	
HSR1SS 014	HSR1SS 0140001	2/25/2010	SP	0-1	X				
HSR1SS 015	HSR1SS 0150001	2/25/2010	SP	0-1	X				
HSR1SS 016	HSR1SS 0160001	2/25/2010	SP	0-1	X	X		X	
HSR1SS 017	HSR1SS 0170001	2/25/2010	SP	0-1	X	X	X	X	
HSR1SS 018	HSR1SS 0180001	2/25/2010	SP	0-1	X				
HSR1SS 019	HSR1SS 0190001	2/25/2010	SP	0-1	X				
HSR1SS 020	HSR1SS 0200001	2/25/2010	SP	0-1	X				
HSR1SS 021	HSR1SS 0210001	2/25/2010	SP	0-1	X			X	
HSR1SS 022	HSR1SS 0220001	2/26/2010	SP	0-1	X	X			
HSR1SS 023	HSR1SS 0230001	2/26/2010	SP	0-1	X	X			
HSR1SS 024	HSR1SS 0240001	2/26/2010	SP	0-1	X	X			

TABLE 7-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLE SKEET RANGE #1 (AOC 3)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR1SS 025	HSR1SS 0250001	2/26/2010	SP	0-1	X	X			
HSR1SS 026	HSR1SS 0260001	2/26/2010	SP	0-1	X	X			
HSR1SS 027	HSR1SS 0270001	2/26/2010	SP	0-1	X	X			
HSR1SS 028	HSR1SS 0280001	2/26/2010	SP	0-1	X	X			
HSR1SS 029	HSR1SS 0290001	2/26/2010	SP	0-1	X			X	
HSR1SS 030	HSR1SS 0300001	2/26/2010	SP	0-1	X			X	
HSR1SS 031	HSR1SS 0310001	2/26/2010	SP	0-1	X				
HSR1SS 032	HSR1SS 0320001	2/26/2010	SP	0-1	X				
HSR1SS 033	HSR1SS 0330001	2/26/2010	SP	0-1	X	X		X	
HSR1SS 034	HSR1SS 0340001	2/26/2010	SP	0-1	X	X			
HSR1SS 035	HSR1SS 0350001	2/26/2010	SP	0-1	X	X		X	
HSR1SS 036	HSR1SS 0360001	2/26/2010	SP	0-1	X				
HSR1SS 037	HSR1SS 0370001	2/26/2010	SP	0-1	X				
HSR1SS 038	HSR1SS 0380001	2/26/2010	SP	0-1	X				
HSR1SS 039	HSR1SS 0390001	2/26/2010	SP	0-1	X				
HSR1SS 040	HSR1SS 0400001	2/26/2010	SP	0-1	X			X	
HSR1SS 041	HSR1SS 0410001	2/26/2010	SP	0-1	X				
HSR1SS 042	HSR1SS 0420001	2/26/2010	SP	0-1	X	X		X	
HSR1SS 043	HSR1SS 0430001	2/26/2010	SP	0-1	X	X			
HSR1SS 044	HSR1SS 0440001	2/26/2010	SP	0-1	X				
HSR1SS 045	HSR1SS 0450001	2/26/2010	SP	0-1	X			X	
HSR1SS 046	HSR1SS 0460001	2/26/2010	SP	0-1	X				
HSR1SS 047	HSR1SS 0470001	2/26/2010	SP	0-1	X			X	
HSR1SS 048	HSR1SS 0480001	2/26/2010	SP	0-1	X	X			

TABLE 7-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLE SKEET RANGE #1 (AOC 3)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR1SS 049	HSR1SS 0490001	2/26/2010	SP	0-1	X				
HSR1SS 050	HSR1SS 0500001	2/26/2010	SP	0-1	X				
HSR1SS 051	HSR1SS 0510001	2/26/2010	SP	0-1	X			X	
HSR1SS 052	HSR1SS 0520001	2/26/2010	SP	0-1	X				
HSR1SS 053	HSR1SS 0530001	2/26/2010	SP	0-1	X			X	
HSR1SS 054	HSR1SS 0540001	2/26/2010	SP	0-1	X				
HSR1SS 055	HSR1SS 0550001	2/26/2010	SP	0-1	X				
HSR1SS 056	HSR1SS 0560001	2/26/2010	SP	0-1	X				
HSR1SS 057	HSR1SS 0570001	2/26/2010	SP	0-1	X				
HSR1SS 058	HSR1SS 0580001	2/26/2010	SP	0-1	X	X			
HSR1SS 059	HSR1SS 0590001	2/26/2010	SP	0-1	X				
HSR1SS 060	HSR1SS 0600001	2/26/2010	SP	0-1	X				
HSR1SS 01C	HSR1SS 01C0001	3/3/2010	HA	0-1				X	X
HSR1SS 02C	HSR1SS 02C0001	3/3/2010	HA	0-1				X	X

bgs = Below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
PAH = Polynuclear aromatic hydrocarbons
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP = Soil probe
HA = Hand auger

TABLE 7-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
HORSE STABLES SKEET RANGE #1 (AOC 3)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB CONCENTRATION[3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)	Lead (mg/kg)
HSR1SS 0010001	2/25/2010	2/26/2010	40	37	25	34.00	33.80	
HSR1SS 0020001	2/25/2010	2/26/2010	57	72	36	55.00	64.90	
HSR1SS 0030001	2/25/2010	2/26/2010	21	17	ND	16.00	---	20.5
HSR1SS 0040001	2/25/2010	2/26/2010	30	17	26	24.33	---	26.3
HSR1SS 0050001	2/25/2010	2/26/2010	ND	16	ND	12.00	---	17.7
HSR1SS 0060001	2/25/2010	2/26/2010	30	24	27	27.00	---	28.2
HSR1SS 0070001	2/25/2010	2/26/2010	25	48	34	35.67	---	34.3
HSR1SS 0080001	2/25/2010	2/26/2010	68	64	50	60.67	37.70	
HSR1SS 0090001	2/25/2010	2/26/2010	152	257	326	245.00	101	
HSR1SS 0100001	2/25/2010	2/26/2010	281	190	683	384.67	347	
HSR1SS 0100102	3/1/2010	3/1/2010	35	36	60	43.67	---	39.9
HSR1SS 0110001	2/25/2010	2/26/2010	79	33	60	57.33	15.00	
HSR1SS 0120001	2/25/2010	2/26/2010	22	30	19	23.67	---	25.9
HSR1SS 0130001	2/25/2010	2/26/2010	ND	ND	ND	10.00	10.10	
HSR1SS 0140001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0150001	2/25/2010	2/26/2010	29	22	ND	20.33	---	23.5
HSR1SS 0160001	2/25/2010	2/26/2010	77	66	61	68.00	63.90	
HSR1SS 0170001	2/25/2010	2/26/2010	210	136	186	177.33	71.40	
HSR1SS 0180001	2/25/2010	2/26/2010	22	20	28	23.33	---	25.6
HSR1SS 0190001	2/25/2010	2/26/2010	19	20	25	21.33	---	24.2
HSR1SS 0200001	2/25/2010	2/26/2010	23	18	18	19.67	23.10	
HSR1SS 0210001	2/25/2010	2/26/2010	58	53	44	51.67	64.00	
HSR1SS 0220001	2/26/2010	2/26/2010	37	39	22	32.67	---	32.2
HSR1SS 0230001	2/26/2010	2/26/2010	62	52	44	52.67	---	46.2
HSR1SS 0240001	2/26/2010	2/26/2010	ND	15	ND	11.67	---	17.5
HSR1SS 0250001	2/26/2010	2/26/2010	23	23	26	24.00	---	26.1
HSR1SS 0260001	2/26/2010	2/26/2010	38	41	39	39.33	---	36.8
HSR1SS 0270001	2/26/2010	2/26/2010	47	28	30	35.00	---	33.8
HSR1SS 0280001	2/26/2010	2/26/2010	33	28	34	31.67	---	31.5
HSR1SS 0290001	2/26/2010	2/26/2010	51	46	133	76.67	72.10	
HSR1SS 0300001	2/26/2010	2/26/2010	63	75	49	62.33	202	
HSR1SS 0310001	2/26/2010	2/26/2010	23	31	31	28.33	---	29.1
HSR1SS 0320001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0330001	2/26/2010	2/26/2010	76	107	83	88.67	70.60	
HSR1SS 0340001	2/26/2010	2/26/2010	44	37	87	56.00	---	48.5
HSR1SS 0350001	2/26/2010	2/26/2010	55	55	59	56.33	21.40	
HSR1SS 0360001	2/26/2010	2/26/2010	18	ND	ND	12.67	---	18.2
HSR1SS 0370001	2/26/2010	2/26/2010	15	48	ND	24.33	---	26.3
HSR1SS 0380001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0390001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0400001	2/26/2010	2/27/2010	55	69	80	68.00	58.30	
HSR1SS 0410001	2/26/2010	2/26/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0420001	2/26/2010	2/26/2010	54	101	66	73.67	81.80	
HSR1SS 0430001	2/26/2010	2/26/2010	29	32	32	31.00	---	31.0
HSR1SS 0440001	2/26/2010	2/26/2010	38	ND	27	25.00	---	26.8
HSR1SS 0450001	2/26/2010	2/26/2010	85	72	199	118.67	82.30	
HSR1SS 0460001	2/26/2010	2/27/2010	18	ND	14	14.00	---	19.1
HSR1SS 0470001	2/26/2010	2/27/2010	56	59	92	69.00	53.20	
HSR1SS 0480001	2/26/2010	2/26/2010	13	ND	17	13.33	---	18.6
HSR1SS 0490001	2/26/2010	2/26/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0500001	2/26/2010	2/26/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0510001	2/26/2010	2/26/2010	ND	ND	ND	10.00	10.50	
HSR1SS 0520001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0530001	2/26/2010	2/26/2010	71	56	52	59.67	12.60	
HSR1SS 0540001	2/26/2010	2/26/2010	ND	19	18	15.67	---	20.3
HSR1SS 0550001	2/26/2010	2/27/2010	ND	17	23	16.67	---	21.0

TABLE 7-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
HORSE STABLES SKEET RANGE #1 (AOC 3)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB CONCENTRATION[3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)	Lead (mg/kg)
HSR1SS 0560001	2/26/2010	2/26/2010	ND	ND	18	12.67	---	18.2
HSR1SS 0570001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0580001	2/26/2010	2/27/2010	ND	ND	ND	10.00	---	16.3
HSR1SS 0590001	2/26/2010	2/27/2010	15	18	ND	14.33	---	19.3
HSR1SS 0600001	2/26/2010	2/27/2010	17	21	ND	16.00	---	20.5

FBL = Fixed-base laboratory
mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.

1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.
2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of 400 mg/kg.
3 - Per the December 2009 SAP, the correlation between the XRF and FBL results for this site is acceptable; therefore, the following formula can be used for samples analyzed by XRF only to predict corresponding FBL concentrations: FBL = 9.3 + 0.7*XRF.
4 - For samples with non-detect ("ND") results, one-half of the detection limit (10 mg/kg) was used to calculate the average XRF value.

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS001	HSR1-SS001C	HSR1-SS002	HSR1-SS002C	HSR1-SS003	HSR1-SS004	HSR1-SS005	HSR1-SS006
SAMPLE ID		HSR1-SS001-0001	HSR1-SS01C-0001	HSR1-SS002-0001	HSR1-SS02C-0001	HSR1-SS003-0001	HSR1-SS004-0001	HSR1-SS005-0001	HSR1-SS006-0001
SAMPLE DATE	Project	20100225	20100303	20100225	20100315	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	33.8	28.3	64.9 J	23.9	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	0.00853 U	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	NA	NA	0.00853 U	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	NA	NA	0.00853 U	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	NA	NA	0.00853 U	NA	NA	NA	NA	NA
ANTHRACENE	17000	NA	NA	0.00853 U	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	0.02	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	0.00853 U	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	NA	NA	0.00954	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	0.013	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.00853 U	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.00617 J	NA	NA	NA	NA	NA
CHRYSENE	15	NA	NA	0.0126	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	0.00853 U	NA	NA	NA	NA	NA
FLUORANTHENE	2300	NA	NA	0.0155	NA	NA	NA	NA	NA
FLUORENE	2300	NA	NA	0.00853 U	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	0.0078 J	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	NA	NA	0.00853 U	NA	NA	NA	NA	NA
PHENANTHRENE	1700	NA	NA	0.00603 J	NA	NA	NA	NA	NA
PYRENE	1700	NA	NA	0.0143	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	34	NA	55	NA	16	24.33	12	27

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS007	HSR1-SS008	HSR1-SS009	HSR1-SS010				HSR1-SS011
SAMPLE ID		HSR1-SS007-0001	HSR1-SS008-0001	HSR1-SS009-0001	HSR1-SS010-0001	HSR1-SS010-0001-AVG	HSR1-SS010-0001-D	HSR1-SS010-0102	HSR1-SS011-0001
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100226	20100301	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	1	0
BOTTOM DEPTH		1	1	1	1	1	1	2	1
METALS (MG/KG)									
LEAD	400	NA	37.7 J	101 J	347	338	329	NA	15 J
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	17.2 J	17.2 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	10900	10900	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	5.48	5.48	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	0.00819 U	0.00522 J	0.00786 U	0.00786 U	NA	NA	0.00816 U
2-METHYLNAPHTHALENE	310	NA	0.00819 U	0.00831	0.00786 U	0.00786 U	NA	NA	0.00816 U
ACENAPHTHENE	3400	NA	0.00189 J	0.0379	0.00786 U	0.00786 U	NA	NA	0.00816 U
ACENAPHTHYLENE	3400	NA	0.0022 J	0.0023 J	0.00786 U	0.00786 U	NA	NA	0.00816 U
ANTHRACENE	17000	NA	0.00683 J	0.119	0.00196 J	0.00196 J	NA	NA	0.00332 J
BAP EQUIVALENT-HALFND	0.015	NA	**0.08**	**1**	**0.02**	**0.02**	NA	NA	**0.03**
BENZO(A)ANTHRACENE	0.15	NA	0.0599	**0.909**	0.0174	0.0174	NA	NA	0.0199
BENZO(A)PYRENE	0.015	NA	**0.0503**	**0.781**	**0.016**	**0.016**	NA	NA	**0.0209**
BENZO(B)FLUORANTHENE	0.15	NA	0.0727	**1.05**	0.024	0.024	NA	NA	0.032
BENZO(G,H,I)PERYLENE	1700	NA	0.0343	0.471	0.0122	0.0122	NA	NA	0.0164
BENZO(K)FLUORANTHENE	0.15	NA	0.0259	**0.342**	0.00798	0.00798	NA	NA	0.0101
CHRYSENE	15	NA	0.0696	1.03	0.0214	0.0214	NA	NA	0.0268
DIBENZO(A,H)ANTHRACENE	0.015	NA	0.00946	**0.17**	0.00329 J	0.00329 J	NA	NA	0.00816 U
FLUORANTHENE	2300	NA	0.0898	1.37	0.0267	0.0267	NA	NA	0.0341
FLUORENE	2300	NA	0.00819 U	0.0224	0.00786 U	0.00786 U	NA	NA	0.00816 U
INDENO(1,2,3-CD)PYRENE	0.15	NA	0.038	**0.513**	0.0136	0.0136	NA	NA	0.0163
NAPHTHALENE	3.9	NA	0.00819 U	0.0284	0.00786 U	0.00786 U	NA	NA	0.00816 U
PHENANTHRENE	1700	NA	0.0241	0.512	0.00977	0.00977	NA	NA	0.0128
PYRENE	1700	NA	0.0824	1.22	0.0228	0.0228	NA	NA	0.0303
XRF (MG/KG)									
LEAD	280	35.67	60.67	245	**384.67**	**384.67**	NA	43.67	57.33

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS012	HSR1-SS013	HSR1-SS014	HSR1-SS015	HSR1-SS016	HSR1-SS017		
SAMPLE ID		HSR1-SS012-0001	HSR1-SS013-0001	HSR1-SS014-0001	HSR1-SS015-0001	HSR1-SS016-0001	HSR1-SS017-0001	HSR1-SS017-0001-AVG	HSR1-SS017-0001-D
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	10.1 J	NA	NA	63.9 J	71.4	71.4	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	26.9 J	26.9 J	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	30400	30400	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	5.75	5.75	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	0.00723 U	0.00755 U	0.00755 U	NA
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	0.00723 U	0.00755 U	0.00755 U	NA
ACENAPHTHENE	3400	NA	NA	NA	NA	0.00723 U	0.00274 J	0.00274 J	NA
ACENAPHTHYLENE	3400	NA	NA	NA	NA	0.00723 U	0.00755 U	0.00755 U	NA
ANTHRACENE	17000	NA	NA	NA	NA	0.00777	0.0146	0.0146	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	**0.05**	**0.1**	**0.1**	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	0.041	0.0716	0.0716	NA
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	**0.0333**	**0.0676**	**0.0676**	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	0.0478	0.0945	0.0945	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	0.0227	0.0531	0.0531	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	0.016	0.0326	0.0326	NA
CHRYSENE	15	NA	NA	NA	NA	0.0487	0.0802	0.0802	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	0.00666 J	0.0135	0.0135	NA
FLUORANTHENE	2300	NA	NA	NA	NA	0.074	0.122	0.122	NA
FLUORENE	2300	NA	NA	NA	NA	0.00723 U	0.00221 J	0.00221 J	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	0.0231	0.0537	0.0537	NA
NAPHTHALENE	3.9	NA	NA	NA	NA	0.00723 U	0.00755 U	0.00755 U	NA
PHENANTHRENE	1700	NA	NA	NA	NA	0.0315	0.0548	0.0548	NA
PYRENE	1700	NA	NA	NA	NA	0.0614	0.0979	0.0979	NA
XRF (MG/KG)									
LEAD	280	23.67	10 U	10 U	20.33	68	177.33	147	116.67

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS018	HSR1-SS019	HSR1-SS020	HSR1-SS021	HSR1-SS022	HSR1-SS023	HSR1-SS024	HSR1-SS025
SAMPLE ID		HSR1-SS018-0001	HSR1-SS019-0001	HSR1-SS020-0001	HSR1-SS021-0001	HSR1-SS022-0001	HSR1-SS023-0001	HSR1-SS024-0001	HSR1-SS025-0001
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	NA	64	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	0.00214 J	0.00782 U	0.00817 U	0.00767 U
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	0.00278 J	0.00782 U	0.00817 U	0.00767 U
ACENAPHTHENE	3400	NA	NA	NA	NA	0.0101	0.00273 J	0.00817 U	0.00194 J
ACENAPHTHYLENE	3400	NA	NA	NA	NA	0.00691 J	0.00273 J	0.00817 U	0.00767 U
ANTHRACENE	17000	NA	NA	NA	NA	0.0261	0.0308	0.00817 U	0.00357 J
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	**0.8**	**0.2**	0.008 U	**0.07**
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	**0.46**	**0.163**	0.00817 U	0.0502
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	**0.544**	**0.105**	0.00817 U	**0.0473**
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	**0.75**	**0.151**	0.00817 U	0.0698
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	0.341	0.0522	0.00817 U	0.0245
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	**0.24**	0.0602	0.00817 U	0.0247
CHRYSENE	15	NA	NA	NA	NA	0.549	0.166	0.00817 U	0.0567
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	**0.0906**	**0.0173**	0.00817 U	0.00725 J
FLUORANTHENE	2300	NA	NA	NA	NA	0.459	0.293	0.00817 U	0.0719
FLUORENE	2300	NA	NA	NA	NA	0.00602 J	0.00322 J	0.00817 U	0.00767 U
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	**0.366**	0.0628	0.00817 U	0.0272
NAPHTHALENE	3.9	NA	NA	NA	NA	0.00911	0.00782 U	0.00817 U	0.00767 U
PHENANTHRENE	1700	NA	NA	NA	NA	0.115	0.0913	0.00817 U	0.0202
PYRENE	1700	NA	NA	NA	NA	0.451	0.238	0.00817 U	0.0654
XRF (MG/KG)									
LEAD	280	23.33	21.33	19.67	51.67	32.67	52.67	11.67	24

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS026	HSR1-SS027	HSR1-SS028	HSR1-SS029	HSR1-SS030	HSR1-SS031	HSR1-SS032	HSR1-SS033
SAMPLE ID		HSR1-SS026-0001	HSR1-SS027-0001	HSR1-SS028-0001	HSR1-SS029-0001	HSR1-SS030-0001	HSR1-SS031-0001	HSR1-SS032-0001	HSR1-SS033-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	NA	72.1	202	NA	NA	70.6
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00808 U	0.00767 U	0.0081 U	NA	NA	NA	NA	0.00862 U
2-METHYLNAPHTHALENE	310	0.00165 J	0.00767 U	0.0081 U	NA	NA	NA	NA	0.00862 U
ACENAPHTHENE	3400	0.0035 J	0.00767 U	0.00391 J	NA	NA	NA	NA	0.00862 U
ACENAPHTHYLENE	3400	0.00475 J	0.00767 U	0.00187 J	NA	NA	NA	NA	0.00178 J
ANTHRACENE	17000	0.023	0.00767 U	0.0129	NA	NA	NA	NA	0.00862 U
BAP EQUIVALENT-HALFND	0.015	**0.2**	0.007	**0.05**	NA	NA	NA	NA	**0.02**
BENZO(A)ANTHRACENE	0.15	0.147	0.00247 J	0.0454	NA	NA	NA	NA	0.00862 U
BENZO(A)PYRENE	0.015	**0.131**	0.00238 J	**0.0316**	NA	NA	NA	NA	0.00972
BENZO(B)FLUORANTHENE	0.15	**0.193**	0.00368 J	0.0484	NA	NA	NA	NA	0.015
BENZO(G,H,I)PERYLENE	1700	0.0735	0.00767 U	0.017	NA	NA	NA	NA	0.00862 U
BENZO(K)FLUORANTHENE	0.15	0.0674	0.00767 U	0.0187	NA	NA	NA	NA	0.00651 J
CHRYSENE	15	0.155	0.00267 J	0.0445	NA	NA	NA	NA	0.0129
DIBENZO(A,H)ANTHRACENE	0.015	**0.02**	0.00767 U	0.00565 J	NA	NA	NA	NA	0.00862 U
FLUORANTHENE	2300	0.255	0.00329 J	0.0911	NA	NA	NA	NA	0.0174
FLUORENE	2300	0.003 J	0.00767 U	0.0081 U	NA	NA	NA	NA	0.00862 U
INDENO(1,2,3-CD)PYRENE	0.15	0.0785	0.00767 U	0.0196	NA	NA	NA	NA	0.00862 U
NAPHTHALENE	3.9	0.00808 U	0.00767 U	0.0081 U	NA	NA	NA	NA	0.00862 U
PHENANTHRENE	1700	0.0907	0.0017 J	0.0512	NA	NA	NA	NA	0.00585 J
PYRENE	1700	0.213	0.003 J	0.0707	NA	NA	NA	NA	0.0149
XRF (MG/KG)									
LEAD	280	39.33	35	31.67	76.67	62.33	28.33	10 U	88.67

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS034	HSR1-SS035	HSR1-SS036	HSR1-SS037	HSR1-SS038	HSR1-SS039	HSR1-SS040	HSR1-SS041
SAMPLE ID		HSR1-SS034-0001	HSR1-SS035-0001	HSR1-SS036-0001	HSR1-SS037-0001	HSR1-SS038-0001	HSR1-SS039-0001	HSR1-SS040-0001	HSR1-SS041-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	21.4	NA	NA	NA	NA	58.3	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	0.01	0.01	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.00764 U	0.00791	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	0.00547 J	0.00739 J	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.00863	0.0119	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00764 U	0.00522 J	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00764 U	0.00437 J	NA	NA	NA	NA	NA	NA
CHRYSENE	15	0.00704 J	0.00933	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00764 U	0.00161 J	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	0.00864	0.0119	NA	NA	NA	NA	NA	NA
FLUORENE	2300	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00764 U	0.00526 J	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	0.00764 U	0.00776 U	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	0.00359 J	0.00294 J	NA	NA	NA	NA	NA	NA
PYRENE	1700	0.00757 J	0.0104	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	56	56.33	12.67	24.33	10 U	10 U	68	10 U

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS042	HSR1-SS043	HSR1-SS044	HSR1-SS045	HSR1-SS046	HSR1-SS047	HSR1-SS048	HSR1-SS049
SAMPLE ID		HSR1-SS042-0001	HSR1-SS043-0001	HSR1-SS044-0001	HSR1-SS045-0001	HSR1-SS046-0001	HSR1-SS047-0001	HSR1-SS048-0001	HSR1-SS049-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	81.1	NA	NA	82.3	NA	53.2	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00788 U	0.00797 U	NA	NA	NA	NA	0.00817 U	NA
2-METHYLNAPHTHALENE	310	0.00788 U	0.00797 U	NA	NA	NA	NA	0.00817 U	NA
ACENAPHTHENE	3400	0.00788 U	0.00797 U	NA	NA	NA	NA	0.00817 U	NA
ACENAPHTHYLENE	3400	0.00239 J	0.00797 U	NA	NA	NA	NA	0.00287 J	NA
ANTHRACENE	17000	0.0115	0.0029 J	NA	NA	NA	NA	0.00817 U	NA
BAP EQUIVALENT-HALFND	0.015	**0.3**	**0.02**	NA	NA	NA	NA	**0.03**	NA
BENZO(A)ANTHRACENE	0.15	**0.222**	0.0132	NA	NA	NA	NA	0.0269	NA
BENZO(A)PYRENE	0.015	**0.198**	0.0114	NA	NA	NA	NA	**0.0209**	NA
BENZO(B)FLUORANTHENE	0.15	**0.282**	0.0179	NA	NA	NA	NA	0.0369	NA
BENZO(G,H,I)PERYLENE	1700	0.0976	0.00811	NA	NA	NA	NA	0.00817 U	NA
BENZO(K)FLUORANTHENE	0.15	0.104	0.00618 J	NA	NA	NA	NA	0.014	NA
CHRYSENE	15	0.22	0.0157	NA	NA	NA	NA	0.035	NA
DIBENZO(A,H)ANTHRACENE	0.015	**0.0301**	0.00235 J	NA	NA	NA	NA	0.00817 U	NA
FLUORANTHENE	2300	0.226	0.0259	NA	NA	NA	NA	0.0457	NA
FLUORENE	2300	0.00788 U	0.00797 U	NA	NA	NA	NA	0.00817 U	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.117	0.0083	NA	NA	NA	NA	0.00817 U	NA
NAPHTHALENE	3.9	0.00788 U	0.00797 U	NA	NA	NA	NA	0.00817 U	NA
PHENANTHRENE	1700	0.0266	0.0116	NA	NA	NA	NA	0.0114	NA
PYRENE	1700	0.204	0.021	NA	NA	NA	NA	0.0416	NA
XRF (MG/KG)									
LEAD	280	73.67	31	25	118.67	14	69	13.33	10 U

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

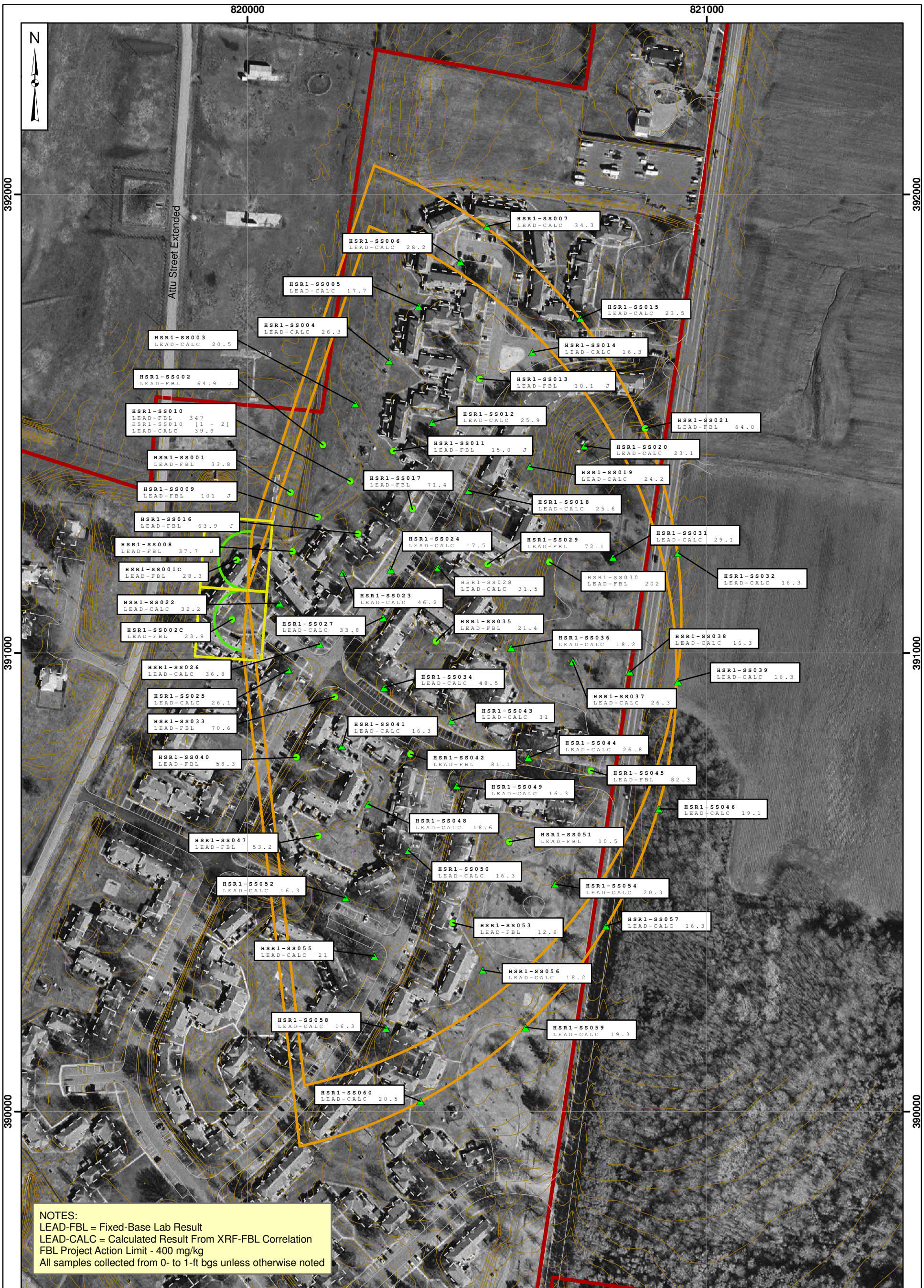
LOCATION		HSR1-SS050	HSR1-SS051	HSR1-SS052	HSR1-SS053	HSR1-SS054	HSR1-SS055	HSR1-SS056	HSR1-SS057
SAMPLE ID		HSR1-SS050-0001	HSR1-SS051-0001	HSR1-SS052-0001	HSR1-SS053-0001	HSR1-SS054-0001	HSR1-SS055-0001	HSR1-SS056-0001	HSR1-SS057-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	10.5	NA	12.6	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	NA	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	15	NA	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	NA	NA	NA	NA	NA	NA	NA	NA
FLUORENE	2300	NA	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	NA	NA	NA	NA	NA	NA	NA	NA
PYRENE	1700	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	10 U	10 U	10 U	59.67	15.67	16.67	12.67	10 U

TABLE 7-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE #1 (AOC 3)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS058	HSR1-SS058		HSR1-SS059	HSR1-SS060
SAMPLE ID		HSR1-SS058-0001	HSR1-SS058-0001-AVG	HSR1-SS058-0001-D	HSR1-SS059-0001	HSR1-SS060-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	ORIG	AVG	DUP	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1
METALS (MG/KG)						
LEAD	400	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NC	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)						
1-METHYLNAPHTHALENE	22	0.00782 U	0.008215 U	0.00861 U	NA	NA
2-METHYLNAPHTHALENE	310	0.00782 U	0.008215 U	0.00861 U	NA	NA
ACENAPHTHENE	3400	0.00782 U	0.008215 U	0.00861 U	NA	NA
ACENAPHTHYLENE	3400	0.00782 U	0.008215 U	0.00861 U	NA	NA
ANTHRACENE	17000	0.00782 U	0.008215 U	0.00861 U	NA	NA
BAP EQUIVALENT-HALFND	0.015	0.009	0.009	0.01	NA	NA
BENZO(A)ANTHRACENE	0.15	0.00782 U	0.008215 U	0.00861 U	NA	NA
BENZO(A)PYRENE	0.015	0.00782 U	0.008215 U	0.00861 U	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.00782 U	0.008215 U	0.00861 U	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00782 U	0.008215 U	0.00861 U	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00782 U	0.008215 U	0.00861 U	NA	NA
CHRYSENE	15	0.00332 J	0.00326 J	0.0032 J	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00782 U	0.008215 U	0.00861 U	NA	NA
FLUORANTHENE	2300	0.00541 J	0.00511 J	0.00481 J	NA	NA
FLUORENE	2300	0.00782 U	0.008215 U	0.00861 U	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00782 U	0.008215 U	0.00861 U	NA	NA
NAPHTHALENE	3.9	0.00782 U	0.008215 U	0.00861 U	NA	NA
PHENANTHRENE	1700	0.00233 J	0.00223 J	0.00213 J	NA	NA
PYRENE	1700	0.00414 J	0.004125 J	0.00411 J	NA	NA
XRF (MG/KG)						
LEAD	280	10 U	10 U	NA	14.33	16

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations greater than PAL.



NOTES:
LEAD-FBL = Fixed-Base Lab Result
LEAD-CALC = Calculated Result From XRF-FBL Correlation
FBL Project Action Limit - 400 mg/kg
All samples collected from 0- to 1-ft bgs unless otherwise noted

TETRA TECH

Figure 7-1
Lead Results
Horse Stables Skeet Range #1 (AOC 3)
NSA Mid-South
Millington, Tennessee

Legend

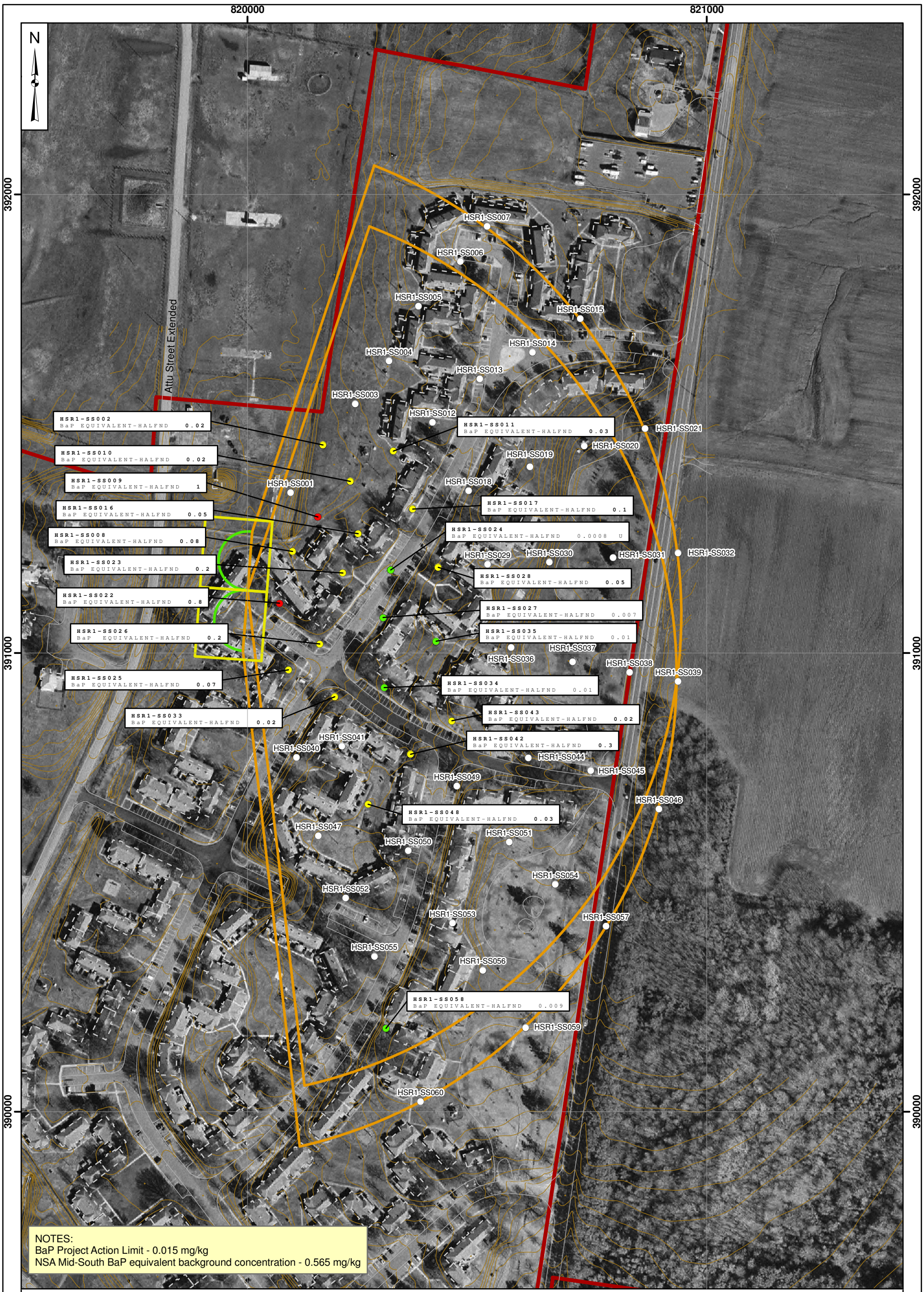
- Composite Sampling Area
- Horse Stables Skeet Range #1
- Firing Line
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)
- FBL Sample Location <400 mg/kg / >400 mg/kg
- FBL-XRF Correlation Results <400 mg/kg / >400 mg/kg

200 100 0 200 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\HORSE_STABLE_SKEET1_LEAD_TAGS.MXD 5/6/10 KM



TETRA TECH

Figure 7-2
Benzo(a)pyrene (BaP) Equivalent Results
Horse Stables Skeet Range #1 (AOC 3)
NSA Mid-South
Millington, Tennessee

Legend

- BaP > 0.565 mg/kg
- BaP > 0.015 mg/kg and < 0.565 mg/kg
- BaP < 0.015 mg/kg
- Not Analyzed
- Composite Sampling Area
- Horse Stable Skeet Range #1
- Firing Line
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)

200 100 0 200 Feet

Drawn By: K. MOORE 4/20/10
Checked By: R. BAILEY 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\HORSE_STABLE_SKEET1_BAP_TAGS.MXD 5/6/10 KM

8.0 HORSE STABLES SKEET RANGE #2 (UXO 000002)

8.1 SITE BACKGROUND

8.1.1 Historical Site Information and Current Land Use

The current conditions of the Former Horse Stables Skeet Range #2 are shown on Figures 8-1 and 8-2.

The Former Horse Stables Skeet Range #2 MRP site covers approximately 42 acres and consisted of three adjacent and overlapping skeet ranges, on the northern portion of the installation, west of Attu Street Extended, adjacent to Horse Stables Skeet Range #1 (AOC 3). The range was built around 1942 and closed in 1946. The date of closure is not documented nor is any remedial effort for the closure of the range.

Property records indicate that the range, when active, had a magazine, shed, and skeet tower in addition to a firing arch and high and low houses, typical structures associated with a skeet range. The magazine, shed, and skeet tower were used also for the adjacent skeet range. Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells.

A visual inspection conducted during the PA found no evidence of the Former Horse Stables Skeet Range #2, as the structures formerly associated with the range were believed to have been removed prior to construction of three houses in the southern portion. The houses are currently used as vacation rentals for visitors using NSA Mid-South amenities such as the golf course and Navy Lakes recreational facilities. The northern portion of the site is used to pasture horses for a nearby horse stable and is expected to be used for this purpose for the foreseeable future. Tetra Tech and Navy personnel did not observe expended munitions fragments or skeet targets during a September 15, 2008 site visit.

8.1.2 Munitions Used

Munitions use was limited to small arms ammunition, primarily 12- and 20-gauge shotgun shells. The ranges were used only for small arms training; there is no known historical evidence of explosives use at the site and no evidence of MEC. Therefore, MEC was not suspected to be present.

8.1.3 Munitions Constituents

Lead is assumed to be the primary inorganic MC of concern because it was the primary component of the spent munitions used during operation of each skeet range; and because of its documented toxicity to

both human and ecological receptors. The other inorganic MCs associated with munitions used at the skeet ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller fractions than lead and are accepted to be historically co-located with the lead present. Therefore, the BCT decided that lead would be the only inorganic MC investigated under this SI. Nitroglycerin (NG), as a constituent of smokeless powder and ejected unburned propellants, is another MC associated with firing ranges; and is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points. PAHs may be present due to fragmentation of skeet targets containing pitch tar, which was used as a binding agent.

8.2 SITE FIELDWORK

8.2.1 Site Field Activities

Soil sampling at Former Horse Stables Skeet Range #2 was limited to surface soil (0- to 1-foot bgs) because the penetration depths were limited to surface soil and lead and PAHs typically have limited mobility in soil and would be expected to remain in the surface soil. All samples were analyzed for lead in the field using XRF and 23 of the 60 samples were submitted to the FBL for definitive lead analysis.

Surface soil sample locations were selected based on a bias towards areas that were believed most likely to be contaminated by past operations at the site (e.g., firing lines, shot fall zones and target break zones). Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the NAD 83 Tennessee State Plane coordinate system. Each sample location was marked by a brightly colored pin flag bearing the sample location ID number.

The Former Horse Stables Skeet Range #2 was primarily grass-covered pasture with scattered old-growth trees; therefore, limited clearance was required. Grass around the sampling points was removed using shovels to facilitate sampling.

8.2.2 Work Plan Deviations

There were no deviations from the UFP-SAP for the NSA Mid-South Horse Stables Skeet Range #2.

8.2.3 Field Data Collection

A total of 62 surface soil samples (60 initial samples and 2 QA/QC duplicates) were collected from 60 locations during the SI at the Former Horse Stables Skeet Range #2. Table 8-1 lists the samples

collected at each location. A 0- to 1-foot bgs sample was collected at each location via soil probe. All samples underwent field XRF analysis for lead. After evaluating the initial XRF results, four exceedances of the XRF PAL for lead (280 mg/kg, or 70 percent of the FBL PAL of 400 mg/kg) were identified. As a result, two vertical step-out samples (from the 1- to 2-foot interval) were collected at locations HSR2SS029 and HSR2SS051 to evaluate the potential leaching of lead to the deeper soil intervals. The vertical step-out samples at these locations also underwent field XRF analysis for lead. Vertical step-out samples were not collected from the locations of the other XRF exceedances (HSR2SS037 and HSR2SS044) because their XRF results were similar to the two selected samples. Horizontal step outs were not necessary because the samples that exceeded the XRF PAL were bounded by samples that did not exceed the PAL. In addition to the four samples that exceeded the XRF PAL, 19 samples were chosen for FBL lead analysis based upon spatial distribution across the anticipated shot-fall area. See Figure 8-1 for the sampling locations and XRF detections measured at the Former Horse Stables Skeet Range #2. Soil sample log sheets are included in Appendix A of this SI Report.

All collected samples were placed in large Ziploc® bags and thoroughly homogenized prior to processing a portion for XRF analysis. For select samples, an additional portion was placed in the appropriate sample jar and shipped to the FBL for lead analysis. With the exception of the four exceedances, the majority of samples chosen for FBL lead analysis were those having XRF lead concentrations less than 200 mg/kg. These low XRF concentration samples were selected for FBL analysis to confirm the boundaries of the identified exceedances and suspected areas of contamination.

8.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 8.2.3, a total of 23 soil samples were selected from the initial samples for lead only analysis at the FBL. An additional 20 samples were shipped to the FBL for PAH analysis (but not necessarily the same samples identified for lead analysis). The FOL also selected two samples to submit to the FBL for pH, TOC, and CEC analyses, and three composite surface soil samples (each comprised of 10 grab samples) along the firing lines were submitted for FBL NG and lead analyses. Table 8-1 identifies the specific samples that were selected for FBL analysis and Table 8-2 presents a comparison between the XRF and FBL lead concentrations for the collected samples.

USEPA has developed a TEF for each potentially carcinogenic PAH that can be used to convert the concentration of that PAH to an equivalent concentration of benzo(a)pyrene. Since benzo(a)pyrene is often abbreviated BaP, this process is known as determining the BaP equivalent concentration. BaP equivalent concentrations were calculated for all PAH samples to facilitate the evaluation and display of

the PAH data. BaP was selected to represent the entire group of PAH compounds because it has the most stringent screening level or PAL.

The results for the samples collected at the Horse Stables Skeet Range #2 are summarized as follows:

- Firing lines – Three samples were collected from the 0- to 1-foot interval and all were non-detect for NG. All three samples contained lead at concentrations that did not exceed the PAL of 400 mg/kg.

- Shot and skeet fall areas –

  Lead:

  - Sixty initial samples were collected from the 0- to 1-foot interval, with four samples exceeding the XRF PAL of 280 mg/kg with average XRF concentrations ranging from 299 mg/kg to 325 mg/kg.

  - Two vertical step-out samples were collected from the 1- to 2-foot interval at locations HSR2SS029 and HSR2SS051, with the results having an average XRF concentration of 87 mg/kg and 40 mg/kg, respectively.

  - Twenty-three initial XRF samples collected from the 0- to 1-foot interval were submitted for FBL analysis of lead, with two (HSR2SS037 and HSR2SS044) exceeding the FBL PAL of 400 mg/kg, at 832 mg/kg and 418 mg/kg, respectively.

  PAHs (BaP equivalents):

  - Twenty initial samples collected from the 0- to 1- foot interval were submitted for FBL analysis of PAHs, with 10 exceeding the BaP equivalent PAL of 0.015 mg/kg at concentrations ranging from 0.02 mg/kg to 13 mg/kg. Only, two of the 20 samples also exceeded the NSA Mid-South background BaP equivalent concentration of 0.565 mg/kg established during the RCRA Facility Investigation.

Table 8-3 presents the positive detections for the samples submitted for FBL analyses of lead and PAHs, the corresponding XRF concentrations for the lead samples, the calculated BaP equivalents of the PAH samples, and the pH, TOC and CEC data for the Horse Stables Skeet Range #2. Figure 8-1 presents the XRF and FBL lead results and Figure 8-2 presents the BaP equivalent concentrations for the Horse Stables Skeet Range #2.

8.4 DATA PRESENTATION/DATA USABILITY

8.4.1 Data Validation Process

FBL analytical data was validated following USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (October, 2004) guidelines. Validated analytical data is presented in Appendix B.8.

8.4.2 Data Quality Review

8.4.2.1 Completeness

The FBL analytical completeness for the Former Horse Stables Skeet Range #2 was 100 percent.

8.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Former Horse Stables Skeet Range #2 was satisfactory to meet DQOs presented in the UFP-SAP.

8.4.2.3 Field and Laboratory Accuracy

Lead and two PAHs (benzo[a]anthracene and chrysene) were qualified for calibration noncompliance in several soil samples from the Horse Stables Skeet Range #2. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

8.4.2.4 Field and Laboratory Precision

There were no quality control deficiencies noted for field or FBL precision for the Former Horse Stables Skeet Range #2 data.

8.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Former Horse Stables Skeet Range #2 data.

8.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all reported data are adequately representative of site conditions and intended populations for the Former Horse Stables Skeet Range #2.

8.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and the R squared value were calculated, as discussed in Section 3.3. The correlation between the FBL lead concentrations and the field XRF average lead concentrations at the Former Horse Stables Skeet Range #2 was 0.73, indicating a moderate correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Former Horse Stables Skeet Range #2 was 0.53. This R-squared value is considered to indicate a moderate relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given a R-squared value of 0.53, and a correlation between the XRF and FBL of 0.73, the following predictive formula can be used to estimate FBL lead concentrations at Horse Stable Skeet Range for samples only analyzed by XRF: FBL = -12.4 + 1.1*XRF. As outlined in the UFP- SAP, the correlation coefficient must be between 0.65 and 1.00 to be able to calculate a predictive formula such as this. Table 8-2 and Figure 8-1 present a comparison of XRF lead concentrations, the FBL lead results predicted by the correlation, and the actual FBL results. The regression analysis is included in Appendix C.8.

8.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 8-3 summarizes the positive FBL lead and PAH detections and compares them to their respective PALs. NG was not detected in the samples collected at the firing lines, and is therefore not included in the table. Only two sample locations exceeded the lead PAL - one location moderately exceeded with a concentration of 418 mg/kg, and the other was just over twice the PAL with a concentration of 832 mg/kg; however, the sitewide average concentration of lead detections was well below the PAL at 115 mg/kg. While 10 of 20 PAH samples exceeded the BaP equivalent PAL of 0.015 mg/kg, PAHs are ubiquitous in surface soil at NSA Mid-South which resulted in the BCT establishing a background concentration for

BaP equivalents of 0.565 mg/kg during the RCRA Facility Investigation. Only two sample locations at Former Horse Stables Skeet Range #2 exceeded the background concentration (at concentrations of 0.06 mg/kg and 13 mg/kg). Figure 8-1 presents the XRF and FBL lead results and Figure 8-2 presents the BaP equivalent concentrations for the Former Horse Stables Skeet Range #2.

8.7 UPDATED CONCEPTUAL SITE MODEL

Lead was detected at low concentrations across the site (Figure 8-1) and samples at the ends of the transects (furthest from the firing lines) were non-detect as would be expected. Reported values for lead were less than 100 mg/kg at all but eight locations, and only two of those locations had lead concentrations greater than the 400 mg/kg PAL. The sitewide average lead concentration of 115 mg/kg was well below the PAL. NG was not detected at the firing lines, and BaP equivalent concentrations exceeded the background concentration for NSA Mid-South at only two locations approximately 700 feet apart (Figure 8-2). Thus, the site is not contaminated based on the data.

Lead and PAHs detected at the site would be primarily retained in surface soil (0- to 1- feet bgs). Lead would generally be more likely to mobilize into subsurface soil and shallow groundwater than PAHs. Soil pH, TOC and CEC affect the mobility of lead in soil. In general, high TOC combined with high CEC would increase adsorption of lead to soil, and when pH conditions are near neutral (6 to 8 S.U.) there is very limited aqueous solubility for lead compounds in soil. The greatest solubilities of lead compounds in soil have been shown to occur at more acidic (pH < 4) and more alkaline (pH > 11) conditions.

Samples from the Horse Stables Skeet Range #2 contained 10,000 mg/kg to 11,800 mg/kg (or about 1.00 to 1.18 percent) TOC and had measured CECs of 24.2 to 25.2 milliequivalents per 100 grams. The TOC value is consistent with the average organic content for surface soils in the central U.S. which typically average from 1% to 3.5% organic matter. The CEC value is typical for higher range silt loam soils and moderate clay loam soils, but is still regarded to be on the lower end of the CEC scale, and indicates lower adsorptive capacities. The soil pH was on the slightly acidic side of neutral, ranging from 5.57 to 5.76 S.U. While these conditions do not appear to be highly limiting to the mobility of lead, they also do not suggest an environment that would promote significant downward migration. Given the nearly neutral pH, the discontinuous nature of groundwater in the loess/alluvium, and the depth to fluvial deposits groundwater, migration to groundwater is not expected. So, the primary migration pathway is runoff from precipitation.

Current human receptors include Navy personnel, Navy-escorted visitors (e.g., contractors conducting environmental or ecological surveys), short-term visitors using the rental houses, and trespassers

(e.g., authorized personnel who may wander outside of designated areas). The facility's current land uses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds and perform other maintenance tasks such as utilities repair may be exposed to MC from former range activities, if they were present. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the installation.

Exposure sources are limited to the two sample locations where the BaP equivalent concentration exceeded the installation background concentration and the two locations that exceeded the lead PAL. The primary migration pathway is runoff from precipitation which would be expected to flow to a north-south drainage ditch that bisects the site. MC concentrations were not noticeably higher in samples collected adjacent to the ditch. Leaching from soil into groundwater was previously eliminated as a pathway, due to the immobility of lead and PAHs and the depth to groundwater. Receptors would be exposed via ingestion, dermal contact, and inhalation of the surface soil. However, contamination is very limited, thus the exposure pathways are likely incomplete for human receptors under both current and hypothetical future land uses.

8.8 CONCLUSIONS

SI results show that NG was not detected in any of the samples collected from the firing line locations, and lead and PAHs are generally not present in surface soil at concentrations that could present potential risks to human receptors. There were two exceedances of the lead PAL of 400 mg/kg, but the sitewide average of 115 mg/kg lead is well below the PAL, and only two BaP equivalent concentrations were above the NSA Mid-South background concentration.

8.9 RECOMMENDATIONS

Soil excavation and confirmation sampling are recommended for the two sample locations exceeding the lead PAL and the two PAH sample locations exceeding the NSA Mid-South BaP equivalent background concentration in order to achieve a determination of No Further Action for the Horse Stables Skeet Range #2. Details of the proposed soil excvataions and sampling are provided in the Navy responses (Appendix D) to TDEC comments on the draft version of this report. TDEC concurred with this recommendation during a review of the response to comments at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 8-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLES SKEET RANGE #2 (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR2SS 001	HSR2SS 0010001	2/27/2010	SP	0-1	X				
HSR2SS 002	HSR2SS 0020001	2/27/2010	SP	0-1	X				
HSR2SS 003	HSR2SS 0030001	2/27/2010	SP	0-1	X				
HSR2SS 004	HSR2SS 0040001	2/27/2010	SP	0-1	X				
HSR2SS 005	HSR2SS 0050001	2/27/2010	SP	0-1	X				
HSR2SS 006	HSR2SS 0060001	2/27/2010	SP	0-1	X				
HSR2SS 007	HSR2SS 0070001	2/27/2010	SP	0-1	X				
HSR2SS 008	HSR2SS 0080001	2/27/2010	SP	0-1	X				
HSR2SS 009	HSR2SS 0090001	2/27/2010	SP	0-1	X			X	
HSR2SS 010	HSR2SS 0100001	2/27/2010	SP	0-1	X				
HSR2SS 011	HSR2SS 0110001	2/27/2010	SP	0-1	X	X		X	
HSR2SS 012	HSR2SS 0120001	2/27/2010	SP	0-1	X	X		X	
HSR2SS 013	HSR2SS 0130001	2/27/2010	SP	0-1	X	X			
HSR2SS 014	HSR2SS 0140001	2/27/2010	SP	0-1	X	X			
HSR2SS 015	HSR2SS 0150001	2/27/2010	SP	0-1	X				
HSR2SS 016	HSR2SS 0160001	2/27/2010	SP	0-1	X				
HSR2SS 017	HSR2SS 0170001	2/27/2010	SP	0-1	X				
HSR2SS 018	HSR2SS 0180001	2/27/2010	SP	0-1	X	X		X	
HSR2SS 019	HSR2SS 0190001	2/27/2010	SP	0-1	X				
HSR2SS 020	HSR2SS 0200001	2/27/2010	SP	0-1	X				
HSR2SS 021	HSR2SS 0210001	2/27/2010	SP	0-1	X			X	
HSR2SS 022	HSR2SS 0220001	2/27/2010	SP	0-1	X				
HSR2SS 023	HSR2SS 0230001	2/27/2010	SP	0-1	X	X		X	
HSR2SS 024	HSR2SS 0240001	2/27/2010	SP	0-1	X				

TABLE 8-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLES SKEET RANGE #2 (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR2SS 025	HSR2SS 0250001	2/27/2010	SP	0-1	X	X			
HSR2SS 026	HSR2SS 0260001	2/26/2010	SP	0-1	X				
HSR2SS 027	HSR2SS 0270001	2/26/2010	SP	0-1	X				
HSR2SS 028	HSR2SS 0280001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 029	HSR2SS 0290001	2/27/2010	SP	0-1	X	X	X	X	
HSR2SS 030	HSR2SS 0300001	2/27/2010	SP	0-1	X			X	
HSR2SS 031	HSR2SS 0310001	2/27/2010	SP	0-1	X				
HSR2SS 032	HSR2SS 0320001	2/27/2010	SP	0-1	X			X	
HSR2SS 033	HSR2SS 0330001	2/26/2010	SP	0-1	X				
HSR2SS 034	HSR2SS 0340001	2/26/2010	SP	0-1	X				
HSR2SS 035	HSR2SS 0350001	2/26/2010	SP	0-1	X				
HSR2SS 036	HSR2SS 0360001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 037	HSR2SS 0370001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 038	HSR2SS 0380001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 039	HSR2SS 0390001	2/27/2010	SP	0-1	X	X			
HSR2SS 040	HSR2SS 0400001	2/26/2010	SP	0-1	X				
HSR2SS 041	HSR2SS 0410001	2/26/2010	SP	0-1	X				
HSR2SS 042	HSR2SS 0420001	2/26/2010	SP	0-1	X				
HSR2SS 043	HSR2SS 0430001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 044	HSR2SS 0440001	2/26/2010	SP	0-1	X			X	
HSR2SS 045	HSR2SS 0450001	2/26/2010	SP	0-1	X			X	
HSR2SS 046	HSR2SS 0460001	2/26/2010	SP	0-1	X			X	
HSR2SS 047	HSR2SS 0470001	2/26/2010	SP	0-1	X				
HSR2SS 048	HSR2SS 0480001	2/26/2010	SP	0-1	X				

TABLE 8-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HORSE STABLES SKEET RANGE #2 (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS			
						PAH's (SW-846 8270C)	pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
HSR2SS 049	HSR2SS 0490001	2/26/2010	SP	0-1	X				
HSR2SS 050	HSR2SS 0500001	2/26/2010	SP	0-1	X			X	
HSR2SS 051	HSR2SS 0510001	2/26/2010	SP	0-1	X	X	X	X	
HSR2SS 052	HSR2SS 0520001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 053	HSR2SS 0530001	2/26/2010	SP	0-1	X	X			
HSR2SS 054	HSR2SS 0540001	2/26/2010	SP	0-1	X	X			
HSR2SS 055	HSR2SS 0550001	2/26/2010	SP	0-1	X				
HSR2SS 056	HSR2SS 0560001	2/26/2010	SP	0-1	X				
HSR2SS 057	HSR2SS 0570001	2/26/2010	SP	0-1	X	X			
HSR2SS 058	HSR2SS 0580001	2/26/2010	SP	0-1	X			X	
HSR2SS 059	HSR2SS 0590001	2/26/2010	SP	0-1	X			X	
HSR2SS 060	HSR2SS 0600001	2/26/2010	SP	0-1	X	X		X	
HSR2SS 01C	HSR2SS 01C0001	3/4/2010	HA	0-1				X	X
HSR2SS 02C	HSR2SS 02C0001	3/4/2010	HA	0-2				X	X
HSR2SS 03C	HSR2SS 03C0001	3/4/2010	HA	0-3				X	X

bgs = Below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
PAH = Polynuclear aromatic hydrocarbons
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP = Soil probe
HA = Hand auger

TABLE 8-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
FORMER HORSE STABLES SKEET RANGE (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB CONCENTRATION[3,4]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[5] (ppm)	Lead (mg/kg)	Lead (mg/kg)
HSR2SS 0010001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0020001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0030001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0040001	2/27/2010	2/28/2010	ND	14	ND	11.3	---	0.07
HSR2SS 0050001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0060001	2/27/2010	2/28/2010	ND	15	15	13.3	---	2.27
HSR2SS 0070001	2/27/2010	2/27/2010	ND	23	21	18.0	---	7.4
HSR2SS 0080001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0090001	2/27/2010	2/28/2010	61	55	ND	42.0	11.70	
HSR2SS 0100001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0110001	2/27/2010	2/28/2010	16	ND	16	14.0	23.4	
HSR2SS 0120001	2/27/2010	2/28/2010	ND	ND	ND	10.0	8.3	
HSR2SS 0130001	2/27/2010	2/28/2010	16	ND	ND	12.0	---	0.80
HSR2SS 0140001	2/27/2010	2/27/2010	23	17	17	19.0	---	8.50
HSR2SS 0150001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0160001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0170001	2/27/2010	2/28/2010	17	ND	ND	12.3	---	1.17
HSR2SS 0180001	2/27/2010	2/28/2010	198	155	105	152.7	159.00	
HSR2SS 0190001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0200001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0210001	2/27/2010	2/27/2010	ND	16	ND	12.0	17.60	
HSR2SS 0220001	2/27/2010	2/28/2010	15	ND	ND	11.7	---	0.43
HSR2SS 0230001	2/27/2010	2/28/2010	ND	17	20	15.7	8.70	
HSR2SS 0240001	2/27/2010	2/28/2010	ND	18	ND	12.7	---	1.53
HSR2SS 0250001	2/27/2010	2/27/2010	ND	19	ND	13.0	---	1.90
HSR2SS 0260001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0270001	2/26/2010	2/27/2010	17	17	ND	14.7	---	3.73
HSR2SS 0280001	2/26/2010	2/27/2010	209	153	172	178.0	130.00	
HSR2SS 0290001	2/27/2010	2/28/2010	309	358	285	317.3	134.00	
HSR2SS 0300001	2/27/2010	2/28/2010	ND	ND	ND	10.0	7.48	
HSR2SS 0310001	2/27/2010	2/28/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0320001	2/27/2010	2/27/2010	17	28	ND	18.3	21.90	
HSR2SS 0330001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0340001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0350001	2/26/2010	2/27/2010	27	27	28	27.3	---	17.67
HSR2SS 0360001	2/26/2010	2/27/2010	120	124	141	128.3	110.00	
HSR2SS 0370001	2/26/2010	2/27/2010	372	246	280	299.3	832.00	
HSR2SS 0380001	2/26/2010	2/27/2010	38	33	61	44.0	44.00	
HSR2SS 0390001	2/27/2010	2/28/2010	22	30	26	26.0	---	16.20
HSR2SS 0400001	2/26/2010	2/27/2010	ND	ND	14	11.3	---	0.07
HSR2SS 0410001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0420001	2/26/2010	2/27/2010	ND	ND	15	11.7	---	0.43
HSR2SS 0430001	2/26/2010	2/27/2010	365	202	212	259.7	198.00	
HSR2SS 0440001	2/26/2010	2/27/2010	396	294	286	325.3	418.00	
HSR2SS 0450001	2/26/2010	2/27/2010	ND	ND	15	11.7	14.50	
HSR2SS 0460001	2/26/2010	2/27/2010	31	19	26	25.3	25.00	
HSR2SS 0470001	2/26/2010	2/27/2010	ND	ND	16	12.0	---	0.80
HSR2SS 0480001	2/26/2010	2/27/2010	26	23	ND	19.7	---	9.23
HSR2SS 0490001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0500001	2/26/2010	2/27/2010	197	185	183	188.3	99.20	
HSR2SS 0510001	2/26/2010	2/27/2010	306	351	291	316.0	197.00	
HSR2SS 0520001	2/26/2010	2/27/2010	ND	17	17	14.7	18.00	
HSR2SS 0530001	2/26/2010	2/27/2010	26	27	23	25.3	---	15.47
HSR2SS 0540001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0550001	2/26/2010	2/27/2010	ND	ND	ND	10.0	---	ND
HSR2SS 0560001	2/26/2010	2/27/2010	53	38	26	39.0	---	30.50

TABLE 8-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
FORMER HORSE STABLES SKEET RANGE (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB CONCENTRATION[3,4]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[5] (ppm)	Lead (mg/kg)	Lead (mg/kg)
HSR2SS 0570001	2/26/2010	2/27/2010	67	130	79	92.0	---	88.80
HSR2SS 0580001	2/26/2010	2/27/2010	82	73	84	79.7	51.70	
HSR2SS 0590001	2/26/2010	2/27/2010	20	24	16	20.0	23.60	
HSR2SS 0600001	2/26/2010	2/27/2010	33	35	30	32.7	14.70	

mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.

1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.
2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of 400 mg/kg.
3 - Per the December 2009 SAP, the correlation between the XRF and FBL results for this site is acceptable; therefore, the following formula can be used for samples analyzed by XRF only to predict corresponding FBL concentrations: FBL = -12.4 + 1.1*XRF.
4 - A value of non-detect ("ND") is presented when the predictive formula resulted in a negative predicted concentration.
5 - For XRF samples with non-detect ("ND") results, one-half of the detection limit (10 mg/kg) was used to calculate the average XRF value.

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR1-SS010	HSR2-SS001	HSR2-SS001C	HSR2-SS002	HSR2-SS002C	HSR2-SS003	HSR2-SS003C	HSR2-SS004
SAMPLE ID		HSR2-SS036-0001-D	HSR2-SS001-0001	HSR2-SS01C-0001	HSR2-SS002-0001	HSR2-SS02C-0001	HSR2-SS003-0001	HSR2-SS03C-0001	HSR2-SS004-0001
SAMPLE DATE	Project	20100225	20100227	20100304	20100227	20100304	20100227	20100304	20100227
SAMPLE CODE	Action	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	17.1	NA	21.2	NA	19.3	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00884 U	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00884 U	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	0.00884 U	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	0.00884 U	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	0.00884 U	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	0.01	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.00884 UJ	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	0.0041 J	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.00594 J	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00884 U	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00246 J	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	15	0.0058 J	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00884 U	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	0.0086 J	NA	NA	NA	NA	NA	NA	NA
FLUORENE	2300	0.00884 U	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00884 U	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	0.00884 U	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	0.00389 J	NA	NA	NA	NA	NA	NA	NA
PYRENE	1700	0.00747 J	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	**415.67**	10 U	NA	10 U	NA	10 U	NA	11.33

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS005	HSR2-SS006	HSR2-SS007	HSR2-SS008	HSR2-SS009	HSR2-SS010	HSR2-SS011	HSR2-SS012
SAMPLE ID		HSR2-SS005-0001	HSR2-SS006-0001	HSR2-SS007-0001	HSR2-SS008-0001	HSR2-SS009-0001	HSR2-SS010-0001	HSR2-SS011-0001	HSR2-SS012-0001
SAMPLE DATE	Project	20100227	20100227	20100227	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	NA	NA	11.7 J	NA	23.4 J	8.3 J
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
2-METHYLNAPHTHALENE	310	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
ACENAPHTHENE	3400	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
ACENAPHTHYLENE	3400	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
ANTHRACENE	17000	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
BAP EQUIVALENT-HALFND	0.015	NA	NA	NA	NA	NA	NA	0.01	0.009
BENZO(A)ANTHRACENE	0.15	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 UJ
BENZO(A)PYRENE	0.015	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
BENZO(B)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
BENZO(G,H,I)PERYLENE	1700	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
BENZO(K)FLUORANTHENE	0.15	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
CHRYSENE	15	NA	NA	NA	NA	NA	NA	0.00451 J	0.00519 J
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
FLUORANTHENE	2300	NA	NA	NA	NA	NA	NA	0.007 J	0.00659 J
FLUORENE	2300	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
NAPHTHALENE	3.9	NA	NA	NA	NA	NA	NA	0.0086 U	0.00741 U
PHENANTHRENE	1700	NA	NA	NA	NA	NA	NA	0.0028 J	0.0019 J
PYRENE	1700	NA	NA	NA	NA	NA	NA	0.00607 J	0.00536 J
XRF (MG/KG)									
LEAD	280	10 U	13.33	18	10 U	42	10 U	14	10 U

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS013	HSR2-SS014	HSR2-SS015	HSR2-SS016	HSR2-SS017	HSR2-SS018	HSR2-SS019	HSR2-SS020
SAMPLE ID		HSR2-SS013-0001	HSR2-SS014-0001	HSR2-SS015-0001	HSR2-SS016-0001	HSR2-SS017-0001	HSR2-SS018-0001	HSR2-SS019-0001	HSR2-SS020-0001
SAMPLE DATE	Project	20100227	20100227	20100227	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	NA	NA	NA	159 J	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00876 U	0.0353	NA	NA	NA	0.00892 U	NA	NA
2-METHYLNAPHTHALENE	310	0.00876 U	0.049	NA	NA	NA	0.00892 U	NA	NA
ACENAPHTHENE	3400	0.00876 U	0.281	NA	NA	NA	0.00892 U	NA	NA
ACENAPHTHYLENE	3400	0.00876 U	0.00376 J	NA	NA	NA	0.00892 U	NA	NA
ANTHRACENE	17000	0.00876 U	0.633	NA	NA	NA	0.00892 U	NA	NA
BAP EQUIVALENT-HALFND	0.015	0.01	**13**	NA	NA	NA	0.009 U	NA	NA
BENZO(A)ANTHRACENE	0.15	0.00876 J	**8.75**	NA	NA	NA	0.00892 UJ	NA	NA
BENZO(A)PYRENE	0.015	0.00876 U	**8.51**	NA	NA	NA	0.00892 U	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.00876 U	**11.2**	NA	NA	NA	0.00892 U	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00876 U	4.66	NA	NA	NA	0.00892 U	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00876 U	**2.41**	NA	NA	NA	0.00892 U	NA	NA
CHRYSENE	15	0.00539 J	9.64	NA	NA	NA	0.00892 UJ	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00876 U	**1.58**	NA	NA	NA	0.00892 U	NA	NA
FLUORANTHENE	2300	0.0072 J	11.1	NA	NA	NA	0.00434 J	NA	NA
FLUORENE	2300	0.00876 U	0.118	NA	NA	NA	0.00892 U	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00876 U	**5.37**	NA	NA	NA	0.00892 U	NA	NA
NAPHTHALENE	3.9	0.00876 U	0.166	NA	NA	NA	0.00892 U	NA	NA
PHENANTHRENE	1700	0.00303 J	2.61	NA	NA	NA	0.00195 J	NA	NA
PYRENE	1700	0.00602 J	10.2	NA	NA	NA	0.00441 J	NA	NA
XRF (MG/KG)									
LEAD	280	12	19	10 U	10 U	12.33	152.67	10 U	10 U

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS021	HSR2-SS022	HSR2-SS023	HSR2-SS024	HSR2-SS025	HSR2-SS026	HSR2-SS027	HSR2-SS028
SAMPLE ID		HSR2-SS021-0001	HSR2-SS022-0001	HSR2-SS023-0001	HSR2-SS024-0001	HSR2-SS025-0001	HSR2-SS026-0001	HSR2-SS027-0001	HSR2-SS028-0001
SAMPLE DATE	Project	20100227	20100227	20100227	20100227	20100227	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	17.6 J	NA	8.7 J	NA	NA	NA	NA	130 J
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	0.00752 U	NA	0.00792 U	NA	NA	0.0084 U
2-METHYLNAPHTHALENE	310	NA	NA	0.00752 U	NA	0.00199 J	NA	NA	0.0084 U
ACENAPHTHENE	3400	NA	NA	0.00752 U	NA	0.00632 J	NA	NA	0.0084 U
ACENAPHTHYLENE	3400	NA	NA	0.00752 U	NA	0.00792 U	NA	NA	0.0084 U
ANTHRACENE	17000	NA	NA	0.00752 U	NA	0.017	NA	NA	0.0084 U
BAP EQUIVALENT-HALFND	0.015	NA	NA	0.008	NA	**0.3**	NA	NA	0.01
BENZO(A)ANTHRACENE	0.15	NA	NA	0.00752 UJ	NA	**0.231 J**	NA	NA	0.00599 J
BENZO(A)PYRENE	0.015	NA	NA	0.0027 J	NA	**0.213**	NA	NA	0.0053 J
BENZO(B)FLUORANTHENE	0.15	NA	NA	0.00514 J	NA	**0.278**	NA	NA	0.00927
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.00752 U	NA	0.125	NA	NA	0.0084 U
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.00306 J	NA	0.101	NA	NA	0.00334 J
CHRYSENE	15	NA	NA	0.00424 J	NA	0.268 J	NA	NA	0.00755 J
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	0.00752 U	NA	**0.0368**	NA	NA	0.0084 U
FLUORANTHENE	2300	NA	NA	0.00479 J	NA	0.28	NA	NA	0.00819 J
FLUORENE	2300	NA	NA	0.00752 U	NA	0.00792 U	NA	NA	0.0084 U
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	0.00752 U	NA	0.141	NA	NA	0.0084 U
NAPHTHALENE	3.9	NA	NA	0.00752 U	NA	0.00436 J	NA	NA	0.0084 U
PHENANTHRENE	1700	NA	NA	0.00284 J	NA	0.0688	NA	NA	0.00336 J
PYRENE	1700	NA	NA	0.00463 J	NA	0.262	NA	NA	0.00746 J
XRF (MG/KG)									
LEAD	280	12	11.67	15.67	12.67	13	10 U	14.67	178

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS029			HSR2-SS029	HSR2-SS030	HSR2-SS031	HSR2-SS032	HSR2-SS033
SAMPLE ID		HSR2-SS029-0001	HSR2-SS029-0001-AVG	HSR2-SS029-0001-D	HSR2-SS029-0102	HSR2-SS030-0001	HSR2-SS031-0001	HSR2-SS032-0001	HSR2-SS033-0001
SAMPLE DATE	Project	20100227	20100227	20100227	20100301	20100227	20100227	20100227	20100226
SAMPLE CODE	Action	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	1	0	0	0	0
BOTTOM DEPTH		1	1	1	2	1	1	1	1
METALS (MG/KG)									
LEAD	400	134 J	134 J	NA	NA	7.48 J	NA	21.9 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	24.2	24.2	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	10000	10000	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	5.57	5.57	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	0.00368 J	0.00368 J	NA	NA	NA	NA	NA	NA
ANTHRACENE	17000	0.00506 J	0.00506 J	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	**0.03**	**0.03**	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	0.0234 J	0.0234 J	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	**0.0159**	**0.0159**	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	0.031	0.031	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	0.00994	0.00994	NA	NA	NA	NA	NA	NA
CHRYSENE	15	0.0327 J	0.0327 J	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
FLUORANTHENE	2300	0.0466	0.0466	NA	NA	NA	NA	NA	NA
FLUORENE	2300	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	0.00896 U	0.00896 U	NA	NA	NA	NA	NA	NA
PHENANTHRENE	1700	0.00675 J	0.00675 J	NA	NA	NA	NA	NA	NA
PYRENE	1700	0.0447	0.0447	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	**317.33**	**314.33**	**311.33**	86.67	10 U	10 U	18.33	10 U

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS034	HSR2-SS035	HSR2-SS036		HSR2-SS037	HSR2-SS038	HSR2-SS039	HSR2-SS040
SAMPLE ID		HSR2-SS034-0001	HSR2-SS035-0001	HSR2-SS036-0001	HSR2-SS036-0001-AVG	HSR2-SS037-0001	HSR2-SS038-0001	HSR2-SS039-0001	HSR2-SS040-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100227	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	ORIG	AVG	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	110 J	110 J	**832**	44 J	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.00743 U	NA
2-METHYLNAPHTHALENE	310	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.00743 U	NA
ACENAPHTHENE	3400	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.00149 J	0.00572 J	NA
ACENAPHTHYLENE	3400	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.00817	NA
ANTHRACENE	17000	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.0177	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	0.01	0.01	**0.02**	**0.07**	**0.3**	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	0.00595 J	0.00595 J	0.0111 J	0.0562 J	**0.225 J**	NA
BENZO(A)PYRENE	0.015	NA	NA	0.00427 J	0.004185 J	0.00984	**0.0515**	**0.205**	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	0.00812	0.00703 J	0.0156	0.0738	**0.286**	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0316	0.123	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.00386 J	0.00316 J	0.00526 J	0.0255	0.0999	NA
CHRYSENE	15	NA	NA	0.00779 J	0.006795 J	0.0134 J	0.0633 J	0.267 J	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	**0.0337**	NA
FLUORANTHENE	2300	NA	NA	0.00998	0.00929 J	0.0181	0.0755	0.262	NA
FLUORENE	2300	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.00214 J	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0338	0.139	NA
NAPHTHALENE	3.9	NA	NA	0.00752 U	0.00818 U	0.00897 U	0.0071 U	0.00743 U	NA
PHENANTHRENE	1700	NA	NA	0.00394 J	0.003915 J	0.00588 J	0.0193	0.0559	NA
PYRENE	1700	NA	NA	0.00884	0.008155 J	0.0164	0.069	0.245	NA
XRF (MG/KG)									
LEAD	280	10 U	27.33	128.33	272	**299.33**	44	26	11.33

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS041	HSR2-SS042	HSR2-SS043	HSR2-SS044	HSR2-SS045	HSR2-SS046	HSR2-SS047	HSR2-SS048
SAMPLE ID		HSR2-SS041-0001	HSR2-SS042-0001	HSR2-SS043-0001	HSR2-SS044-0001	HSR2-SS045-0001	HSR2-SS046-0001	HSR2-SS047-0001	HSR2-SS048-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	NA	NA	198 J	**418**	14.5 J	25	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	0.00357 J	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	310	NA	NA	0.00785 U	NA	NA	NA	NA	NA
ACENAPHTHENE	3400	NA	NA	0.00976	NA	NA	NA	NA	NA
ACENAPHTHYLENE	3400	NA	NA	0.0148	NA	NA	NA	NA	NA
ANTHRACENE	17000	NA	NA	0.0457	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.015	NA	NA	**0.2**	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.15	NA	NA	**0.168 J**	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.015	NA	NA	**0.122**	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.15	NA	NA	**0.168**	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.0683	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.15	NA	NA	0.0609	NA	NA	NA	NA	NA
CHRYSENE	15	NA	NA	0.165 J	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	**0.0178**	NA	NA	NA	NA	NA
FLUORANTHENE	2300	NA	NA	0.398	NA	NA	NA	NA	NA
FLUORENE	2300	NA	NA	0.0215	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	0.0746	NA	NA	NA	NA	NA
NAPHTHALENE	3.9	NA	NA	0.00231 J	NA	NA	NA	NA	NA
PHENANTHRENE	1700	NA	NA	0.24	NA	NA	NA	NA	NA
PYRENE	1700	NA	NA	0.309	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	10 U	11.67	259.67	**325.33**	11.67	25.33	12	19.67

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS049	HSR2-SS050	HSR2-SS051		HSR2-SS051		HSR2-SS052	HSR2-SS053
SAMPLE ID		HSR2-SS049-0001	HSR2-SS050-0001	HSR2-SS051-0001	HSR2-SS051-0001-AVG	HSR2-SS051-0001-D	HSR2-SS051-0102	HSR2-SS052-0001	HSR2-SS053-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100301	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	1	0	0
BOTTOM DEPTH		1	1	1	1	1	2	1	1
METALS (MG/KG)									
LEAD	400	NA	99.2 J	197 J	262.5 J	328	NA	18 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	25.2	25.2	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	11800	11800	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	5.76	5.76	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)									
1-METHYLNAPHTHALENE	22	NA	NA	0.00603 J	0.00603 J	NA	NA	0.00792 U	0.00579 J
2-METHYLNAPHTHALENE	310	NA	NA	0.0092	0.0092	NA	NA	0.00792 U	0.00616 J
ACENAPHTHENE	3400	NA	NA	0.0111	0.0111	NA	NA	0.00792 U	0.00881 U
ACENAPHTHYLENE	3400	NA	NA	0.0086 U	0.0086 U	NA	NA	0.00792 U	0.00881 U
ANTHRACENE	17000	NA	NA	0.0233	0.0233	NA	NA	0.00792 U	0.00881 U
BAP EQUIVALENT-HALFND	0.015	NA	NA	**0.6**	**0.6**	NA	NA	0.01	**0.02**
BENZO(A)ANTHRACENE	0.15	NA	NA	**0.427 J**	**0.427 J**	NA	NA	0.00683 J	0.00881 U
BENZO(A)PYRENE	0.015	NA	NA	**0.395**	**0.395**	NA	NA	0.00602 J	0.0123
BENZO(B)FLUORANTHENE	0.15	NA	NA	**0.512**	**0.512**	NA	NA	0.009	0.00881 U
BENZO(G,H,I)PERYLENE	1700	NA	NA	0.254	0.254	NA	NA	0.00792 U	0.00881 U
BENZO(K)FLUORANTHENE	0.15	NA	NA	**0.172**	**0.172**	NA	NA	0.0039 J	0.00881 U
CHRYSENE	15	NA	NA	0.477 J	0.477 J	NA	NA	0.00863 J	0.0172
DIBENZO(A,H)ANTHRACENE	0.015	NA	NA	**0.0672**	**0.0672**	NA	NA	0.00792 U	0.00881 U
FLUORANTHENE	2300	NA	NA	0.494	0.494	NA	NA	0.0117	0.0235
FLUORENE	2300	NA	NA	0.00395 J	0.00395 J	NA	NA	0.00792 U	0.00881 U
INDENO(1,2,3-CD)PYRENE	0.15	NA	NA	**0.272**	**0.272**	NA	NA	0.00792 U	0.0113
NAPHTHALENE	3.9	NA	NA	0.0103	0.0103	NA	NA	0.00792 U	0.00218 J
PHENANTHRENE	1700	NA	NA	0.114	0.114	NA	NA	0.00608 J	0.0162
PYRENE	1700	NA	NA	0.479	0.479	NA	NA	0.0103	0.0208
XRF (MG/KG)									
LEAD	280	10 U	188.33	**316**	**309.665**	**303.33**	40.33	14.67	25.33

TABLE 8-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
HORSE STABLES SKEET RANGE
#2 (UXO 000002)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		HSR2-SS054	HSR2-SS055	HSR2-SS056	HSR2-SS057	HSR2-SS058	HSR2-SS059	HSR2-SS060
SAMPLE ID		HSR2-SS054-0001	HSR2-SS055-0001	HSR2-SS056-0001	HSR2-SS057-0001	HSR2-SS058-0001	HSR2-SS059-0001	HSR2-SS060-0001
SAMPLE DATE	Project	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1
METALS (MG/KG)								
LEAD	400	NA	NA	NA	NA	51.7 J	23.6 J	14.7 J
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NC	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)								
1-METHYLNAPHTHALENE	22	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
2-METHYLNAPHTHALENE	310	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
ACENAPHTHENE	3400	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
ACENAPHTHYLENE	3400	0.00479 J	NA	NA	0.00786 U	NA	NA	0.00785 U
ANTHRACENE	17000	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
BAP EQUIVALENT-HALFND	0.015	**0.03**	NA	NA	0.01	NA	NA	0.01
BENZO(A)ANTHRACENE	0.15	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
BENZO(A)PYRENE	0.015	**0.0194**	NA	NA	0.00695 J	NA	NA	0.00453 J
BENZO(B)FLUORANTHENE	0.15	0.032	NA	NA	0.00786 U	NA	NA	0.00785 U
BENZO(G,H,I)PERYLENE	1700	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
BENZO(K)FLUORANTHENE	0.15	0.0108	NA	NA	0.00419 J	NA	NA	0.00785 U
CHRYSENE	15	0.025	NA	NA	0.00866	NA	NA	0.00661 J
DIBENZO(A,H)ANTHRACENE	0.015	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
FLUORANTHENE	2300	0.0322	NA	NA	0.0151	NA	NA	0.00862
FLUORENE	2300	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
INDENO(1,2,3-CD)PYRENE	0.15	0.017	NA	NA	0.00786 U	NA	NA	0.00785 U
NAPHTHALENE	3.9	0.00917 U	NA	NA	0.00786 U	NA	NA	0.00785 U
PHENANTHRENE	1700	0.0109	NA	NA	0.00604 J	NA	NA	0.00311 J
PYRENE	1700	0.0321	NA	NA	0.0121	NA	NA	0.00777 J
XRF (MG/KG)								
LEAD	280	10 U	10 U	39	92	79.67	20	32.67

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
NC = No concentration
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations greater than PAL.

TETRA TECH

Figure 8-1
Lead Results
Former Horse Stables Skeet Range #2
(UXO 000002)
NSA Mid-South
Millington, Tennessee

Legend

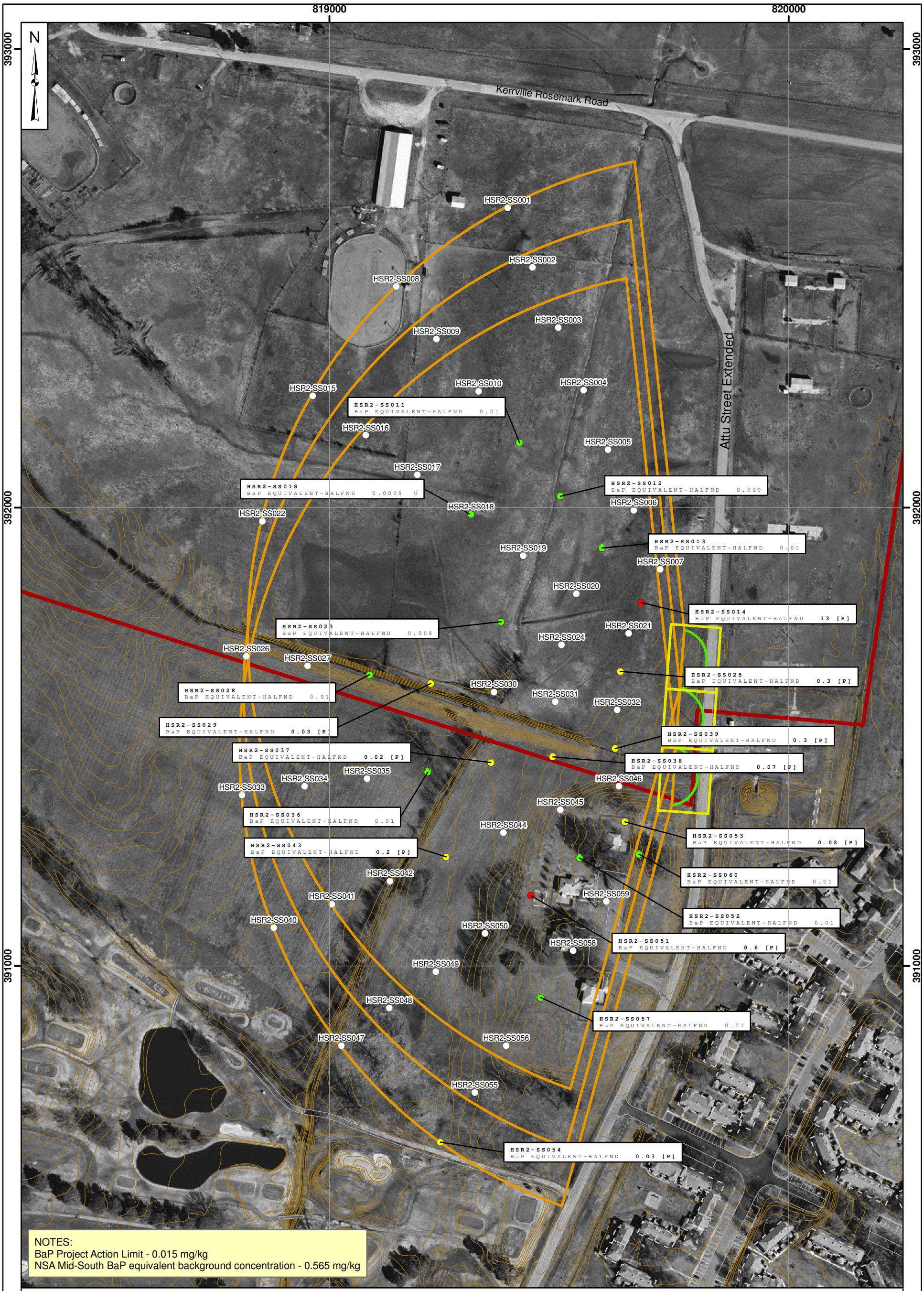
- Composite Sampling Area
- Horse Stables Skeet Range #2
- Firing Line
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)
- Non-Detect
- ●/● FBL Sample Location <400 mg/kg / >400 mg/kg
- ▲/▲ FBL-XRF Correlation Results <400 mg/kg / >400 mg/kg

200 100 0 200 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

P:\GIS\MIDSOUTH_NSA\MXD\HORSE_STABLE_SKEET2_LEAD_TAGS.MXD 5/6/10 KM



TETRA TECH

Figure 8-2
Benzo(a)pyrene (BaP) Equivalent Results
Former Horse Stables Skeet Range #2
(UXO 000002)
NSA Mid-South
Millington, Tennessee

Legend

- BaP > 0.565 mg/kg
- BaP > 0.015 mg/kg and < 0.565 mg/kg
- BaP < 0.015 mg/kg
- Not Analyzed
- Composite Sampling Area
- Horse Stable Skeet Range #2
- Firing Line
- Road
- Demolished Structure
- Installation Boundary
- Contour (1-ft interval)

200 100 0 200 Feet

Drawn By: K. MOORE 4/20/10
Checked By: R. BAILEY 5/6/10
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

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9.0 FORMER NAVY RIFLE RANGE (UXO 000001)

9.1 SITE BACKGROUND

9.1.1 Historical Site Information and Current Land Use

The current conditions of the Former Navy Rifle Range are shown on Figure 9-1.

The Former Navy Rifle Range (UXO 000001) consists of approximately 11 acres from the firing line to a containment berm formerly located behind the target area and is located near the northern border of the installation, east of Attu Street Extended and south of Kerrville Rosemark Road, between Horse Stables Skeet Ranges #1 (AOC 3) and #2 (UXO 000002). The range was built in 1942 and after closure of the range in the mid-1960s, the containment berm soil was removed from the site and used for site work during construction of the NSA Mid-South Naval Hospital in 1965. A review of historic records and previous environmental reports available do not indicate remediation of the Rifle Range either before or after removal of the berm.

Property records indicate that the range, when active, consisted of a berm, shooting stations, targets, target house, and three magazines. There were three firing lines (one each at 50, 100, and 200 yards). A containment berm, approximately 450 feet long, was located behind the targets. According to conversations with NSA Mid-South personnel present when the Rifle Range was operational, the targets were wooden in composition and were raised and lowered from a concrete vault located in front of the containment berm. Current land use is open space in the northern portion and pasture for a nearby horse stable in the southern portion.

A visual inspection conducted during the PA did not identify any MC between the areas of the former firing lines and former containment berm. Tetra Tech and Navy personnel did not observe expended munitions fragments during a September 15, 2008 site visit. Even though the target area and berm were previously removed, the concrete pads marking the locations of the former firing points are still present and were noted during the September 2008 site visit.

9.1.2 Munitions Used

Munitions use was limited to small arms ammunition, including 0.22-caliber, 0.30 caliber and 0.50-caliber machine gun ammunition. The range was used only for small arms training; there is no known historical

evidence of explosives use at the site and no evidence of MEC. Therefore, MEC was not suspected to be present.

9.1.3 Munitions Constituents

Lead is assumed to be the primary inorganic MC of concern because it was the primary component of the spent munitions used during operation of each small arms range; and because of its documented toxicity to both human and ecological receptors. The other inorganic MCs associated with the munitions ammunition used at the firing ranges (e.g., antimony, zinc, copper, arsenic and tin) were traditionally present in much smaller fractions than lead and are accepted to be historically co-located with the lead. Therefore, the BCT decided that lead would be the only inorganic MC investigated under this SI (see Worksheet #9 of the UFP-SAP). Nitroglycerin (NG), as a constituent of smokeless powder and ejected unburned propellants, is another MC associated with firing ranges; and is suspected, along with lead from lead-azide initiating compound, to potentially be present at firing points.

9.2 SITE FIELDWORK

9.2.1 Site Field Activities

Initial soil sampling at the Former Navy Rifle Range was limited to surface soil (0- to 1-foot bgs) because the penetration depth was limited to surface soil and lead typically has limited mobility in soil and would be expected to remain in the surface soil. All 47 samples collected at the former berm and target areas were analyzed for lead in the field using XRF, and 20 of the 47 samples were submitted to the FBL for definitive lead analysis.

Surface soil sample locations were selected based on a bias towards areas that were believed most likely to be contaminated by past operations at the site (i.e., the firing lines, target area, and berm). Initial sampling locations were laid out as proposed in the UFP-SAP, using a Trimble GeoXH GPS unit, capable of sub-meter accuracy, and referencing the NAD 83 Tennessee State Plane coordinate system. Sample locations in the former target and berm areas were marked by brightly colored pin flags bearing the sample location ID number.

The Former Navy Rifle Range consisted of cleared pasture land; therefore, limited vegetation clearance was required. Grass around the sampling points was removed using shovels to facilitate sampling.

9.2.2 Work Plan Deviations

There were no deviations from the UFP-SAP for the Former Navy Rifle Range.

9.2.3 Field Data Collection

A total of 49 surface soil samples (47 initial sampling locations and 2 QA/QC duplicates) were collected from 47 sample locations during the SI at the Rifle Range. Table 9-1 lists the samples that were collected at each location. A 0- to 1-foot bgs sample was collected at each location via soil probe. All samples underwent field XRF analysis for lead. None of the samples collected exceeded the XRF PAL for lead (280 mg/kg, or 70% of the FBL PAL of 400 mg/kg); therefore, the samples chosen for FBL analysis were selected based upon the 20 highest XRF concentrations recorded. Three composite surface soil samples (comprised of 10 grab samples each) along the firing line were submitted for FBL NG and lead analyses. See Figure 9-1 for the sampling locations and XRF detections measured at the Former Navy Rifle Range. Soil sample log sheets are included in Appendix A of this SI Report.

9.3 SITE INSPECTION DATA COLLECTION RESULTS

As described in Section 9.2.3, a total of 20 soil samples were selected from the initial samples for lead only analysis at the FBL. Table 9-1 identifies the specific samples that were selected for FBL analysis and Table 9-2 presents a comparison between the XRF and FBL concentrations for the collected samples. The FOL also selected one sample to submit to the FBL for pH, TOC, and CEC analyses, and three composite surface soil samples (each comprised of 10 grab samples) along the firing lines were also submitted for FBL NG and lead analyses.

The results of the samples collected at the Former Navy Rifle Range are summarized as follows:

- Firing lines – The three composite surface soil samples were non-detect for NG and contained lead at concentrations that did not exceed the PAL of 400 mg/kg.

- Target and berm areas –

  - Forty-seven discrete surface soil samples were collected, with no exceedances of the XRF PAL of 280 mg/kg and average XRF concentrations ranging from non-detect to 196 mg/kg.

  - Twenty of the initial XRF surface soil samples were analyzed by the FBL for lead, with no exceedances of the FBL PAL of 400 mg/kg and FBL concentrations ranging from 14.5 mg/kg to 193 mg/kg.

Table 9-3 presents the positive detections for the samples submitted for FBL analysis of lead; as well as, the corresponding XRF concentration, and the pH, TOC and CEC data for the Former Navy Rifle Range. Figure 9-1 presents the XRF and FBL lead results for the Former Navy Rifle Range.

9.4 DATA PRESENTATION/DATA USABILITY

9.4.1 Data Validation Process

FBL analytical data was validated following USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Validation (October, 2004) guidelines. Validated analytical data is presented in Appendix B.9.

No data collected for the Former Navy Rifle Range were rejected. All data for the Former Navy Rifle Range are considered valid for their intended purpose.

9.4.2 Data Quality Review

9.4.2.1 Completeness

The FBL analytical completeness for the Former Navy Rifle Range was 100 percent.

9.4.2.2 Sensitivity

The PALs are listed in Worksheet #15 of the UFP-SAP. Analytical sensitivity for data at the Former Navy Rifle Range was satisfactory to meet DQOs presented in the UFP-SAP.

9.4.2.3 Field and Laboratory Accuracy

Lead was qualified for calibration noncompliance in several soil samples from the Former Navy Rifle Range. Calibration noncompliances were outside of target QC limits; however, those noncompliances did not result in rejected data and therefore are considered acceptable for the data usability assessment.

9.4.2.4 Field and Laboratory Precision

Laboratory control sample percent recovery noncompliance was noted for nitroglycerin in several soil samples. With the exception of these nitroglycerin laboratory control sample results, quality control samples were compliance with quality control criteria indicating that laboratory procedures and analytical equipment were functioning properly.

9.4.2.5 Comparability

No comparability issues were noted during the data validation process for the Former Navy Rifle Range data.

9.4.2.6 Representativeness

The UFP-SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. Based on field logs indicating the conditions during sample collection and FBL audits, all reported data are adequately representative of site conditions and intended populations for the Former Navy Rifle Range.

9.5 LEAD CORRELATION BETWEEN FIELD XRF ANALYSIS AND FBL

From the 20 samples that were analyzed in the field using XRF and also at the FBL, a regression analysis was conducted to evaluate the correlation between the FBL lead results and XRF lead results. To evaluate the regression analysis, the Pearson Correlation and the R squared value were calculated, as discussed in Section 3.3. The correlation between the FBL lead concentrations and the field XRF average lead concentrations at the Rifle Range was 0.99, indicating a strong correlation.

The R squared value represents the percent of variation in the FBL lead results that can be explained by the XRF lead results. The R-squared value for the Rifle Range was 0.98. An R Squared value near 1.0 is considered to indicate a very strong relationship between the two measurement methods; the maximum possible value is 1.0 (i.e., “100 percent”). Given a R-squared value of 0.98, and a correlation

between the XRF and FBL of 0.99, the following predictive formula can be used to estimate FBL lead concentrations at the Former Navy Rifle Range for samples only analyzed by XRF: FBL = 0.69 + 1.0*XRF.

As outlined in the UFP-SAP, the correlation coefficient must be between 0.65 and 1.00 to be able to calculate a predictive formula such as this. Table 9-2 presents a comparison of XRF lead concentrations, the FBL lead results predicted by the correlation, and the actual FBL results. The regression analysis is included in Appendix C.9.

9.6 HUMAN HEALTH RISK SCREENING EVALUATION SUMMARY

Table 9-3 summarizes the positive FBL lead detections and compares them to the PAL for lead (400 mg/kg). NG was not detected in the samples collected at the firing lines, and is therefore not included in the table. All FBL lead results for the grid sampling in the former target and berm areas were less than 200 mg/kg. FBL lead results for the three firing line composite samples were each less than 25 mg/kg (and non-detect for NG). Figure 9-1 presents the XRF and FBL lead results for the Former Navy Rifle Range.

9.7 UPDATED CSM

NG was not detected at the firing lines. Lead was detected at low concentrations across the site (Figure 9-1), and all reported values for lead were less than one-half the 400 mg/kg PAL.

The lead detected at the site would be primarily retained in surface soil (0- to 1- feet bgs). Precipitation infiltration could theoretically mobilize lead into subsurface soil and shallow groundwater. Soil pH, TOC and CEC affect the mobility of lead in soil. In general, high TOC combined with high CEC would increase adsorption of lead to soil, and when pH conditions are near neutral (6 to 8 S.U.) there is very limited aqueous solubility for lead compounds in soil. The greatest solubilities of lead compounds in soil have been shown to occur at more acidic (pH < 4) and more alkaline (pH > 11) conditions.

A sample from the Former Navy Rifle Range contained 22,000 mg/kg (or about 2.2 percent) TOC and had a measured CEC of 28.3 milliequivalents per 100 grams. The TOC value is consistent with the average organic content for surface soils in the central U.S. which typically average from 1% to 3.5% organic matter. The CEC value is typical for clay loam soils, but is still regarded to be on the lower end of the CEC scale, and indicates lower adsorptive capacities. The soil pH was on the acidic side of neutral at 5.01 S.U. While these conditions do not appear to be highly limiting to the mobility of lead, migration to

groundwater is not expected due to the discontinuous nature of groundwater in the loess and the depth to fluvial deposits groundwater. So, the primary migration pathway is runoff from precipitation

Current human receptors include Navy personnel, Navy-escorted visitors (e.g., contractors conducting environmental or ecological surveys), and trespassers (e.g., authorized personnel who may wander outside of designated areas). The facility's current land uses as open space and pasture for horses are expected to remain unchanged into the foreseeable future; therefore, all current potential receptors are also considered potential future receptors. In addition, future contractors hired to maintain grounds and perform other maintenance tasks such as utilities repair may be exposed to MC from former range activities, if they were present. Current and future ecological receptors include the current flora (predominantly grassland species) and fauna (large mammals such as horses, deer, small mammals such as rabbits, reptiles/amphibians, and bird species) present at the installation.

The FBL analytical results confirmed there were no areas of surface soil lead contamination at the Former Navy Rifle Range. The containment berm formerly located at the site was removed and the soil used for construction of the Naval Hospital in 1965. Any residual contamination in the berm was apparently removed at that time and is now gone based on sampling results. The exposure source is the low concentrations of lead detected at the site. The primary migration pathway is runoff from precipitation. Receptors would be exposed via ingestion, dermal contact, and inhalation of the surface soil. However, contamination was not identified, thus the exposure pathways are incomplete for human receptors under both current and hypothetical future land uses.

9.8 CONCLUSIONS

The SI results show that NG was not detected and lead is not present in surface soil at concentrations that could present potential risk to human receptors.

9.9 RECOMMENDATIONS

No discrete soil samples exceeded one-half the PAL for lead, and NG was not detected in composite soil samples from firing line areas. Therefore, a No Further Action determination is recommended for the Former Navy Rifle Range. TDEC concurred with this recommendation during a review of the Navy responses (Appendix D) to TDEC comments on the draft version of this report at the September 8, 2010 NSA Mid-South BCT meeting.

TABLE 9-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
FORMER NAVY RIFLE RANGE (UXO 000001)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
RRSS 001	RRSS 0010001	2/25/2010	SP	0-1	X		X	
RRSS 002	RRSS 0020001	2/25/2010	SP	0-1	X			
RRSS 003	RRSS 0030001	2/25/2010	SP	0-1	X			
RRSS 004	RRSS 0040001	2/25/2010	SP	0-1	X			
RRSS 005	RRSS 0050001	2/25/2010	SP	0-1	X			
RRSS 006	RRSS 0060001	2/25/2010	SP	0-1	X			
RRSS 007	RRSS 0070001	2/25/2010	SP	0-1	X		X	
RRSS 008	RRSS 0080001	2/25/2010	SP	0-1	X			
RRSS 009	RRSS 0090001	2/25/2010	SP	0-1	X		X	
RRSS 010	RRSS 0100001	2/25/2010	SP	0-1	X		X	
RRSS 011	RRSS 0110001	2/25/2010	SP	0-1	X			
RRSS 012	RRSS 0120001	2/25/2010	SP	0-1	X			
RRSS 013	RRSS 0130001	2/25/2010	SP	0-1	X			
RRSS 014	RRSS 0140001	2/25/2010	SP	0-1	X		X	
RRSS 015	RRSS 0150001	2/25/2010	SP	0-1	X		X	
RRSS 016	RRSS 0160001	2/25/2010	SP	0-1	X		X	
RRSS 017	RRSS 0170001	2/25/2010	SP	0-1	X			
RRSS 018	RRSS 0180001	2/25/2010	SP	0-1	X		X	
RRSS 019	RRSS 0190001	2/25/2010	SP	0-1	X			
RRSS 020	RRSS 0200001	2/25/2010	SP	0-1	X		X	
RRSS 021	RRSS 0210001	2/25/2010	SP	0-1	X		X	
RRSS 022	RRSS 0220001	2/25/2010	SP	0-1	X			
RRSS 023	RRSS 0230001	2/25/2010	SP	0-1	X			
RRSS 024	RRSS 0240001	2/25/2010	SP	0-1	X		X	
RRSS 025	RRSS 0250001	2/25/2010	SP	0-1	X			
RRSS 026	RRSS 0260001	2/25/2010	SP	0-1	X			
RRSS 027	RRSS 0270001	2/25/2010	SP	0-1	X			
RRSS 028	RRSS 0280001	2/25/2010	SP	0-1	X			
RRSS 029	RRSS 0290001	2/25/2010	SP	0-1	X	X	X	
RRSS 030	RRSS 0300001	2/25/2010	SP	0-1	X		X	
RRSS 031	RRSS 0310001	2/25/2010	SP	0-1	X			

TABLE 9-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
FORMER NAVY RIFLE RANGE (UXO 000001)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet bgs)	XRF (LEAD)	FBL ANALYSIS		
						pH, CEC, TOC	LEAD (SW-846 6010B)	NG (SW-846 8330B)
RRSS 032	RRSS 0320001	2/25/2010	SP	0-1	X		X	
RRSS 033	RRSS 0330001	2/25/2010	SP	0-1	X			
RRSS 034	RRSS 0340001	2/25/2010	SP	0-1	X		X	
RRSS 035	RRSS 0350001	2/25/2010	SP	0-1	X			
RRSS 036	RRSS 0360001	2/25/2010	SP	0-1	X		X	
RRSS 037	RRSS 0370001	2/25/2010	SP	0-1	X		X	
RRSS 038	RRSS 0380001	2/25/2010	SP	0-1	X		X	
RRSS 039	RRSS 0390001	2/25/2010	SP	0-1	X		X	
RRSS 040	RRSS 0400001	2/25/2010	SP	0-1	X			
RRSS 041	RRSS 0410001	2/25/2010	SP	0-1	X		X	
RRSS 042	RRSS 0420001	2/25/2010	SP	0-1	X			
RRSS 043	RRSS 0430001	2/25/2010	SP	0-1	X			
RRSS 044	RRSS 0440001	2/25/2010	SP	0-1	X			
RRSS 045	RRSS 0450001	2/25/2010	SP	0-1	X			
RRSS 046	RRSS 0460001	2/25/2010	SP	0-1	X			
RRSS 047	RRSS 0470001	2/25/2010	SP	0-1	X			
RRSS 01C	RRSS 01C0001	3/3/2010	HA	0-1			X	X
RRSS 02C	RRSS 02C0001	3/3/2010	HA	0-1			X	X
RRSS 03C	RRSS 03C0001	3/3/2010	HA	0-1			X	X

bgs = below ground surface
XRF = X-ray fluorescence
FBL = Fixed-base laboratory
CEC = Cation exchange capacity
TOC = Total organic carbon
NG = Nitroglycerin
SP=Soil probe
HA = Hand auger

TABLE 9-2

XRF AND FBL SURFACE SOIL MC LEAD DETECTIONS
AND PREDICTED LAB VALUES
FORMER HORSE STABLES SKEET RANGE (UXO 000002)
SITE INSPECTION REPORT
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

SAMPLE ID	SAMPLE DATE	XRF ANALYSIS[1]					FBL ANALYSIS[2]	PREDICTED LAB CONCENTRATION[3]
		DATE	1st (ppm)	2nd (ppm)	3rd (ppm)	Avg[4] (ppm)	Lead (mg/kg)	Lead (mg/kg)
RRSS 0010001	2/25/2010	2/25/2010	8	19	10	12.33	18.60	
RRSS 0020001	2/25/2010	2/25/2010	14	12	8	11.33	---	12.02
RRSS 0030001	2/25/2010	2/25/2010	4	12	11	9.00	---	9.7
RRSS 0040001	2/25/2010	2/25/2010	ND	9	13	10.67	---	11.36
RRSS 0050001	2/25/2010	2/25/2010	9	14	15	12.67	---	13.4
RRSS 0060001	2/25/2010	2/25/2010	14	4	17	11.67	---	12.36
RRSS 0070001	2/25/2010	2/25/2010	14	16	15	15.00	16.60	
RRSS 0080001	2/25/2010	2/25/2010	10	13	8	10.33	---	11.02
RRSS 0090001	2/25/2010	2/25/2010	42	51	42	45.00	42.40	
RRSS 0100001	2/25/2010	2/25/2010	24	28	25	25.67	24.10	
RRSS 0110001	2/25/2010	2/25/2010	7	6	15	9.33	---	10
RRSS 0120001	2/25/2010	2/25/2010	15	11	15	13.67	---	14.4
RRSS 0130001	2/25/2010	2/25/2010	18	12	9	13.00	---	13.7
RRSS 0140001	2/25/2010	2/25/2010	128	122	127	125.67	146.00	
RRSS 0150001	2/25/2010	2/25/2010	82	73	82	79.00	72.20	
RRSS 0160001	2/25/2010	2/25/2010	11	15	22	16.00	18.10	
RRSS 0170001	2/25/2010	2/25/2010	10	14	19	14.33	---	15
RRSS 0180001	2/25/2010	2/25/2010	13	19	15	15.67	16.80	
RRSS 0190001	2/25/2010	2/25/2010	18	9	10	12.33	---	13
RRSS 0200001	2/25/2010	2/25/2010	46	51	44	47.00	52.40	
RRSS 0210001	2/25/2010	2/25/2010	20	ND	19	16.33	27.00	
RRSS 0220001	2/25/2010	2/25/2010	15	ND	ND	11.67	---	12.36
RRSS 0230001	2/25/2010	2/25/2010	6	11	6	7.67	---	8.4
RRSS 0240001	2/25/2010	2/25/2010	25	10	17	17.33	27.10	
RRSS 0250001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.7
RRSS 0260001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.7
RRSS 0270001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.7
RRSS 0280001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.7
RRSS 0290001	2/25/2010	2/25/2010	237	146	205	196.00	193.00	
RRSS 0300001	2/25/2010	2/25/2010	21	ND	19	16.67	16.10	
RRSS 0310001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.69
RRSS 0320001	2/25/2010	2/25/2010	ND	17	55	27.33	18.20	
RRSS 0330001	2/25/2010	2/25/2010	ND	ND	ND	10.00	---	10.7
RRSS 0340001	2/25/2010	2/25/2010	66	52	60	59.33	63.10	
RRSS 0350001	2/25/2010	2/25/2010	16	ND	ND	12.00	---	12.69
RRSS 0360001	2/25/2010	2/26/2010	36	41	63	46.67	35.00	
RRSS 0370001	2/25/2010	2/26/2010	ND	23	25	19.33	20.60	
RRSS 0380001	2/25/2010	2/26/2010	26	30	26	27.33	24.00	
RRSS 0390001	2/25/2010	2/25/2010	146	160	147	151.00	149.00	
RRSS 0400001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7
RRSS 0410001	2/25/2010	2/26/2010	ND	17	31	19.33	14.50	
RRSS 0420001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7
RRSS 0430001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7
RRSS 0440001	2/25/2010	2/26/2010	ND	15	ND	11.67	---	12.36
RRSS 0450001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7
RRSS 0460001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7
RRSS 0470001	2/25/2010	2/26/2010	ND	ND	ND	10.00	---	10.7

mg/kg = milligram per kilogram
ppm = parts per million
XRF = X-ray flourescence
--- = indicates sample was not selected for analysis at the FBL.

1 - Shaded cell indicates XRF lead concentration greater than the field XRF lead PAL of 280 mg/kg.
2 - Shaded cell indicates FBL lead concentration greater than the USEPA Residential Regional Screening Level PAL of 400 mg/kg.
3 - Per the December 2009 SAP, the correlation between the XRF and FBL results for this site is acceptable; therefore, the following formula can be used for samples analyzed by XRF only to predict corresponding FBL concentrations: FBL = 0.69 + 1.0*XRF.
4 - For XRF samples with non-detect ("ND") results, one-half of the detection limit (10 mg/kg) was used to calculate the average XRF value.

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS001	RR-SS001C	RR-SS002	RR-SS002C		RR-SS002C	RR-SS003	RR-SS003C	RR-SS004
SAMPLE ID		RR-SS001-0001	RR-SS01C-0001	RR-SS002-0001	RR-SS02C-0001	RR-SS02C-0001-AVG	RR-SS02C-0001-D	RR-SS003-0001	RR-SS03C-0001	RR-SS004-0001
SAMPLE DATE	Project	20100225	20100303	20100225	20100303	20100303	20100303	20100225	20100303	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	18.6	16.6	NA	17.3	17.3	NA	NA	21.6	NA
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	12.33	NA	11.33	NA	NA	NA	9	NA	10.67

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS005	RR-SS006	RR-SS007	RR-SS008	RR-SS009	RR-SS010	RR-SS011	RR-SS012	RR-SS013
SAMPLE ID		RR-SS005-0001	RR-SS006-0001	RR-SS007-0001	RR-SS008-0001	RR-SS009-0001	RR-SS010-0001	RR-SS011-0001	RR-SS012-0001	RR-SS013-0001
SAMPLE DATE	**Project**	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	**Action**	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	**Limit**	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	NA	NA	16.6	NA	42.4	24.1	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	12.67	11.67	15	10.33	45	25.67	9.33	13.67	13

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS014	RR-SS015	RR-SS016	RR-SS017	RR-SS018	RR-SS019	RR-SS020	RR-SS021	RR-SS022
SAMPLE ID		RR-SS014-0001	RR-SS015-0001	RR-SS016-0001	RR-SS017-0001	RR-SS018-0001	RR-SS019-0001	RR-SS020-0001	RR-SS021-0001	RR-SS022-0001
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	146	72.2	18.1	NA	16.8	NA	52.4	27	NA
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	125.67	79	16	14.33	15.67	12.33	47	16.33	11.67

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS023	RR-SS024	RR-SS025	RR-SS026	RR-SS027	RR-SS028	RR-SS029		RR-SS029
SAMPLE ID		RR-SS023-0001	RR-SS024-0001	RR-SS025-0001	RR-SS026-0001	RR-SS027-0001	RR-SS028-0001	RR-SS029-0001	RR-SS029-0001-AVG	RR-SS029-0001-D
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	NA	27.1	NA	NA	NA	NA	193	208 J	223 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	28.3	28.3	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	7180	7180	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	5.01	5.01	NA
XRF (MG/KG)										
LEAD	280	7.67	17.33	10 U	10 U	10 U	10 U	196	192.665	189.33

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS030	RR-SS031	RR-SS032	RR-SS033	RR-SS034	RR-SS035	RR-SS036	RR-SS037	RR-SS038
SAMPLE ID		RR-SS030-0001	RR-SS031-0001	RR-SS032-0001	RR-SS033-0001	RR-SS034-0001	RR-SS035-0001	RR-SS036-0001	RR-SS037-0001	RR-SS038-0001
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1	1
METALS (MG/KG)										
LEAD	400	16.1 J	NA	18.2 J	NA	63.1 J	NA	35 J	20.6 J	24 J
MISCELLANEOUS PARAMETERS (MEQ/100)										
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)										
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)										
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	280	16.67	10 U	27.33	10 U	59.33	12	46.67	19.33	27.33

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

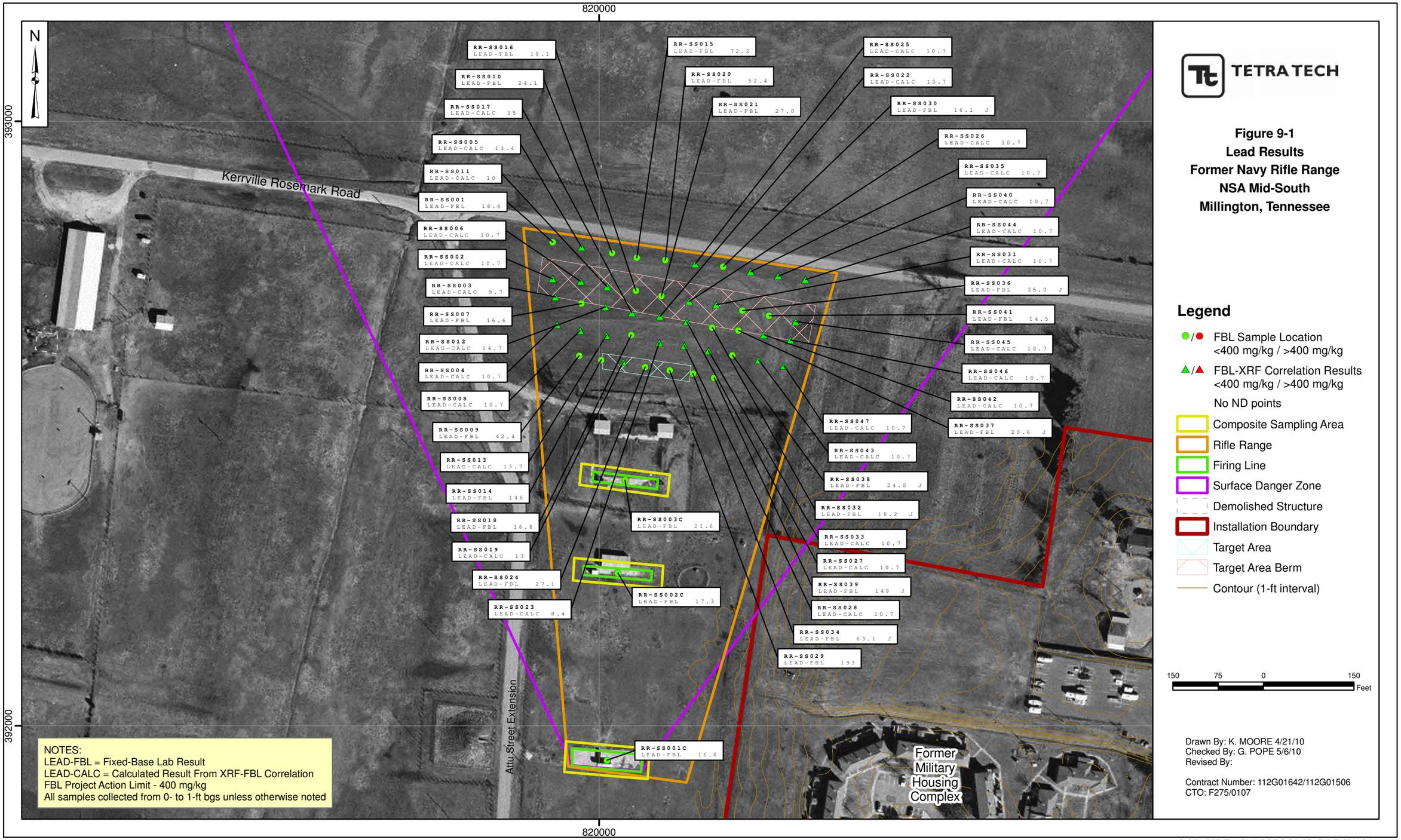
LOCATION		RR-SS039		RR-SS039	RR-SS040	RR-SS041	RR-SS042	RR-SS043	RR-SS044
SAMPLE ID		RR-SS039-0001	RR-SS039-0001-AVG	RR-SS039-0001-D	RR-SS040-0001	RR-SS041-0001	RR-SS042-0001	RR-SS043-0001	RR-SS044-0001
SAMPLE DATE	Project	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	Action	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH		0	0	0	0	0	0	0	0
BOTTOM DEPTH		1	1	1	1	1	1	1	1
METALS (MG/KG)									
LEAD	400	149 J	149 J	NA	NA	14.5	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NC	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NC	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	280	151	144.335	137.67	10 U	19.33	10 U	10 U	11.67

TABLE 9-3

FIXED BASE LABORATORY (MC) AND FIELD (XRF) RESULTS
POSITIVE DETECTIONS
NAVY RIFLE RANGE (UXO 000001)
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

LOCATION		RR-SS045	RR-SS046	RR-SS047
SAMPLE ID		RR-SS045-0001	RR-SS046-0001	RR-SS047-0001
SAMPLE DATE	Project	20100225	20100225	20100225
SAMPLE CODE	Action	NORMAL	NORMAL	NORMAL
MATRIX	Limit	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SS
TOP DEPTH		0	0	0
BOTTOM DEPTH		1	1	1
METALS (MG/KG)				
LEAD	400	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)				
CATION EXCHANGE CAPACITY	NC	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)				
TOTAL ORGANIC CARBON	NC	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)				
PH	NC	NA	NA	NA
XRF (MG/KG)				
LEAD	280	10 U	10 U	10 U

SO = Soil
SS = Surface soil
MG/KG = Milligrams per kilogram
MEQ = Milliequivalent
S.U. = Standard unit
XRF = X-ray fluorescence
Shaded cells indicate concentrations greater than PAL.



P:\GIS\MIDSOUTH_NSA\MXD\RIFLE_RANGE_LEAD_TAGS.MXD 5/6/10 KM

APPENDIX A

FIELD DOCUMENTATION

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS C010001
Sample Location: PRSS 01C
Sampled By: FG/LB
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 2/24/10 Time: 1630 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	Clay (CL) soft - stiff plastic gravelly.

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			~~1 X 4-oz Glass Jar 4°C~~ FG	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3
A NA
B
C
D
E
F
G
H
I
J
Composite

MAP: ZIPLOCK BAG

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

1605 Pg 1/1 RB022410-02

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0010001
Sample Location: PRSS 001
Sampled By: FG/LB
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1045	0-1	Brown	Clay (CL) soft Trace pebbles moist
Method: SS hr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF Readings provided on XRF summary sheet
1
2
3

RINSE BLANK PRIOR TO THIS SAMPLE

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

RB022410-01 on before this sample

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0020001
Sample Location: PRSS 002
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1100	0-1	Brown	clay (CL), soft MOIST
Method: SS Pc				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0030001
Sample Location: PRSS 003
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1059	0-1	Brown	Clay (CL) soft silty trace pebbles moist
Method: SS.Pr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0040001
Sample Location: PRSS 004
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1115	0-1	Brown	Clay (CL) soft slightly silty moist ~~trace pebbles~~ pebbles
Method: SS				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF Readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0050001
Sample Location: PRSS 005
Sampled By: BIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1129	0-1	Brown	Clay (CL) soft, silty lots of pebbles, gravel moist
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF Readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0060001
Sample Location: PRSS 006
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1123	0-1	Brown	Clay (CL) soft moist trace pebbles silt grav @ 6"
Method: SS Pr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF field readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0070001
Sample Location: PRSS 007
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1122	0-1	Brown	Clay (CL) st, cf slightly pebbly, moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0080001
Sample Location: PRSS 008
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/22/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1115	0-1	Brown	Clay (CL) soft moist trace pebble slightly ~~silty~~ FG silty
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0090001
Sample Location: PRSS 009
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1146	0-1	Brown	CLAY (CL) soft stiff plastic some gravel moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0100001
Sample Location: PRSS 010
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1136	0-1	Brown	Clay (CL) soft plastic trace gravel moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided in XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0110001
Sample Location: PRSS 011
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1135	0-1	Brown	CLAY (CL) stiff - moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0120001
Sample Location: PRSS 012
Sampled By: BIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1130	0-1	Brown	Clay (CL) soft, moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0130001
Sample Location: PRSS 013
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1537	0-1	Brown	Clay (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0140000
Sample Location: PRSS 014
Sampled By: LBIFA
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1532	0-1	Brown	Clay (CL) ~~brn~~ soft plastic damp
Method: SSG				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

See attached

OBSERVATIONS / NOTES:

XRF readings provided a XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0140000
Sample Location: PRSS 014
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1540	0-1	Brown	clay (CL) soft plastic damp
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0150001
Sample Location: PRSS 015
Sampled By: LD/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1145	0-1	Brown	CLAY (CL), soft mod plastic silty damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0160001
Sample Location: PRSS 016
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:		Brown	
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1150	0-1	Brown	CLAY, (CL) stiff silty damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0170001
Sample Location: PRSS 017
Sampled By: FGLB
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1150	0-1	Brown	CLAY (CL) soft to stiff moist
Method: SSP				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0180001
Sample Location: PRSS 018
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1156	0-1	Brown	Clay, soft, stiff (CL) plastic, silty trace pebbles moist
Method: SSOP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0190001
Sample Location: PRSS 019
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1735	0-1	Brown	Clay (CL), crumbly soft slig. Lty silty, trace pebbles moist
Method: SS8				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0200001
Sample Location: PRSS 020
Sampled By: WFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	N22	0-1	Brown w/ Black	Clay (CL), soft moist trace pebbles
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0210001
Sample Location: PRSS 021
Sampled By: LB/[illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	152B	0-1	Brown	clay(CL) soft, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0220001
Sample Location: PRSS 022
Sampled By: LD/FCs
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1512	0-1	Brown	Clay(CL) soft, plastic moist
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0230001
Sample Location: PRSS 023
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1500	0-1	~~Soil~~ Brown	Clay (CL) soft, moist, ~~plastic~~ plastic
Method SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	↑	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0240001
Sample Location: PRSS 024
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1451	0-1	Brown	~~SCL~~ Clay (CL) soft plastic, damp trace pebbles
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF read approx. 1ed on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.: FD022410-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0250001
Sample Location: PRSS 025
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1435	0-1	Brown	Clay (CL) soft, plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0260001
Sample Location: PRSS 026
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1422	0-1	Brown	Clay (CL), soft damp plastic
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.: FD022410-02

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0270001
Sample Location: PRSS 027
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1522	0-1	Brown	CLAY (CL), brown soft plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0280001
Sample Location: PRSS 028
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1517	0-1	Brown	Clay (CL), soft plastic, moist, trace gravel
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0290001
Sample Location: PRSS 029
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/16	1506	0-1	Brown	Clay, (CL) soft plastic, damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0300001
Sample Location: PRSS 030
Sampled By: YB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1455	0-1	Brown	(~~CL~~) CLAY, (CL), soft plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0310001
Sample Location: PRSS 031
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1444	0-1	Brown	clay (CL) soft plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0320001
Sample Location: PRSS 001
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1439	0-1	Brown	Clay (CL) soft plastic trace metals
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0330001
Sample Location: PRSS 033
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/16	1430	0-1	Brown	clay (CL) soft plastic
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0340001
Sample Location: PRSS 034
Sampled By: LBIFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/16	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1418	0-1	Brown	Clay (CL) soft brown plastic
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0350001
Sample Location: PRSS 035
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1408	0-1	Brown	clay (CL) brown soft moist plastic
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0360001
Sample Location: PRSS 036
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1410	0-1	Brown	Clay (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0370001
Sample Location: PRSS 037
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1651	0-1	Brown	Clay (CL) soft, plastic moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: (XRF readings provided on XRF summary sheet)
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0380001
Sample Location: PRSS 038
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1655	0-1		Clay (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0390001
Sample Location: PRSS 039
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1353	0-1	Brown	Clay (CL) soft moist plastic
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0400001
Sample Location: PRSS 040
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/16	1350	0-1	Brown	Clay (CL) soft plastic damp
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0410001
Sample Location: PRSS 041
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/24/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1347	0-1	Brown	Clay (CL) soft plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0420001
Sample Location: PRSS 042
Sampled By: LB/EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	~~0~~ FWL		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1535	0-1	Brown	CLAY (CL) soft, slightly plastic, moist
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0430001
Sample Location: PRSS 043
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/00	1540	0-1	Brown	w/black, silt, gravel Moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0440001
Sample Location: PRSS 044
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1516	0-1	Brown	CLAY(CL) Silt, mud platter, sticky, moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0450001
Sample Location: PRSS 045
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1500	0-1	Brown	CLAY, (CL) soft plastic moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0460001
Sample Location: PRSS 046
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/16	1502	0-1	Brown	CLAY(CL) soft plastic moist
Method: SS-PC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0470001
Sample Location: PRSS 047
Sampled By: CB/FW
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1503	0-1	Brown	CLAY (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0480001
Sample Location: PRSS 048
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1500	0-1	Brown	Clay (CL) soft plastic moist.
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0490001
Sample Location: PRSS 049
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1455	0-1	Brown	CLAY (CL) soft, plastic, moist
Method: SS/C				Moved 4' E of 38 ove ~~DATE~~ FC
				due to water
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP: NOTE

Moved 35E of 38 due to water

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0500001
Sample Location: PRSS 050
Sampled By: KBFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1449	0-1		Brown (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0510001
Sample Location: PRSS 051
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
7/27/10	1445	0-1	Brown	CLAY(CL) soft, plastic moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 02-40102
Sample Location: PRSS 024
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1440	1-2	Brown	Clay (CL) soft crumbly some silt slightly plastic clumps.
Method: HA				
Monitor Readings (Range in ppm): N/A				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: (see readings provided on XRF summary sheet)
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): TC Washburn

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0230102
Sample Location: PRSS 023
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1421	1-2	Brown	CLAY (CL) soft + silty some gravel moist)
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 017~~0203~~ 0102
Sample Location: PRSS 017
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1530	0-1-2	Brown	Clay (CL) crumbly damp silty
Method: NA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0180102
Sample Location: PRSS 018
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1536	1-2	Brown	CLAY (CL) crumbly, non plastic very fine silt gravelly
Method: HA				Camp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF read map provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 036 0102.
Sample Location: PRSS 036
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	01-02		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10		0-1	Brown	CLAY (CL) Stiff moderately Plastic Damp
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings are provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: PRSS 0400102
Sample Location: PRSS 40040
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1437	1-2	Brown	Clay (CL) Brown soft Crumbly Non plastic damp
Method: HA				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 04C0001
Sample Location: TSRSS 04C
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1115 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	Clay (CL), soft to stiff, silty, moderately plastic, moist

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
NA	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis		Container Requirements	Collected	Other
Metals 3050B/6010B (lead)		1 X 4-oz Glass Jar 4° C	X	
NG 8330B		1 ~~X 4-oz Glass Jar 4° C~~ JFC	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A NA
B
C
D
E
F
G
H
I
J
Composite

MAP: ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 05C0001
Sample Location: TSRSS 05C
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1140 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY (CL) soft, crumbly, slightly plastic, damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
NA	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ 2 FG	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B
C
D
E
F
G
H
I
J
Composite

NA

MAP:

2, PLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 06C0001
Sample Location: TSRSS 06C
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1319 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	Clay (CL), soft, stiff, crumbly, very low silt, damp

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings NA	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C		
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~		

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B
C
D
E
F
G
H
I
J
Composite

NA

MAP:

2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 08C0001
Sample Location: TSRSS 08C
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1305 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	(lo) (cl) silt, crumbly, slightly plastic, damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			~~1 X 4-oz Glass Jar 4° C~~ FG	X	

OBSERVATIONS / NOTES:

XRF Readings:

	1	2	3
A			
B			
C		NA	
D			
E			
F			
G			
H			
I			
J			
Composite			

MAP: ziplock bag

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

Sample ID No.: TSRSS 09C0001
Sample Location: TSRSS 09C
Sampled By:
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1340 Method: Monitor Reading (ppm):	0-1.0 ft	Brown	Clay (CL) soft, crumbly, very fine silt, slightly plastic damp.

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C		
NG 8330B			~~1 X 4-oz Glass Jar 4° C~~ FG		

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B
C
D
E
F
G
H
I
J
Composite

NA

MAP:

ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 10C0001
Sample Location: TSRSS 10C
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 1411 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY (CL) soft crumbly slight plastic dampness

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		Some very fine silt more clay @ depth
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			~~1 X 4-oz Glass Jar 4° C~~ FG	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A NA
B
C
D
E
F
G
H
I
J
Composite

MAP:

2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0240102
Sample Location: TSRSS 02
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1600	01-02	Brown	Clay (CL) soft slightly plastic moist
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0320102
Sample Location: TSRSS 032
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10		01-02	Brown	CLAY(CL) soft plastic moist
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading map provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 041/0102
Sample Location: TSRSS 041
Sampled By: LB/FR
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1635	01-02	Brown	CLAY (CL) soft plastic moist
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0220102
Sample Location: TSRSS 022
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1555	01-02	Brown	CLAY(CL) soft crumbly slightly plastic damp
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 038 0102
Sample Location: TSRSS 038
Sampled By: KB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1636	01-02	Brown	CLAY (CL) soft plastic wet.
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0300102
Sample Location: TSRSS 030
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1 bag	01-02	Brown	CLAY (CL) soft plastic moist
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0010001
Sample Location: TSRSS 001
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1416	0-1	Brown	CLAY(CL) soft, crumbly non plastic silty clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0020001
Sample Location: TSRSS 002
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1411	0-1	Brown	CLAY (CL) soft crumbly silty non plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0030001
Sample Location: TSRSS 003
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1411	0-1	Brown	CLAY (CL), soft, mod plastic moist
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0040001
Sample Location: TSRSS 004
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/16	1400	0-1		CLAY (CL) soft crumply, very fine silt non plastic
Method: SSPr				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0050001
Sample Location: TSRSS 005
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1400	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0060001
Sample Location: TSRSS 006
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1352	0-1	Brown	CLAY (CL) Soft crumbly fine silt slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0070001
Sample Location: TSRSS 007
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1346	0-1	Brown	CLAY (CL) soft crumbly very fine silt non plastic damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0080001
Sample Location: TSRSS 008
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1347	0-1	Brown	CLAY (CL) ~~[illegible]~~ SOFT crumbly slightly plastic
Method: SS PT				Camo
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0090001
Sample Location: TSRSS 009
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1423	0-1	Brown	CLAY(CL) to soft crumbly slightly plastic damp some small frags 0.8 ft refusal
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0100001
Sample Location: TSRSS 010
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1249	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp refusal @ 0.8'
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0110001
Sample Location: TSRSS 011
Sampled By: LD/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1251	0-1	Brown	CLAY (CL) soft, mod plastic moist refusal @ 0.6-0.8
Method: SS.PP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0120001
Sample Location: TSRSS 012
Sampled By: MFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1251	0-1	Brown with black	CLAY (CL), soft slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0130001
Sample Location: TSRSS 013
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1254	0-1	Brown	CLAY (CL), soft very fine silt slightly plastic
Method: SSPR				moist
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0140000
Sample Location: TSRSS 014
Sampled By: LJ/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1302	0-1	Brown	CLAY (CL), soft crumbly damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0150001
Sample Location: TSRSS 015
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1311	0-1	Brown	(CL) soft to stiff mod plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0160001
Sample Location: TSRSS 016
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1312	0-1	Brown	CLAY(CL) soft crumbly very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0170001
Sample Location: TSRSS 017
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1324	0-1	Brown	CLAY (CL) soft crumbly fine silts damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0180001
Sample Location: TSRSS 018
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1320	0-1	..	CLAY(CL) soft crumbly very fine silt non plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0190001
Sample Location: TSRSS 019
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1035	0-1	Brown	CLAY (CL) soft - stiff plastic moist some sheet [illegible] 1/4-3/4
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0200001
Sample Location: TSRSS 020
Sampled By: LB/KG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1043	0-1	Brown	CLAY (CL), soft brown slightly silty clay
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 020001
Sample Location: TSRSS 020
Sampled By: CB/FO
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1037	0-1	Brown	CLAY (CL) soft brown slightly silty damp.
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0210001
Sample Location: TSRSS 021
Sampled By: CB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	0-1	Brown	
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/22/10	1030	0-1	Brown	Clay (CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NR				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0220001
Sample Location: TSRSS 022
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/14	1046	0-1	Brown	Clay (CL) soft crumbly slight plastic
Method: SSPC				Cap
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0220001
Sample Location: TSRSS 022
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	1041	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		+
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		+
CEC 9081	1 X 4-oz Glass Jar 4° C		+

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): T&W [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0230001
Sample Location: TSRSS 023
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1054	0-1	Brown	Clay (CL) soft ~~brown~~ slightly silty damp
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0240001
Sample Location: TSRSS 024
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1/09	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0250001
Sample Location: TSRSS 025
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1332	0-1	Brown	CLAY (CL) soft plastic moist
Method: SS PP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0260001
Sample Location: TSRSS 026
Sampled By: WJ/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1122	0-1	Brown to gray	CLAY (CL) soft/stiff plastic
Method: SSP				
				location @ drainage
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0270001
Sample Location: TSRSS 027
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1114	0-1	Brown	soft plastic moderately damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF Summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0280001
Sample Location: TSRSS 028
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0909	0-1	Brown	CLAY (CL) stiff plastic moist
Method: SSPR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0290001
Sample Location: TSRSS 029
Sampled By: LR/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	0901	0-1	Brown	CLAY (CL) stiff plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0300001
Sample Location: TSRSS 030
Sampled By: CB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/28/10	0906	0-1	Brown	CLAY, (CL) soft plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0310001
Sample Location: TSRSS 031
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0930	0-1	Brown Gray	CLAY (CL) soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0320001
Sample Location: TSRSS 001
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0927	0-1	Brown	CLAY, (CL) stiff slightly plastic damp
Method:				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0330001
Sample Location: TSRSS 033
Sampled By: CBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0944	0-1	Brown some black	CLAY, (CL) plastic soft moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading proc. data on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
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[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0340001
Sample Location: TSRSS 034
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0953	0-1	Brown	CLAY(CL) soft plastic moist
Method: SSRC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0350001
Sample Location: TSRSS 035
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1000	0-1	Brown some black	CLAY (CL), soft mod plastic damp
Method: SS PC				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0360001
Sample Location: TSRSS 036
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0955	0-1	Brown	CLAY (CL) soft, plastic damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. below XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0370001
Sample Location: TSRSS 037
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1700	0-1	Brown Black	CLAY (CL) soft under plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading! prov. data on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Fred W Shipl

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0380001
Sample Location: TSRSS 038
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1704	0-1	Brown Black (some)	CLAY (CL) Soft Mod plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0390001
Sample Location: TSRSS 039
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1714	0-1	Brown w/ Black	CLAY (CL) soft mod plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0400001
Sample Location: TSRSS 040
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1716	0-1	Brown w/ Black	CLAY (CL) soft plastic moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0410001
Sample Location: TSRSS 041
Sampled By: LBJFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1724	0-1	Brown w/ Black	Clay (CL) soft plastic moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0410001
Sample Location: TSRSS LB/FG
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	1045	0-1	Brown w/ Black	CLAY, (CL) soft, plastic moist
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C	✓	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0420001
Sample Location: TSRSS 042
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0824	0-1	Brown	CLAY (CL) soft plastic moist.
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading prod. decon XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0430001
Sample Location: TSRSS 043
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0826	0 - 1	Brown	CLAY (CL) soft plastic moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0440001
Sample Location: TSRSS 044
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	0835	0-1	Brown	CLAY (CL) soft, slight plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading map prov. below XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0450001
Sample Location: TSRSS 045
Sampled By: BTG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1650	0-1	Brown w Black	CLAY (CL) soft plastic moist
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0460001
Sample Location: TSRSS 046
Sampled By: SBFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1654	0-1	Brown w/Black	CLAY(CL) soft plastic moist
Method: SSPC				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading approx. decon XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0470001
Sample Location: TSRSS 047
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	1047	0-1	Brown	CLAY (CL) soft plastic moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0480001
Sample Location: TSRSS 048
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/11/10	1378	0-1	Brown	silty clay (CL) crumbly soft damp sl
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0490001
Sample Location: TSRSS 049
Sampled By: US/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1347	0-1	Brown	CLAY (CL) soft silty slightly plastic moist-wet
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0500001
Sample Location: TSRSS 050
Sampled By: LS/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1353	0-1	Brown w Black	SILTY CLAY (CL) Not silt fine silt soft slightly plastic moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0510001
Sample Location: TSRSS 051
Sampled By: LBIFL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1359	0-1	Brown	silty clay soft crumbly silty clay
Method: SSP				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: ref reading prov. det on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): TTNUS

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0520001
Sample Location: TSRSS 052
Sampled By: WBF
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/11/10	1413	0-1	Brown	CLAY (CL) soft crumbly, silty clay
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading approx. ded on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0530001
Sample Location: TSRSS 053
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1420	0-1	Brown	CLAY, (CL) soft crumbly silty clay
Method:				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0540001
Sample Location: TSRSS 054
Sampled By: WFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1428	0-1	Brown	CLAY (CL) soft slightly plastic moist some silt
Method: SSPT				
Monitor Readings (Range in ppm):				
NK				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0550001
Sample Location: TSRSS 055
Sampled By: CB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1435	0-1	Brown	Clay(ca) Soft Crumbly silt/ non plastic N.1 Camp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0560001
Sample Location: TSRSS 056
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1448	0-1	Brown soft	CLAY (CL) soft crumbly silty no plastic
Method: SSPT				damp
Monitor Readings (Range in ppm): NR				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading approved on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0570001
Sample Location: TSRSS 057
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1457	0-1	Brown	clay(cl) soft crumbly silty dump
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0580001
Sample Location: TSRSS 058
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1630	0-1	Brown	CLAY, (CL) plastic moist.
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0590001
Sample Location: TSRSS 059
Sampled By: LDIFL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/20/10	1636	0-1	Brown	CLAY (CL) soft to stiff crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0600001
Sample Location: TSRSS 060
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1644	0-1	Brown	CLAY(CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading prov. decon summary sheet XRF

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0610001
Sample Location: TSRSS 061
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1652	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0620001
Sample Location: TSRSS 062
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	#1552	0-1	Brown	CLAY (CL) Silty crumbly very fine silt clay
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0630001
Sample Location: TSRSS 063
Sampled By: LB/PG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1545	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SS&C				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0640001
Sample Location: TSRSS 064
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1536	0-1	Brown & Black	CLAY (CL) soft crumbly uprooted silt slightly plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0650001
Sample Location: TSRSS 065
Sampled By: LB/KC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/14	1528	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

DIS-FWL

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS0660001
Sample Location: TSRSS 066
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1658	00-01	Brown	CLAY. SOFT. slightly plastic MOIST skut on ground
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Near TRSS037

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: TSRSS 0670001
Sample Location: TSRSS 067
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1705	0-1	Brown	CLAY (CL) soft stiff plastic moist sheet on ground
Method: SSPT				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 01C0001
Sample Location: AFRSS 01C
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/10/10			
Time: 1307	0-1.0 ft	Brown	Clay (CL) Slightly plastic crumbly silty damp,
Method: HA			
Monitor Reading (ppm): NA			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft	NA	
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ FC	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A NA
B
C
D
E
F
G
H
I
J
Composite

MAP:

2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 02C0001
Sample Location: AFRSS 02C
Sampled By: FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/9/10 Time: Method: HA 1762 1763 Monitor Reading (ppm): 0	0-1.0 ft	Brown	CLAY (CL) some silt, silty, slightly plastic

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		damp, crumbly
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft	NA	
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ FC	X	

OBSERVATIONS / NOTES:

XRF Readings:

	1	2	3
A		NA	
B			
C			
D			
E			
F			
G			
H			
I			
J			
Composite			

MAP:

2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

RB030910-01

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0010001
Sample Location: AFRSS 001
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
~~3/10~~ FC 3/2/10	1021	0-1	Brown	CLAY(CL) stiff slight silt mod plastic damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF Readings Provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0020001
Sample Location: AFRSS 002
Sampled By: CSIFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1025	0-1	Brown	CLAY(CL), stiff, silty
Method: SSPC				reddish Festa
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: ref readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0030001
Sample Location: AFRSS 003
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1029	0-1	Brown	CLAY, (CL), soft some silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided a XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0040001
Sample Location: AFRSS 004
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1032	0-1	Brown	CLAY (CL), soft, slightly silty, slightly plastic clay
Method: SSPF				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0050001
Sample Location: AFRSS 005
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1015	0-1	Brown	CLAY (CL) stiff sft slightly plastic damp
Method: SSFT				some Fe stains
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0060001
Sample Location: AFRSS 006
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1014	0-1	Brown	CLAY (CL) stiff silty slightly plastic damp
Method: SSA				reddish Fe stains
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0070001
Sample Location: AFRSS 007
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1011	0-1	Brown	CLAY (CL) stiff slightly plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0080001
Sample Location: AFRSS 008
Sampled By: LBFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	1009	0-1	Brown	CLAY (CL) soft crumbly very fine
Method: SSPr				silt damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0090001
Sample Location: AFRSS 009
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0910	0—1	Brown	CLAY (CL), stiff, slightly plastic, damp
Method: SSPr				reddish for stain
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0100001
Sample Location: AFRSS 010
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	0914	0-1	Brown	Clay(c) stiff silty clay slightly plastic
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	✓	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0110001
Sample Location: AFRSS 011
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0917	0-1	Brown	CLAY (CL) stiff silty slightly plastic
Method: SSA				damp
Monitor Readings (Range in ppm): N/A				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0120001
Sample Location: AFRSS 012
Sampled By: LB/RC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0921	0-1	Brown	CLAY (CL) very fine silty crumbly slightly plastic clump
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0130001
Sample Location: AFRSS 013
Sampled By: LY/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0854	0-1	Brown	CLAY (CL) crumbly slighty plastic silt
Method: SSPT				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0140000
Sample Location: AFRSS 014
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0975	0-1	Brown	CLAY, (CL) soft, slightly plastic damp
Method: SSPT				Fe staining on
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0150001
Sample Location: AFRSS 015
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0931	0-1	Brown	CLAY (CL) soft crumbly very fine silt slightly plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0150001
Sample Location: AFRSS 015
Sampled By: LB/EC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	1019	0-1		CLAY (CL) soft crumbly very fine silt slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF readings prov. below XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0160001
Sample Location: AFRSS 016
Sampled By: 43/FCO
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0926	0-1	Brown	CLAY(CL) soft crumbly silty non plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0170001
Sample Location: AFRSS 017
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0935	0-1	Brown	CLAY (CL) soft plastic moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0180001
Sample Location: AFRSS 018
Sampled By: 431FCa
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0947	0-1	Brown	CLAY(LE), soft silty slight to plastic
Method: SSPr				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0190001
Sample Location: AFRSS 019
Sampled By: BLB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0941	0-1	Brown	CLAY (CL), soft slightly plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0200001
Sample Location: AFRSS 020
Sampled By: CHFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0-1	Brown	
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0939	0-1	Brown	CLAY (CL) soft silt slightly plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD030210-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0210001
Sample Location: AFRSS 021
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
03/2/10	0857	0-1	Brown	CLAY (CL) Dry soft Crumbly very fine silt
Method: SSP				slightly plastic damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0220001
Sample Location: AFRSS 022
Sampled By: CB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0954	0-1	Brown	Clay (CL), soft plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0230001
Sample Location: AFRSS 023
Sampled By: MJFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0947	0-1	Brown	CLAY (CL) soft crumbly very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD X

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0240001
Sample Location: AFRSS 024
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0943	0-1	Brown	CLAY (CL), soft-stiff very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0250001
Sample Location: AFRSS 025
Sampled By: CB/FE
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0901	0-1	Brown	CLAY (CL), soft crumbly very fine silt
Method: SS Pr				slightly plastic damp
Monitor Readings (Range in ppm): N/A				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0260001
Sample Location: AFRSS 026
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	905	0-1	Brown	CLAY (CL) stiff mod plastic moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0270001
Sample Location: AFRSS 027
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0957	0-1	Brown	CLAY(CL) soft stiff mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0280001
Sample Location: AFRSS 028
Sampled By: GB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/2/10	0951	0 - 1	Brown	SCLA? (CL) soft very fine grained, slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0290001
Sample Location: AFRSS 029
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			CLAY

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/09/10	1010 ~~1010~~	0-1 NAT 19" bgs	Gray	(CL) stiff, slightly plastic ~~damp~~ damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
11" rock
native @ 17" ±

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0300001
Sample Location: AFRSS 030
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
5/9/10	1113	0-1*	Gray	CLAY (CL) stiff slight plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
10" rock
*inclusion 16" ± bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0310001
Sample Location: AFRSS 031
Sampled By: ~~[illegible]~~
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
~~3/9/10~~ FC 3/09/10	1120	0 - 1 *	Gray	CLAY (CL) silt soft silty plastic wet
Method: SSPT				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" Asphalt
12" rock
17" native bgs
Poor recovery lots of water in hole

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0320001
Sample Location: AFRSS 001
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/4/10	1201	0-1 ft	Gray	CLAY (CL) stiff slight plastic
Method: SSPt				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings:
1
2
3

MAP:

6" asphalt
±18" inches grand
10" ± not per bags
40 diff kit recover

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0330001
Sample Location: AFRSS 033
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1357	0-1'	GRAY	CLAY (CL) stiff soft slightly plastic moist/wet
Method: SSP				some fine silt
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
±12" gravel rock
*18" ±pnative bags

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0340001
Sample Location: AFRSS 034
Sampled By: FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/4/10	1405	0-1'	Gray	Clay (CL) soft crumbly slightly plastic, moist Sand & silt
Method: SSPR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
±12" gravel/rock
*18" ± bgs@native

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0350001
Sample Location: AFRSS 035
Sampled By: EC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0-1 ft		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1416	0-1	Gray	CLAY (CL) stiff soft crumbly slightly plastic
Method: SSR				moist → wet some fine silt.
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" Asphalt
±12" gravel rock
*±18" organic layer

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0360001
Sample Location: AFRSS 036
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1425	0-1*	Gray	CLAY (CL) stiff f. sand slightly plastic, moist some fine silt
Method: SS.Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
±12" gravel rock
* ±18" @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): F.W. Gross

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0370001
Sample Location: AFRSS 037
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 3/9/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: SS Pr	1448	0-1	Gray	CLAY (CL) st. ff hard crumbly.
Monitor Readings (Range in ppm): N.A				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
±12" gravel rock
* ±18" @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0380001
Sample Location: AFRSS 038
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1458	0-1*	GRAY	CLAY (CL) stiff slightly plastic to non damp some fine silt.
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" Asphalt
±12 gravel rock
* ±18" @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0390001
Sample Location: AFRSS 039
Sampled By: EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1508	0-1*	GRAY	CLAY (CL) soft slight tan brown plastic moist to damp some silt.
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
1 12" gravel rock
* 1 18" @ native bags

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0400001
Sample Location: AFRSS 040
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1552	0-1 ft		clay (CL) stiff soft slightly plastic some ~~sm~~ sand
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
±12" gravel/rock
*±18" @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0410001
Sample Location: AFRSS 041
Sampled By: EC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0837	0-1*	GRAY	CLAY (CL) stiff crumbly very little plasticity, refusal @ 0.8 dig to cap.
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± gravel/rock
* ±18" @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0420001
Sample Location: AFRSS 042
Sampled By: FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0820	0-1	GRAY	CLAY (CL) stiff soft slightly plastic crumbly damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± gravel rock
* 18" ± @ native bags

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0430001
Sample Location: AFRSS 043
Sampled By: FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1610	0-1	Gray	CLAY (CL), stiff-soft slightly plastic some very fine silt clay & moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± rock/gravel
18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0440001
Sample Location: AFRSS 044
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/9/10	1102	0-1*	Gray	Clay (CL) stiff, slight plastic, crumbly in part, cap to moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± rock/gravel
*18" ± @ native bgs

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0450001
Sample Location: AFRSS 045
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0851	0-1	GRAY	CLAY (CL) hard stiff crumbly dry to slightly moist no plasticity
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± rock/gravel
19" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0460001
Sample Location: AFRSS 046
Sampled By: EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0902	0-1'	~~Gr~~ GRAY	CLAY (CL) soft stiff moderately plastic
Method: SS PR				UC silt moist
				wet hole
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± rock gravel
19" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD031010-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0470001
Sample Location: AFRSS 047
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0910	0-1*	GRAY	CLAY (CL) soft-stiff mod plastic moist
Method: SSPC				soft some silt
Monitor Readings (Range in ppm):				wet hole.
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" ± gravel rock
18" ± @ native bags

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0480001
Sample Location: AFRSS 048
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0923	0-1'	Gray	CLAY (CL) stiff soft slightmod plastic some VF silt moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				mottles

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
18"± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0490001
Sample Location: AFRSS 049
Sampled By: EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	0953	0-1*	GRAY	CLAY (CL) stiff to soft slight to moderate plastic clay some of silt.
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" Asphalt
12" rock/gravel
18"± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0500001
Sample Location: AFRSS 050
Sampled By: EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1002	0-1'	Gray	GA (CL) Silt stiff slightly plastic crumbly
Method: SSPC				Same as silt clamp
Monitor Readings (Range in ppm): NA				Wet hole

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12"± rock/gravel
18"± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0510001
Sample Location: AFRSS 051
Sampled By: EC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 3/10/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1017	0-1*	GRAY	CLAY (CL) stiff soft moist to slightly plastic
Method: SSPC				some LFs moist
Monitor Readings (Range in ppm): NA				wet hole

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0520001
Sample Location: AFRSS 052
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/10/10	0-1	GRAY	GRAY (CL) soft flow slightly plastic dam
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1937	0-1	GRAY mix	GRAY (CL) soft flow slightly plastic moist some v.c.f.
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
*18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0530001
Sample Location: AFRSS 053
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1040	0-1	Gray	CLAY (CL) soft stiff sightly plastic some vfs moist
Method: SSR				
				wet hole
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
X 18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0540001
Sample Location: AFRSS 054
Sampled By: FCJ
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1049	0 - 1*	Gray	CLAY (CL) soft stiff slight plastic moist
Method: SSP				Some if salt
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
*19"± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0550001
Sample Location: AFRSS 055
Sampled By: EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	1050	0-1	Gray	CLAY (CL) Soft - Stiff slightly plastic moist some [illegible]
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: AFRSS 0560001
Sample Location: AFRSS 056
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/10/10	1116	0-1'	Gray	CLAY (CL) soft stiff slight plastic dry to moist crumbly some silt.
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: NA
1
2
3

MAP:

6" asphalt
12" rock/gravel
18" ± @ native bgs

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD031010-02

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 01C0001
Sample Location: HSR1SS 01C
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 0926 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	GRAY (CL) soft, crumbly silt, slight plastic clay

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C		
NG 8330B			~~1X 4-oz Glass Jar 4° C~~ FC		

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A NA
B
C
D
E
F
G
H
I
J
Composite

MAP: 2, PLOCK BAG

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

RB030310-01

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 02C0001
Sample Location: HSR1SS 02C
Sampled By: LD/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/10 Time: 0857 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY(CL) soft crumbly slightly plastic damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C		
NG 8330B			~~1 X 4-oz Glass Jar 4° C~~ FC		

OBSERVATIONS / NOTES:

XRF Readings:

	1	2	3
A			
B			
C		NA	
D			
E			
F			
G			
H			
I			
J			
Composite			

MAP: ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): R.W.S. / B. Bash

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0010001
Sample Location: HSR1SS 001
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1705	0-1	Brown	clay (CL) soft mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0020001
Sample Location: HSR1SS 002
Sampled By: LBJ/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
7/25/10	1424	0-1	Brown	Clay (CL) soft plastic moist
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

RB on this this

RB 022510-02 prior to this sample

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0030001
Sample Location: HSR1SS 003
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1435	0-1	Brown	Clay (CL) Soft-Stiff Plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0040001
Sample Location: HSR1SS 004
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1451	0-1	Brown	CLAY (CL) silty, black inclusions damp slightly plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

*

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0050001
Sample Location: HSR1SS 005
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1459	0-1	Brown	CLAY (CL); soft slightly silty trace pebbles slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0120001
Sample Location: HSR1SS 012
Sampled By: LB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1550	0-1	Brown	CLAY(CL) ~~Brown~~ very fine silt crumbly, ~~moist~~ slightly plastic damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): TDW

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0130001
Sample Location: HSR1SS 013
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1601	0-1	Brown	CLAY (CL) soft, plastic moist
Method: SSP				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0140000
Sample Location: HSR1SS 014
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/28/10	1559	0-1	brown	CLAY (CL) soft, mod plastic moist
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0150001
Sample Location: HSR1SS 015
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1604	0-1	Brown with black	Clay (CL) ~~with~~ soft Crumbly very fine silt slight ~~with~~ plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0160001
Sample Location: HSR1SS 016
Sampled By: 4B/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/25/10	1624	0 1	Brown	clay(CL), crumby very fine silt clay.
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading prov. in our XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 017000)
Sample Location: HSR1SS 017
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	0748	0 - 1	Brown	CLAY(CL) soft, crumbly very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0170001
Sample Location: HSR1SS 017
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/25/10	1628	0-1	Brown	CLAY (CL) soft crumbly very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

See attached

OBSERVATIONS / NOTES:

XRF area map provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD 022510-04

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0180001
Sample Location: HSR1SS 018
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1036	0-1		CLAY (CL) soft, ~~sec~~ crumbly very fine silt slightly plastic
Method: SSPT				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading prov. det on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0190001
Sample Location: HSR1SS 019
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1640	0 - 1	Brown	CLAY (CL) soft to stiff very fine silt.
Method: SSP				slightly plastic damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0200001
Sample Location: HSR1SS 020
Sampled By: LD/EC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1648	0-1	Brown	CLAY (CL), mid plastic fine silt & damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0210001
Sample Location: HSR1SS 021
Sampled By: CB/EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1647	0-1	Brown	Clay (cy) crumbly slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0220001
Sample Location: HSR1SS 022
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0755	0-1	brown	Clay (CL) soft, fine silt mod plastic clay
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0230001
Sample Location: HSR1SS 023
Sampled By: UB/EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	7:50a	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt, non-plastic, damp.
Method: SSPs				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0240001
Sample Location: HSR1SS 024
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0808	0-1	Brown	Clay, (CL) ~~Clay~~ soft slightly silty plastic
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0250001
Sample Location: HSR1SS 025
Sampled By: LB / FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	8:32a	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt, slightly plastic, damp.
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0260001
Sample Location: HSR1SS 026
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/26/10	0842	0-1	Brown	Clay (CL) soft very fine silts slightly plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.: FD022610-02

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0270001
Sample Location: HSR1SS 027
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0837	0-1	Brown	clay (CL) soft slightly plastic fine silt damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): FCWeb

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0280001
Sample Location: HSR1SS 028
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0807	0-1	Brown	Clay (CL) brown, soft crumbly fine silt. moist
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0290001
Sample Location: HSR1SS 029
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0813	0-1	Brown	CLAY (CL) soft crumbly slightly plastic fine silt
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0300001
Sample Location: HSR1SS 030
Sampled By: UB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	8:16	0-1	Brown	Clay (CL), soft, crumbly, fin silt, slightly plastic, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings - provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0310001
Sample Location: HSR1SS 031
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0821	0 - 1	Brown	CLAY (CL) soft, slightly plastic, damp, slightly silty
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0320001
Sample Location: HSR1SS 001
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
7/26/10	1144	0-1	Brown	Clay (CL) soft mod plastic silty clay
Method: SSPT				
Monitor Readings (Range in ppm): N.A				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. ded on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0330001
Sample Location: HSR1SS 033
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0937	0-1	Brown	CLAY (CL) soft, crumbly v. fines. lt, slightly plastic damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0340001
Sample Location: HSR1SS 034
Sampled By: CBFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0951	0-1	Brown	CLAY (CL) soft, crumbly v. fine silt, damp
Method: SSPr				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0350001
Sample Location: HSR1SS 035
Sampled By: LBIFL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0844	0-1	Brown	Clay (CL) crumbly, slightly plastic fine silt damp
Method: SSP				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0360001
Sample Location: HSR1SS 036
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/10	0853	0-1	Brown	CLAY(CL) soft crumbly v-slightly plastic v. fine silt damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0370001
Sample Location: HSR1SS 037
Sampled By: CBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	0902	0-1	Brown	CLAY (CL) soft, crumbly v. fine silt camp
Method: SSP				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0380001
Sample Location: HSR1SS 038
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1032	0-1	Brown	CLAY (CL) soft, slightly plastic fine silt, damp
Method: SS PT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0390001
Sample Location: HSR1SS 039
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	~~2/26/10~~ FG 1136	0-1	Brown	CLAY (CL) soft crumbly very fine silt. slightly plastic
Method: SS PC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0400001
Sample Location: HSR1SS 040
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1059	0-1	Brown	CLAY(CL) soft, crumbly slightly plastic fine silt damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0410001
Sample Location: HSR1SS 041
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:54a	0-1	Brown	Clay (a) soft, slightly plastic v. fin silt, damp
Method: SSPT				
Monitor Readings (Range in ppm): NA.				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings prov. ded on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0420001
Sample Location: HSR1SS 042
Sampled By: UB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:39a	0 - 1	Brown	Clay (CL) soft, crumbly, slightly plastic, v.fine silt, damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0430001
Sample Location: HSR1SS 043
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:02a	0-1	Brown	Clay (CL) soft, crumbly, v.fine silt, non-plastic
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0440001
Sample Location: HSR1SS 044
Sampled By: UB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:10a	0-1	Brown	Clay (CL) soft, crumbly slightly plastic, fine silt, damp
Method: SSQ				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0450001
Sample Location: HSR1SS 045
Sampled By: LB/EG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:16a	0 - 1	Brown	Clay (CL) soft, crumbly slightly plastic, v.fine silt, damp
Method: SSQ				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0460001
Sample Location: HSR1SS 046
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/26/10	1126	0-1	Brown	Clay (CL) soft plastic moist
Method:				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

location moved

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0470001
Sample Location: HSR1SS 047
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:59a	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt, slightly plastic, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0480001
Sample Location: HSR1SS 048
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:53a	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt, slightly plastic, damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0490001
Sample Location: HSR1SS 049
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:29a	0-1	Brown	Clay (CL) soft, crumbly, v fine silt, slightly plastic, damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0500001
Sample Location: HSR1SS 050
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:03a	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt slightly plastic, damp,
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0510001
Sample Location: HSR1SS 051
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-24-10	9:21a	0 - 1	Brown	Clay (CL) soft, v. fine silt, damp slightly plastic, trace of pebbles
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0520001
Sample Location: HSR1SS 052
Sampled By: LB / FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-24-10	1051e	0 - 1	Brown	Clay (CL) soft, v. fine silt, slightly plastic, damp.
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. on XRF summary sheet

XRF Readings:
1
2
3

Location moved due to roots.

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0530001
Sample Location: HSR1SS 053
Sampled By: LB / FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0-12"		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:01a	0-6"	Brown	Clay, brown, soft, slightly plastic, damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

* refusal @ 6"

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0540001
Sample Location: HSR1SS 054
Sampled By: UB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	9:25a	0-1	Brown	Clay (CL) ~~soft~~ to stiff, v. fine silt, slightly plastic, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0550001
Sample Location: HSR1SS 055
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:49a	0-1	Brown	Clay (CL) soft, v. fine silt, slightly plastic, damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0560001
Sample Location: HSR1SS 056
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-0	10:12a	0-1	Brown	Clay (CL) soft to stiff, slightly plastic, v. fine silt, damp to moist
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0570001
Sample Location: HSR1SS 057
Sampled By: CB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1154	0-1		Clay (CL) soft gr undy slightly plastic
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

location moved

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0580001
Sample Location: HSR1SS 058
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:43	0-1	Brown	Clay (CL) soft, crumbly, v. fine silt, slightly plastic, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	~~FD022510-04~~ FG

FD022610-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0590001
Sample Location: HSR1SS 059
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:12a	0-1	Brown	Clay (CL) Crumbly; soft slightly plastic, v.fine silt, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR1SS 0600001
Sample Location: HSR1SS 060
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2-26-10	10:32A	0-1	Brown	Clay (CL) soft, crumbly slightly plastic, v.fine silt, damp
Method: SSE				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 01C0001
Sample Location: HSR2SS 01C
Sampled By: FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/4/10 Time: 0435 Method: HAS Monitor Reading (ppm): NA	0-1.0 ft	Brown	Clay (CL) soft very fine silt slightly plastic damp

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ FG	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3
A
B
C
D
E
F
G
H
I
J
Composite

MAP:

ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 02C0001
Sample Location: HSR2SS 02C
Sampled By: LBJFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/4/10 Time: 0846 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY (CL) soft plastic, crumbly, very fine, ~~slightly plastic damp~~

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ FD	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3
A
B
C
D
E
F
G
H
I
J
Composite

MAP:

ZIPLOCK BAG

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 03C0001
Sample Location: HSR2SS 03C
Sampled By: LBFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/4/10 Time: 0400 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	clay (CL) soft to stiff crumbly very fine silt slightly plastic clay

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	✓	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~ FL	✓	

OBSERVATIONS / NOTES:

XRF Readings:

	1	2	3
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			
Composite			

MAP: 2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

RB 030410-01

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0010001
Sample Location: HSR2SS 001
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/22/10	1018	0-1	Brown	Clay (CL) soft fines, lt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0020001
Sample Location: HSR2SS 002
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1003	0-1	Brown	CLAY (CSL) soft very fine silt clay plastic
Method: SSPT				moist
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0030001
Sample Location: HSR2SS 003
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0955	0-1	Brown	clay (CL) soft crumbly very fine silt slightly plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0040001
Sample Location: HSR2SS 004
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0943	0-1	Brown	Clay (CL) soft silt very fine slightly plastic moist
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0050001
Sample Location: HSR2SS 005
Sampled By: CBJFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0902	0-1		CLAY (CL) soft very fine silt, slightly plastic
Method: SSPT				moist
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings prov. below XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): FTC W. Irish

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0060001
Sample Location: HSR2SS 006
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	~~0800~~ 0853	0-1	Brown	CLAY (CL) crumbly very fine silt slightly plastic
Method: SSPT				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0070001
Sample Location: HSR2SS 007
Sampled By: SBIFR
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0818	0-1	Brown	CLAY (CL) soft crumbly very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0080001
Sample Location: HSR2SS 008
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1025	0 – 2	Brown	CLAY, (CL) ~~SG-SO~~ Crumbly non plastic damp
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0090001
Sample Location: HSR2SS 009
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1009	0-1	Brown	CLAY (CL) soft fine silt slightly plastic
Method: SSPr				moist
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0100001
Sample Location: HSR2SS 010
Sampled By: LFFL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1003	0-1	~~Gray~~ Brown	CLAY, (CL) soft very fine silt slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD022710-02

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0110001
Sample Location: HSR2SS 011
Sampled By: LDIFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0936	0-1	Brown	CLAY (CL) crumbly very fine silt non plastic
Method: SSPC				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0120001
Sample Location: HSR2SS 012
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/27/10	0903	0-1	Brown	Clay, (CL). soft plastic moist
Method: SS				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0130001
Sample Location: HSR2SS 013
Sampled By: WB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0856	0 – 1	Brown	CLAY, CCLS slightly plastic dry
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0140000
Sample Location: HSR2SS 014
Sampled By: SB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0810	0-1	Brown	CLAY (CL) soft, vel. fm silty slightly plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheets
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0150001
Sample Location: HSR2SS 015
Sampled By: LBIFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1038	0-1	Brown	CLAY (CL) soft very fine silt slightly plastic
Method: SSQr				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0160001
Sample Location: HSR2SS 016
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1042	0-1	Brown	CLAY (CL) crumbly very fine silt nonplastic
Method: SSFC				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0170001
Sample Location: HSR2SS.017
Sampled By: LBJFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0943	0-1	Brown	CLAY (CL) soft very fine silt slight plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0180001
Sample Location: HSR2SS 018
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0937	0-1	Brown	CLAY (CL) soft, slightly plastic damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0190001
Sample Location: HSR2SS 019
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0911	0-1	Brown	LCA & (CL) soft, slightly plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0200001
Sample Location: HSR2SS 020
Sampled By: LB/FU
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0845	0-1	Brown	CLAY (CL) soft plastic moist
Method: SSGT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0210001
Sample Location: HSR2SS 021
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0816 FG 0816	0-1	brown	CLAY, (CL) soft, slight plastic clump
Method: SS Pt				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0220001
Sample Location: HSR2SS 022
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	1057	0-1	Brown	CLAY(CL) soft crumbly non plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0230001
Sample Location: HSR2SS 023
Sampled By: LB/FLr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0912	0-1	Brown	CLAY (CL) soft slightly plastic moist
Method: SSQr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings: ~~X~~
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0240001
Sample Location: HSR2SS 024
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0846	0-1	Brown	CLAY (CL) soft, mod plastic moist
Method: SSLF				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF Summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0250001
Sample Location: HSR2SS 025
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0825	0-1	Brown	CLAY(CL) soft crumbly slightly plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0260001
Sample Location: HSR2SS 026
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1729	0-1	Brown	CLAY (CL) soft, slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0270001
Sample Location: HSR2SS 027
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1722	0-1	Brown	CLAY (CL) soft crumbly very fine silt sand plastic damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0280001
Sample Location: HSR2SS 028
Sampled By: LBIFL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1711	0-1	Brown	CLAY (CL) soft crumbly very fine silt non plastic clay
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0290001
Sample Location: HSR2SS 029
Sampled By: JB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0921	0-1	Brown	Clay (CL) soft, crumbly very fine silt, slightly plastic damp
Method: SS.P				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3 — see XRF summary sheet

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0290001
Sample Location: HSR2SS 029
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	0805	0-1	Brown	Clay (CL) soft, crumbly very fine silt, slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF readings prov. below XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0300001
Sample Location: HSR2SS 030
Sampled By: LD/RG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0919	0-1	Brown	CLAY (CL) soft very fine silt mod plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD022710-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0310001
Sample Location: HSR2SS 031
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0835	0-1	Brown	CLAY (CL) soft very fine silt mod plastic moist
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0320001
Sample Location: HSR2SS ~~0320~~ 032 001
Sampled By: LB/FG 032
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0822	0–1	Brown	CLAY (CL) soft very fine silt slightly plastic dry
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF Summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0330001
Sample Location: HSR2SS 033
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1645	0-1	Brown	CLAY (CL) soft crumbly very fine silt slightly
Method: SSP				plastic clump
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0340001
Sample Location: HSR2SS 034
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1633	0-1	Brown	CLAY (CL) soft crumb very fine silt slightly
Method: SSPr				plastic dump
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0350001
Sample Location: HSR2SS 035
Sampled By: LB/FL
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1653	0-1	Brown	CLAY (CL) soft crumbly very fine silty
Method: SSPr				plastic clay
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0360001
Sample Location: HSR2SS 036
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1647	0 1	Brown	CLAY (a.) soft crumbly very fine ~~sil~~ silt slightly plastic
Method: SSPC				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings prov. ded on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.: FD022710-03

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0370001
Sample Location: HSR2SS 037
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1550	0-1	Brown	CLAY (CL) soft mod plastic very fine silt mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0380001
Sample Location: HSR2SS 038
Sampled By: LMFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1716	0-1	Brown	CLAY (CL), soft moist plastic, damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0390001
Sample Location: HSR2SS 039
Sampled By: BFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/27/10	0832	0-1	Brown	CLAY (CL) soft very fine silt slightly plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings prov. det on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0400001
Sample Location: HSR2SS 040
Sampled By: SB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1631	0-1	Brown	CLAY (CL) soft brown very fine silt slightly plastic dense
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0410001
Sample Location: HSR2SS 041
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1623	0-1	Brown	Clay (CL) soft very fine silt slightly plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0420001
Sample Location: HSR2SS 042
Sampled By: LDIFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1623	0-1	brown	CLAY (CL) soft very fine silty slightly plastic
Method: SS Pr				clay
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0430001
Sample Location: HSR2SS 043
Sampled By: BHG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1559	0-1	Brown	Clay (CL) soft mod plastic moist
Method: SSOP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0440001
Sample Location: HSR2SS 044
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1543	0-1	Brown	CLAY (CL) soft slightly plastic moist
Method: SSQ				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0450001
Sample Location: HSR2SS 045
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/24/11	1526	0-1	Brown	CLAY (CL) soft, silty mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0460001
Sample Location: HSR2SS 046
Sampled By: TBTFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0-1		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1731	0-1	Brown	CLAY (CL) soft plastic moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0470001
Sample Location: HSR2SS 047
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1600	0-1	Brown	CLAY (CL) soft crumbly slightly pb plastic dam
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0480001
Sample Location: HSR2SS 048
Sampled By: LB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1542	0-1	Brown	CLAY, (CL) soft slightly plastic moist.
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0490001
Sample Location: HSR2SS 049
Sampled By: LB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1531	0-1	Brown	CLAY (CL) soft crumbly slightly plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0500001
Sample Location: HSR2SS 050
Sampled By: LJS/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1525	0-1	Brown	CLAY (CL) soft crumbly very fine silt slight plastic clay
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD-FC

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0510001
Sample Location: HSR2SS 051
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1518	0-1	Brown	CLAY (CL) soft-stiff crumbly slightly plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD022710-04

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0510001
Sample Location: HSR2SS 051
Sampled By: LB/FW
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	0800	0-1	Brown	CLAY(CL) soft very firm with silt mod plastic
Method: SSPr				moist
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C	~~X~~ FW	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

XRF readings provided on XRF summary sheet

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0520001
Sample Location: HSR2SS 052
Sampled By: LDIFC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1517	0-1	Brown	clay (CL) soft crumbly very fine silt damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0530001
Sample Location: HSR2SS 053
Sampled By: KB/PG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1508	0-1	Brown	CLAY (CL) soft med plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0540001
Sample Location: HSR2SS 054
Sampled By: LBJE
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1505	0-1	Brown	CLAY (CL) soft crumbly slightly plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings are provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0550001
Sample Location: HSR2SS 055
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/26/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	1455	0-1	Brown	CLAY (CL) crumbly slight to plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings are provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0560001
Sample Location: HSR2SS 056
Sampled By: LB/FU
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1456	0-1	Brown	CLAY (CL) soft crumbly slightly plastic
Method: SSB				damp
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0570001
Sample Location: HSR2SS 057
Sampled By: LJ/FV
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1445	0-1	Brown	CLAY (CL) soft, crumbly slightly plastic damp
Method: SSPR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0580001
Sample Location: HSR2SS 058
Sampled By: LD/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1445	0-1	Brown	CLAY (CL) soft crumbly, non plastic damp
Method: SSPC				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0590001
Sample Location: HSR2SS 059
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1437	0-1	Brown	Clay (CL) soft crumbly very fine silt, ~~sh~~ slightly plastic damp
Method: SSGr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 0600001
Sample Location: HSR2SS 060
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/26/10	1438	0-1	Brown	CLAY (CL) ~~[illegible]~~ soft crumbly slightly plastic damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
PAHs 8270C	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS 05/01/02
Sample Location: HSR2SS 05
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	~~1-2~~		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1650	1-2	Brown	CLAY (CL) soft crumbly silty non plastic
Method: ~~HA~~				dump
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): FDW. [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: HSR2SS0290102
Sample Location: HSR2SS 029
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/1/10	1647	0-1-2	Brown	CLAY(CL) soft crumbly non plastic damp
Method: HA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
PAHs 8270C	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 01C0001
Sample Location: RRSS 01C
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/16 Time: 1534 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY (CL), soft crumbly slightly plastic damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C		
NG 8330B			1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B NA
C
D
E
F
G
H
I
J
Composite

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

ON MAP

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 02C0001
Sample Location: RRSS 02C
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 3/3/18 Time: 1606 Method: HA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY (CL) soft crumbly slightly plastic moist damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B
C
D
E
F
G
H
I
J
Composite

NA

MAP:

2 ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

RB030310-03

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 03C0001
Sample Location: RRSS 03C
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 2/12/10 Time: 1645 Method: NA Monitor Reading (ppm): NA	0-1.0 ft	Brown	CLAY LOAM Soft Crumbly very slightly plastic damp

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	(A)	0-1.0 ft		
Method:	(B)	0-1.0 ft		
	(C)	0-1.0 ft		
Monitor Readings	(D)	0-1.0 ft		
	(E)	0-1.0 ft		
	(F)	0-1.0 ft		
	(G)	0-1.0 ft		
	(H)	0-1.0 ft		
	(I)	0-1.0 ft		
(Range in ppm):	(J)	0-1.0 ft		

SAMPLE COLLECTION INFORMATION:

Analysis			Container Requirements	Collected	Other
Metals 3050B/6010B (lead)			1 X 4-oz Glass Jar 4° C	X	
NG 8330B			1 ~~X 4-oz Glass Jar 4° C~~: FC	X	

OBSERVATIONS / NOTES:

XRF Readings: 1 2 3

A
B
C
D
E
F
G
H
I
J
Composite

NA

MAP:

ZIPLOCK BAG

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0010001
Sample Location: RRSS 001
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	~~901~~ FG 0835	0-1	Brown	Clay (CL) Soft, plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0020001
Sample Location: RRSS 002
Sampled By: LR/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0834 - 0834 - 0834	FG 0-1	brown	clay (CL) & soft, plastic moist
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF = readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0030001
Sample Location: RRSS 003
Sampled By: LR/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0842	0-1	Brown	Clay (CL) ~~brown~~ soft, damp, plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0040001
Sample Location: RRSS 004
Sampled By: CBFO
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0842	0-1	Brown	Clay (CL) brown soft plastic damp
Method: SSPC				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0050001
Sample Location: RRSS 005
Sampled By: BFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date: 2/25 FG	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0-1 FG		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0845	0-1	Brown	Clay (CL) soft, crumbly mud plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0060001
Sample Location: RRSS 006
Sampled By: KB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0846	0-1	Brown	clay (CL) soft plastic damp
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0070001
Sample Location: RRSS 007
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0853	0-1	Brown	clay (CL) soft, Mod plastic, silty, silt. damp
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading in provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0080001
Sample Location: RRSS 008
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	~~[illegible]~~ FG		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0855	0-1	Brown	clay (CL) soft, plastic slightly silty moist
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0090001
Sample Location: RRSS 009
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date: 2/25/10	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	0858	0-1 refusal @ 0.9	Brown	Clay (CL) silty mod plastic damp
Method: SSFT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0100001
Sample Location: RRSS 010
Sampled By: LB/FCr
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/11	0903	0-1	Brown	Clay (CL) slightly silt mod plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0110001
Sample Location: RRSS 011
Sampled By: KB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0909	0-1	Brown	clay (x4) soft slightly silty, plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0120001
Sample Location: RRSS 012
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0910	0-1	Brown	Clay (CL) soft, mod plastic Damp,
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0130001
Sample Location: RRSS 013
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0905	0-1	Brown	Clay (CL) Soft plastic moist
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0140000
Sample Location: RRSS 014
Sampled By: TBFU
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	901	0 - 1	Brown	Clay (CL) soft plastic moist
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0150001
Sample Location: RRSS 015
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0916	0-1	Brown	Clay (CL) soft slightly silty mod plastic damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0160001
Sample Location: RRSS 016
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0917	0-1	Brown	Soft clay (CL) soft moc plastic, slightly silty ~~dense~~ damp
Method: SSH				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0170001
Sample Location: RRSS 017
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0947	0-1	Brown	CLAY (CL) silty, crumbly, slightly plastic clay
Method: SSDr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0180001
Sample Location: RRSS 018
Sampled By: CB/FU
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0943	0-1	Brown	Clay (CL), stiff, slightly silty, mod plastic dam
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0190001
Sample Location: RRSS 019
Sampled By: LB/FV
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	~~0-1 ft~~		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0947	0-1	Brown	clay (CL) fine silt, soft mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0200001
Sample Location: RRSS 020
Sampled By: LB/FU
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0959	0-1	Brown	Clay brown fine silt (CL) slightly plastic damp
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0210001
Sample Location: RRSS 021
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0956	0-1	Brown	Clay (CL) soft silty slightly plastic fine silt damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0220001
Sample Location: RRSS 022
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0952	0-1	Brown	clay (CL) fine silts, slightly plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0230001
Sample Location: RRSS 023
Sampled By: CD/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0950	0-1	Brown	Clay (CL) fines + trace silt slightly plastic (bag) FC
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0240001
Sample Location: RRSS 024
Sampled By: LLM/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	0 → FV		
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	0947	0-1	Brown	Clay (CL), soft very fine silts, slightly plastic clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0250001
Sample Location: RRSS 025
Sampled By: TB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1002	0-1	Brown	Clay (CL) very fine silt slightly plastic crumbly clay
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0260001
Sample Location: RRSS 026
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1005	0-1	Brown	Clay (CL) slightly silty mod plastic clump
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0270001
Sample Location: RRSS 027
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	~~0-1 ft~~	~~Brown~~	
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1007	0-1	Brown	CLAY, (CL) soft-stiff, slightly silty, moist, plastic clump
Method: SSPr				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading prov. det on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0280001
Sample Location: RRSS 028
Sampled By:
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1012	0-1	Brown	Clay (CL), soft mod plastic, damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0290001
Sample Location: RRSS 029
Sampled By: LD/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1013	0-1	brown/ orange	Clay (CL) ~~reddish brown~~ FG ~~trace~~, damp, trace red staining
Method: SSB				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C	X	
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C	X	
CEC 9081	1 X 4-oz Glass Jar 4° C	X	

see attached

OBSERVATIONS / NOTES:

XRF Readings: XRF readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD022510-01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 029 0001
Sample Location: RRSS 029
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3/3/10	0814	0-1	Brown/ orange	Clay (CL) damp trace red staining
Method: SS/T				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C		
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): FC [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0300001
Sample Location: RRSS 030
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1030	0-1	Brown	clay (CL) soft, mod plastic, slightly sandy clay
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0310001
Sample Location: RRSS 031
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1028	0-1	Brown	CLAY (CL) brown, soft plastic clump
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0320001
Sample Location: RRSS 001
Sampled By: CB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1024	0-1	Brown	clay (CL), slightly silty soft damp,
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0330001
Sample Location: RRSS 033
Sampled By: GBFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 2/25/10	1022	0-1	Brown	Clay (CL), soft mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: no provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0340001
Sample Location: RRSS 034
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1019	0-1	Brown	Clay (CL) slightly silty soft moist plastic
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	✓	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0350001
Sample Location: RRSS 035
Sampled By: LB/PC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1034	0-1	Brown	Clay (CL) & Stiff slightly silty mod plastic damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading proj idea on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0360001
Sample Location: RRSS 036
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1037	0-1	Brown	Clay (CL) soft plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	✓	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0370001
Sample Location: RRSS 037
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1039	0-1	Brown	clay (CL) soft mod plastic some silt fine
Method: SS Pr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: XRF reading provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0380001
Sample Location: RRSS 038
Sampled By: WB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/25/10	1043	0-1	Brown	CLAY (CL) fine silts slightly plastic, damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TtNUS

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0390001
Sample Location: RRSS 039
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1018	0-1	Brown	clay (CL) fine silt soft slightly plastic damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF Readings: Xrf readings provided on XRF summary sheet
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	FD 022510-02

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0400001
Sample Location: RRSS 040
Sampled By: CB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1055	0-1	Brown	Clay (CL) soft, fine silt slightly plastic stiff damp
Method: SSA				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0410001
Sample Location: RRSS 041
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
02/25/10	1054	0-1	Brown	clay (CL) soft fine silt mod plastic damp
Method: SSR				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0420001
Sample Location: RRSS 042
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1048	0-1	Brown	CLAY (CL) fine silt soft slightly plastic
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0430001
Sample Location: RRSS 043
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1048	0-1	Brown	Clay (CL), silty soft crumbly
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0440001
Sample Location: RRSS 044
Sampled By: LBLFG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1100	0-1	Brown	Clay (CL), silty soft crumbly damp
Method: SSP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF reading provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0450001
Sample Location: RRSS 045
Sampled By: [illegible]
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1059	0-1	Brown	Clay (CL), soft mpd plastic slightly silty damp
Method: SSPT				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheets

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0460001
Sample Location: RRSS 046
Sampled By: LB/FC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1106	0-1	Brown	Clay (CL), fine silt soft, slightly plastic damp
Method: SSPP				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSA Mid-South
Project No.: 112G01642/112G01506

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: RRSS 0470001
Sample Location: RRSS 047
Sampled By: LB/FG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

COMPOSITE SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:			
Time:			
Method:			
Monitor Reading (ppm):			

GRAB SAMPLE DATA:

Date:	Time / Point	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
2/25/10	1108	0-1	Brown	Clay (CL) ~~etc~~ soft fine silt mod plastic damp
Method: SSPr				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals 3050B/6010B (lead)	1 X 4-oz Glass Jar 4° C	X	
pH 9045C	1 X 4-oz Glass Jar 4° C		
TOC Lloyd Kahn	1 X 4-oz Glass Jar 4° C		
CEC 9081	1 X 4-oz Glass Jar 4° C		

OBSERVATIONS / NOTES:

XRF readings provided on XRF summary sheet

XRF Readings:
1
2
3

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

APPENDIX B

VALIDATED ANALYTICAL RESULTS

LOCATION	PR-SS001	PR-SS001C	PR-SS002	PR-SS003	PR-SS004	PR-SS005	PR-SS006
SAMPLE ID	PR-SS001-0001	PR-SSC01-0001	PR-SS002-0001	PR-SS003-0001	PR-SS004-0001	PR-SS005-0001	PR-SS006-0001
SAMPLE DATE	20100224	20100224	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	0.87 U	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	127	161	NA	NA	27.3	235	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	114	NA	14.33	43.33	25	203	80.67

LOCATION	PR-SS007	PR-SS008	PR-SS009	PR-SS010	PR-SS011	PR-SS012	PR-SS013	PR-SS014	PR-SS015
SAMPLE ID	PR-SS007-0001	PR-SS008-0001	PR-SS009-0001	PR-SS010-0001	PR-SS011-0001	PR-SS012-0001	PR-SS013-0001	PR-SS014-0001	PR-SS015-0001
SAMPLE DATE	20100224	20100224	20100224	20100224	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	49.8	NA	NA	148	NA	123	21000	2230	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	24.0	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	22000	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	7.28	NA
XRF (MG/KG)									
LEAD	91.67	91.33	88.67	150.67	120.33	107.67	337.33	1692.7	200.67

LOCATION	PR-SS016	PR-SS017		PR-SS018		PR-SS019	PR-SS020	PR-SS021	PR-SS022
SAMPLE ID	PR-SS016-0001	PR-SS017-0001	PR-SS017-0102	PR-SS018-0001	PR-SS018-0102	PR-SS019-0001	PR-SS020-0001	PR-SS021-0001	PR-SS022-0001
SAMPLE DATE	20100224	20100224	20100227	20100224	20100227	20100224	20100224	20100224	20100224
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0	0	0
BOTTOM DEPTH	1	1	2	1	1	1	1	1	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	428	694 J	NA	530	NA	292	328	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	459.33	496.33	443.33	354	277.33	316.33	264	558.67	183

LOCATION	PR-SS023		PR-SS024				PR-SS025	PR-SS026	
SAMPLE ID	PR-SS023-0001	PR-SS023-0102	PR-SS024-0001	PR-SS024-0001-AVG	PR-SS024-0001-D	PR-SS024-0102	PR-SS025-0001	PR-SS026-0001	PR-SS027-0001
SAMPLE DATE	20100224	20100227	20100224	20100224	20100224	20100227	20100224	20100224	20100224
SAMPLE CODE	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	1	0	0	0	1	0	0	0
BOTTOM DEPTH	1	2	1	1	1	2	1	1	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	335	NA	1000 J	993 J	986 J	NA	17300 J	NA	425
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	300.67	296.67	800.33	865.665	931	60.33	252.67	274.33	522

LOCATION	PR-SS027		PR-SS028	PR-SS029	PR-SS030	PR-SS031	PR-SS032	PR-SS033	PR-SS034
SAMPLE ID	PR-SS027-0001-AVG	PR-SS027-0001-D	PR-SS028-0001	PR-SS029-0001	PR-SS030-0001	PR-SS031-0001	PR-SS032-0001	PR-SS033-0001	PR-SS034-0001
SAMPLE DATE	20100224	20100224	20100224	20100224	20100224	20100224	20100224	20100224	20100224
SAMPLE CODE	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	501	577	268	NA	NA	NA	21100 J	242	222
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	571.5	621	262.67	179	112.67	205.67	121.67	280.67	317.33

LOCATION	PR-SS035	PR-SS036		PR-SS037	PR-SS038	PR-SS039	PR-SS040		PR-SS041
SAMPLE ID	PR-SS035-0001	PR-SS036-0001	PR-SS036-0102	PR-SS037-0001	PR-SS038-0001	PR-SS039-0001	PR-SS040-0001	PR-SS040-0102	PR-SS041-0001
SAMPLE DATE	20100224	20100224	20100228	20100224	20100224	20100224	20100224	20100227	20100224
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0	1	0
BOTTOM DEPTH	1	1	2	1	1	1	1	2	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	395	NA	NA	1660	497	1490 J	585 J	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	358.33	1508.3	103.33	1178.7	454	1014.7	558.33	111.67	474.33

LOCATION	PR-SS042	PR-SS043	PR-SS044	PR-SS045	PR-SS046	PR-SS047	PR-SS048	PR-SS049	PR-SS050
SAMPLE ID	PR-SS042-0001	PR-SS043-0001	PR-SS044-0001	PR-SS045-0001	PR-SS046-0001	PR-SS047-0001	PR-SS048-0001	PR-SS049-0001	PR-SS050-0001
SAMPLE DATE	20100227	20100227	20100227	20100227	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)									
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)									
LEAD	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)									
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)									
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)									
PH	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)									
LEAD	618.33	307	633.67	1933.3	893.33	2157.3	1060.7	1901	1842

LOCATION	**PR-SS051**
SAMPLE ID	**PR-SS051-0001**
SAMPLE DATE	**20100227**
SAMPLE CODE	**NORMAL**
MATRIX	**SO**
SAMPLE TYPE	**NORMAL**
SUBMATRIX	**SS**
TOP DEPTH	**0**
BOTTOM DEPTH	**1**
EXPLOSIVES (MG/KG)	
NITROGLYCERIN	NA
METALS (MG/KG)	
LEAD	NA
MISCELLANEOUS PARAMETERS (MEQ/100)	
CATION EXCHANGE CAPACITY	NA
MISCELLANEOUS PARAMETERS (MG/KG)	
TOTAL ORGANIC CARBON	NA
MISCELLANEOUS PARAMETERS (S.U.)	
PH	NA
XRF (MG/KG)	
LEAD	892

LOCATION	TSR-SS001	TSR-SS002	TSR-SS003	TSR-SS004	TSR-SS004C
SAMPLE ID	TSR-SS001-0001	TSR-SS002-0001	TSR-SS003-0001	TSR-SS004-0001	TSR-SS04C-0001
SAMPLE DATE	20100302	20100302	20100302	20100302	20100303
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	NA	NA	NA	2 UJ
METALS (MG/KG)					
LEAD	85.3 J	317 J	36.8 J	240 J	103
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)					
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA
ANTHRACENE	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA
CHRYSENE	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA
FLUORANTHENE	NA	NA	NA	NA	NA
FLUORENE	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA
NAPHTHALENE	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA
PYRENE	NA	NA	NA	NA	NA
XRF (MG/KG)					
LEAD	105.67	327.33	42.33	298.67	NA

LOCATION	TSR-SS005	TSR-SS005C	TSR-SS006	TSR-SS006C	TSR-SS007	TSR-SS008	TSR-SS008C
SAMPLE ID	TSR-SS005-0001	TSR-SS05C-0001	TSR-SS006-0001	TSR-SS06C-0001	TSR-SS007-0001	TSR-SS008-0001	TSR-SS08C-0001
SAMPLE DATE	20100302	20100303	20100302	20100303	20100302	20100302	20100303
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	2 UJ	NA	2 UJ	NA	NA	2 UJ
METALS (MG/KG)							
LEAD	466 J	188	20.8 J	408	NA	NA	97.3
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
FLUORENE	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA
PYRENE	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	367.67	NA	14	NA	10 U	13.33	NA

LOCATION	TSR-SS009	TSR-SS009C	TSR-SS010	TSR-SS010C	TSR-SS011	TSR-SS012	TSR-SS013
SAMPLE ID	TSR-SS009-0001	TSR-SS09C-0001	TSR-SS010-0001	TSR-SS10C-0001	TSR-SS011-0001	TSR-SS012-0001	TSR-SS013-0001
SAMPLE DATE	20100302	20100303	20100302	20100303	20100302	20100302	20100302
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	2 UJ	NA	2 UJ	NA	NA	NA
METALS (MG/KG)							
LEAD	152 J	195	118 J	145	NA	NA	785 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.0225	NA	0.00956 J	NA	0.00836 U	0.00517 J	0.00745 U
2-METHYLNAPHTHALENE	0.0221	NA	0.00859 J	NA	0.00836 U	0.00440 J	0.00745 U
ACENAPHTHENE	0.196	NA	0.0381	NA	0.00836 U	0.0174 J	0.00745 U
ACENAPHTHYLENE	0.00464 J	NA	0.0198 U	NA	0.00836 U	0.0188 U	0.00745 U
ANTHRACENE	0.377	NA	0.0512	NA	0.00836 U	0.0289	0.00745 U
BAP EQUIVALENT-HALFND	10	NA	5	NA	0.1	2	0.01
BENZO(A)ANTHRACENE	5.00	NA	2.31	NA	0.0486	0.966	0.00745 U
BENZO(A)PYRENE	6.15	NA	3.46	NA	0.0767	1.54	0.00817
BENZO(B)FLUORANTHENE	8.79	NA	4.62	NA	0.105	2.08	0.0138
BENZO(G,H,I)PERYLENE	3.72	NA	2.40	NA	0.0618	1.03	0.00745 U
BENZO(K)FLUORANTHENE	2.65	NA	1.55	NA	0.0351	0.657	0.00460 J
CHRYSENE	6.28	NA	3.09	NA	0.0673	1.36	0.00890
DIBENZO(A,H)ANTHRACENE	1.65	NA	0.701	NA	0.0161	0.273	0.00745 U
FLUORANTHENE	4.72	NA	1.51	NA	0.0372	0.681	0.00957
FLUORENE	0.137	NA	0.0154 J	NA	0.00836 U	0.00794 J	0.00745 U
INDENO(1,2,3-CD)PYRENE	4.17	NA	2.58	NA	0.0630	1.13	0.00745 U
NAPHTHALENE	0.0345	NA	0.0271	NA	0.00836 U	0.0141 J	0.00745 U
PHENANTHRENE	1.75	NA	0.218	NA	0.00885	0.122	0.00380 J
PYRENE	4.81	NA	1.78	NA	0.0415	0.784	0.00896
XRF (MG/KG)							
LEAD	101.33	NA	97	NA	27	2271.67	672.67

LOCATION	TSR-SS014			TSR-SS015	TSR-SS016	TSR-SS017	TSR-SS018
SAMPLE ID	TSR-SS014-0001	TSR-SS014-0001-AVG	TSR-SS014-0001-D	TSR-SS015-0001	TSR-SS016-0001	TSR-SS017-0001	TSR-SS018-0001
SAMPLE DATE	20100302	20100302	20100302	20100302	20100302	20100302	20100302
SAMPLE CODE	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	265 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
FLUORENE	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA
PYRENE	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	1425	1423.165	1421.33	66	17.67	12.33	17.33

LOCATION	TSR-SS019	TSR-SS020	TSR-SS021	TSR-SS022			
SAMPLE ID	TSR-SS019-0001	TSR-SS020-0001	TSR-SS021-0001	TSR-SS022-0001	TSR-SS022-0001-AVG	TSR-SS022-0001-D	TSR-SS022-0102
SAMPLE DATE	20100228	20100228	20100228	20100228	20100228	20100228	20100302
SAMPLE CODE	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	1
BOTTOM DEPTH	1	1	1	1	1	1	2
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	2840 J	NA	NA	12500 J	8170 J	3840 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	20.4 J	NA	30.2 J	30.2 J	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	10400	NA	9710	9710	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	5.97	NA	5.53	5.53	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.0567	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA
2-METHYLNAPHTHALENE	0.0608	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA
ACENAPHTHENE	0.276	0.00204 J	0.00390 J	0.00713 U	0.00713 U	NA	NA
ACENAPHTHYLENE	0.00535 J	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA
ANTHRACENE	0.521	0.00573 J	0.00684 J	0.00319 J	0.00319 J	NA	NA
BAP EQUIVALENT-HALFND	29	0.2	0.3	0.06	0.06	NA	NA
BENZO(A)ANTHRACENE	14.2	0.0868	0.153	0.0347	0.0347	NA	NA
BENZO(A)PYRENE	19.3	0.108	0.230	0.0462	0.0462	NA	NA
BENZO(B)FLUORANTHENE	24.0	0.158	0.327	0.0667	0.0667	NA	NA
BENZO(G,H,I)PERYLENE	16.1	0.0675	0.146	0.0290	0.029	NA	NA
BENZO(K)FLUORANTHENE	7.22	0.0532	0.105	0.0220	0.022	NA	NA
CHRYSENE	18.7	0.113	0.215	0.0472	0.0472	NA	NA
DIBENZO(A,H)ANTHRACENE	3.94	0.0192	0.0371	0.00713 U	0.00713 U	NA	NA
FLUORANTHENE	10.2	0.0964	0.148	0.0438	0.0438	NA	NA
FLUORENE	0.125	0.00731 U	0.00230 J	0.00713 U	0.00713 U	NA	NA
INDENO(1,2,3-CD)PYRENE	16.9	0.0753	0.158	0.0313	0.0313	NA	NA
NAPHTHALENE	0.220	0.00731 U	0.00876 U	0.00713 U	0.00713 U	NA	NA
PHENANTHRENE	2.15	0.0283	0.0382	0.0140	0.014	NA	NA
PYRENE	10.9	0.0949	0.153	0.0429	0.0429	NA	NA
XRF (MG/KG)							
LEAD	2910.67	4344	3540.33	6506	6673.665	6841.33	146.33

LOCATION	TSR-SS023	TSR-SS024		TSR-SS025	TSR-SS026	TSR-SS027	TSR-SS028
SAMPLE ID	TSR-SS023-0001	TSR-SS024-0001	TSR-SS024-0102	TSR-SS025-0001	TSR-SS026-0001	TSR-SS027-0001	TSR-SS028-0001
SAMPLE DATE	20100228	20100228	20100302	20100228	20100228	20100228	20100228
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0
BOTTOM DEPTH	1	1	2	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	64.2 J	NA	110 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	0.00897 U	NA	NA	NA	NA	0.0237
2-METHYLNAPHTHALENE	NA	0.00897 U	NA	NA	NA	NA	0.0280
ACENAPHTHENE	NA	0.00897 U	NA	NA	NA	NA	0.145
ACENAPHTHYLENE	NA	0.00897 U	NA	NA	NA	NA	0.00401 J
ANTHRACENE	NA	0.00897 U	NA	NA	NA	NA	0.461
BAP EQUIVALENT-HALFND	NA	0.04	NA	NA	NA	NA	15
BENZO(A)ANTHRACENE	NA	0.00897 U	NA	NA	NA	NA	7.14
BENZO(A)PYRENE	NA	0.0251	NA	NA	NA	NA	9.39
BENZO(B)FLUORANTHENE	NA	0.0327	NA	NA	NA	NA	12.8
BENZO(G,H,I)PERYLENE	NA	0.0216	NA	NA	NA	NA	6.07
BENZO(K)FLUORANTHENE	NA	0.0117	NA	NA	NA	NA	3.79
CHRYSENE	NA	0.0245	NA	NA	NA	NA	8.58
DIBENZO(A,H)ANTHRACENE	NA	0.00897 U	NA	NA	NA	NA	2.51
FLUORANTHENE	NA	0.0203	NA	NA	NA	NA	6.09
FLUORENE	NA	0.00897 U	NA	NA	NA	NA	0.105
INDENO(1,2,3-CD)PYRENE	NA	0.0215	NA	NA	NA	NA	6.76
NAPHTHALENE	NA	0.00897 U	NA	NA	NA	NA	0.0899
PHENANTHRENE	NA	0.00644 J	NA	NA	NA	NA	2.00
PYRENE	NA	0.0195	NA	NA	NA	NA	6.16
XRF (MG/KG)							
LEAD	3581.33	535	48	140	44.33	22.67	2059

LOCATION	TSR-SS029	TSR-SS030		TSR-SS031	TSR-SS032		TSR-SS033
SAMPLE ID	TSR-SS029-0001	TSR-SS030-0001	TSR-SS030-0102	TSR-SS031-0001	TSR-SS032-0001	TSR-SS032-0102	TSR-SS033-0001
SAMPLE DATE	20100228	20100228	20100302	20100228	20100228	20100302	20100228
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	1	0
BOTTOM DEPTH	1	1	2	1	1	2	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	2520 J	NA	NA	NA	NA	179 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00747 U	0.00911 U	NA	0.00807 U	NA	NA	NA
2-METHYLNAPHTHALENE	0.00747 U	0.00911 U	NA	0.00807 U	NA	NA	NA
ACENAPHTHENE	0.00213 J	0.00911 U	NA	0.00807 U	NA	NA	NA
ACENAPHTHYLENE	0.00747 U	0.00911 U	NA	0.00807 U	NA	NA	NA
ANTHRACENE	0.00747 U	0.00911 U	NA	0.00807 U	NA	NA	NA
BAP EQUIVALENT-HALFND	0.1	0.02	NA	0.02	NA	NA	NA
BENZO(A)ANTHRACENE	0.0726	0.00911 U	NA	0.00807 U	NA	NA	NA
BENZO(A)PYRENE	0.0988	0.0125	NA	0.0122	NA	NA	NA
BENZO(B)FLUORANTHENE	0.135	0.0173	NA	0.0187	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.0707	0.00911 U	NA	0.00807 U	NA	NA	NA
BENZO(K)FLUORANTHENE	0.0457	0.00666 J	NA	0.00694 J	NA	NA	NA
CHRYSENE	0.0940	0.0130	NA	0.0151	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.0170	0.00911 U	NA	0.00807 U	NA	NA	NA
FLUORANTHENE	0.0709	0.0121	NA	0.0165	NA	NA	NA
FLUORENE	0.00158 J	0.00911 U	NA	0.00807 U	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.0743	0.00911 U	NA	0.00807 U	NA	NA	NA
NAPHTHALENE	0.00747 U	0.00911 U	NA	0.00807 U	NA	NA	NA
PHENANTHRENE	0.0210	0.00471 J	NA	0.00661 J	NA	NA	NA
PYRENE	0.0723	0.0113	NA	0.0151	NA	NA	NA
XRF (MG/KG)							
LEAD	1790.33	1547.33	619.67	3282.33	1673.67	54.33	139

LOCATION	TSR-SS034	TSR-SS035	TSR-SS036	TSR-SS037	TSR-SS038		TSR-SS039
SAMPLE ID	TSR-SS034-0001	TSR-SS035-0001	TSR-SS036-0001	TSR-SS037-0001	TSR-SS038-0001	TSR-SS038-0102	TSR-SS039-0001
SAMPLE DATE	20100228	20100228	20100228	20100227	20100227	20100302	20100227
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	1	0
BOTTOM DEPTH	1	1	1	1	1	2	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	18.1 J	NA	NA	NA	1410 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	0.00894 U	NA	NA	0.00853 U
2-METHYLNAPHTHALENE	NA	NA	NA	0.00191 J	NA	NA	0.00853 U
ACENAPHTHENE	NA	NA	NA	0.00454 J	NA	NA	0.00240 J
ACENAPHTHYLENE	NA	NA	NA	0.00894 U	NA	NA	0.00853 U
ANTHRACENE	NA	NA	NA	0.0152	NA	NA	0.00443 J
BAP EQUIVALENT-HALFND	NA	NA	NA	0.4	NA	NA	0.1
BENZO(A)ANTHRACENE	NA	NA	NA	0.241	NA	NA	0.0694
BENZO(A)PYRENE	NA	NA	NA	0.295	NA	NA	0.0981
BENZO(B)FLUORANTHENE	NA	NA	NA	0.413	NA	NA	0.137
BENZO(G,H,I)PERYLENE	NA	NA	NA	0.185	NA	NA	0.0659
BENZO(K)FLUORANTHENE	NA	NA	NA	0.145	NA	NA	0.0458
CHRYSENE	NA	NA	NA	0.307	NA	NA	0.0911
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	0.0502	NA	NA	0.0163
FLUORANTHENE	NA	NA	NA	0.255	NA	NA	0.0694
FLUORENE	NA	NA	NA	0.00323 J	NA	NA	0.00853 U
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	0.201	NA	NA	0.0698
NAPHTHALENE	NA	NA	NA	0.00894 U	NA	NA	0.00853 U
PHENANTHRENE	NA	NA	NA	0.0720	NA	NA	0.0193
PYRENE	NA	NA	NA	0.247	NA	NA	0.0700
XRF (MG/KG)							
LEAD	13.33	14.33	12	2038.33	1198.33	211	1876.33

LOCATION	TSR-SS040	TSR-SS041		TSR-SS042	TSR-SS043	TSR-SS044	TSR-SS045
SAMPLE ID	TSR-SS040-0001	TSR-SS041-0001	TSR-SS041-0102	TSR-SS042-0001	TSR-SS043-0001	TSR-SS044-0001	TSR-SS045-0001
SAMPLE DATE	20100227	20100227	20100302	20100228	20100228	20100228	20100228
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0
BOTTOM DEPTH	1	1	2	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	1860 J	NA	9.24 J	NA	NA	2820 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	22.0 J	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	10700	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	5.96	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	0.00772 U	NA	NA	0.0183 J
2-METHYLNAPHTHALENE	NA	NA	NA	0.00772 U	NA	NA	0.0229
ACENAPHTHENE	NA	NA	NA	0.00772 U	NA	NA	0.120
ACENAPHTHYLENE	NA	NA	NA	0.00772 U	NA	NA	0.00521 J
ANTHRACENE	NA	NA	NA	0.00772 U	NA	NA	0.692
BAP EQUIVALENT-HALFND	NA	NA	NA	0.009	NA	NA	8
BENZO(A)ANTHRACENE	NA	NA	NA	0.00772 U	NA	NA	5.63
BENZO(A)PYRENE	NA	NA	NA	0.00401 J	NA	NA	5.07
BENZO(B)FLUORANTHENE	NA	NA	NA	0.00577 J	NA	NA	6.87
BENZO(G,H,I)PERYLENE	NA	NA	NA	0.00772 U	NA	NA	2.72
BENZO(K)FLUORANTHENE	NA	NA	NA	0.00772 U	NA	NA	2.32
CHRYSENE	NA	NA	NA	0.00543 J	NA	NA	6.22
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	0.00772 U	NA	NA	0.835
FLUORANTHENE	NA	NA	NA	0.00642 J	NA	NA	7.81
FLUORENE	NA	NA	NA	0.00772 U	NA	NA	0.101
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	0.00772 U	NA	NA	3.17
NAPHTHALENE	NA	NA	NA	0.00772 U	NA	NA	0.0651
PHENANTHRENE	NA	NA	NA	0.00291 J	NA	NA	2.99
PYRENE	NA	NA	NA	0.00582 J	NA	NA	6.98
XRF (MG/KG)							
LEAD	2860.33	857.33	55	10 U	10 U	10 U	5356

LOCATION	TSR-SS046	TSR-SS047	TSR-SS048	TSR-SS049	TSR-SS050	TSR-SS051	TSR-SS052
SAMPLE ID	TSR-SS046-0001	TSR-SS047-0001	TSR-SS048-0001	TSR-SS049-0001	TSR-SS050-0001	TSR-SS051-0001	TSR-SS052-0001
SAMPLE DATE	20100227	20100227	20100301	20100301	20100301	20100301	20100301
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	239 J	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	0.00731 U	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	0.00731 U	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	0.00731 U	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	0.00731 U	NA	NA	NA	NA	NA
ANTHRACENE	NA	0.00442 J	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	0.03	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	0.0247	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	0.0220	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	0.0312	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	0.00731 U	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	0.0106	NA	NA	NA	NA	NA
CHRYSENE	NA	0.0285	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	0.00731 U	NA	NA	NA	NA	NA
FLUORANTHENE	NA	0.0404	NA	NA	NA	NA	NA
FLUORENE	NA	0.00731 U	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	0.00731 U	NA	NA	NA	NA	NA
NAPHTHALENE	NA	0.00731 U	NA	NA	NA	NA	NA
PHENANTHRENE	NA	0.0171	NA	NA	NA	NA	NA
PYRENE	NA	0.0354	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	1970.67	258.67	10 U	10 U	10 U	10 U	10 U

LOCATION	TSR-SS053	TSR-SS054	TSR-SS055	TSR-SS056	TSR-SS057	TSR-SS058	TSR-SS059
SAMPLE ID	TSR-SS053-0001	TSR-SS054-0001	TSR-SS055-0001	TSR-SS056-0001	TSR-SS057-0001	TSR-SS058-0001	TSR-SS059-0001
SAMPLE DATE	20100301	20100301	20100301	20100301	20100301	20100228	20100228
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
FLUORENE	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA
PYRENE	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	10 U	10 U	10 U	10 U	10 U	10 U

LOCATION	TSR-SS060	TSR-SS061	TSR-SS062	TSR-SS063	TSR-SS064	TSR-SS065	TSR-SS066
SAMPLE ID	TSR-SS060-0001	TSR-SS061-0001	TSR-SS062-0001	TSR-SS063-0001	TSR-SS064-0001	TSR-SS065-0001	TSR-SS066-0001
SAMPLE DATE	20100228	20100228	20100228	20100228	20100228	20100228	20100302
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	2090 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	0.0207 J
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	0.0253
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	0.117
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	0.0216 U
ANTHRACENE	NA	NA	NA	NA	NA	NA	0.585
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	7
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	5.04
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	4.42
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	5.67
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	2.97
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	1.82
CHRYSENE	NA	NA	NA	NA	NA	NA	5.56
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	1.04
FLUORANTHENE	NA	NA	NA	NA	NA	NA	6.36
FLUORENE	NA	NA	NA	NA	NA	NA	0.103
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	3.27
NAPHTHALENE	NA	NA	NA	NA	NA	NA	0.0873
PHENANTHRENE	NA	NA	NA	NA	NA	NA	2.63
PYRENE	NA	NA	NA	NA	NA	NA	5.69
XRF (MG/KG)							
LEAD	10 U	10 U	10 U	10 U	10 U	10 U	NA

LOCATION	**TSR-SS067**
SAMPLE ID	**TSR-SS067-0001**
SAMPLE DATE	**20100302**
SAMPLE CODE	**NORMAL**
MATRIX	**SO**
SAMPLE TYPE	**NORMAL**
SUBMATRIX	**SS**
TOP DEPTH	**0**
BOTTOM DEPTH	**1**
EXPLOSIVES (MG/KG)	
NITROGLYCERIN	NA
METALS (MG/KG)	
LEAD	20.0 J
MISCELLANEOUS PARAMETERS (MEQ/100)	
CATION EXCHANGE CAPACITY	NA
MISCELLANEOUS PARAMETERS (MG/KG)	
TOTAL ORGANIC CARBON	NA
MISCELLANEOUS PARAMETERS (S.U.)	
PH	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)	
1-METHYLNAPHTHALENE	0.0291
2-METHYLNAPHTHALENE	0.0414
ACENAPHTHENE	0.167
ACENAPHTHYLENE	0.0210 U
ANTHRACENE	0.852
BAP EQUIVALENT-HALFND	11
BENZO(A)ANTHRACENE	8.54
BENZO(A)PYRENE	7.65
BENZO(B)FLUORANTHENE	9.09
BENZO(G,H,I)PERYLENE	4.49
BENZO(K)FLUORANTHENE	3.13
CHRYSENE	9.96
DIBENZO(A,H)ANTHRACENE	1.37
FLUORANTHENE	9.41
FLUORENE	0.123
INDENO(1,2,3-CD)PYRENE	4.65
NAPHTHALENE	0.109
PHENANTHRENE	3.91
PYRENE	9.35
XRF (MG/KG)	
LEAD	NA

LOCATION	AFR-SS001	AFR-SS001C			
SAMPLE ID	AFR-SS001-0001	AFR-SS01C-0001	AFR-SS01C-0001-AVG	AFR-SS01C-0001-D	AFR-SS002-0001
SAMPLE DATE	20100302	20100310	20100310	20100310	20100302
SAMPLE CODE	NORMAL	ORIG	AVG	DUP	ORIG
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	4 U	4 U	4 U	NA
METALS (MG/KG)					
LEAD	16.5 J	96.9	96.9	NA	28.1 J
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
XRF (MG/KG)					
LEAD	13.33	NA	NA	NA	39

LOCATION	AFR-SS002		AFR-SS002C	AFR-SS003	AFR-SS004	AFR-SS005	AFR-SS006
SAMPLE ID	AFR-SS002-0001-AVG	AFR-SS002-0001-D	AFR-SS02C-0001	AFR-SS003-0001	AFR-SS004-0001	AFR-SS005-0001	AFR-SS006-0001
SAMPLE DATE	20100302	20100302	20100309	20100302	20100302	20100302	20100302
SAMPLE CODE	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	4 U	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	32.35 J	36.6 J	54.2	20.0 J	17.5 J	21.6	25.2
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	37	35	NA	17.67	11.67	20.33	23

LOCATION	**AFR-SS007**	**AFR-SS008**	**AFR-SS009**	**AFR-SS010**	**AFR-SS011**	**AFR-SS012**	**AFR-SS013**
SAMPLE ID	**AFR-SS007-0001**	**AFR-SS008-0001**	**AFR-SS009-0001**	**AFR-SS010-0001**	**AFR-SS011-0001**	**AFR-SS012-0001**	**AFR-SS013-0001**
SAMPLE DATE	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**
SAMPLE CODE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
MATRIX	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**
SAMPLE TYPE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
SUBMATRIX	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**
TOP DEPTH	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BOTTOM DEPTH	**1**	**1**	**1**	**1**	**1**	**1**	**1**
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	29.2	15.0	NA	NA	NA	19.6	17.4
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	18	15.67	10 U	10 U	10 U	13	10 U

LOCATION	**AFR-SS014**	**AFR-SS015**	**AFR-SS016**	**AFR-SS017**	**AFR-SS018**	**AFR-SS019**	**AFR-SS020**
SAMPLE ID	**AFR-SS014-0001**	**AFR-SS015-0001**	**AFR-SS016-0001**	**AFR-SS017-0001**	**AFR-SS018-0001**	**AFR-SS019-0001**	**AFR-SS020-0001**
SAMPLE DATE	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**	**20100302**
SAMPLE CODE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
MATRIX	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**
SAMPLE TYPE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
SUBMATRIX	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**
TOP DEPTH	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BOTTOM DEPTH	**1**	**1**	**1**	**1**	**1**	**1**	**1**
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	23.0	17.4	15.7	18.6	24.3	18.5
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	38.5 J	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	25100	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	5.46	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	31.67	15	12	16	28.67	16

LOCATION	AFR-SS021	AFR-SS022	AFR-SS023	AFR-SS024	AFR-SS025	AFR-SS026	AFR-SS027
SAMPLE ID	AFR-SS021-0001	AFR-SS022-0001	AFR-SS023-0001	AFR-SS024-0001	AFR-SS025-0001	AFR-SS026-0001	AFR-SS027-0001
SAMPLE DATE	20100302	20100302	20100302	20100302	20100302	20100302	20100302
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	12.2	124	30.8	NA	NA	17.8
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	12	11.67	23.67	10 U	10 U	11.33

LOCATION	AFR-SS028	AFR-SS029	AFR-SS030	AFR-SS031	AFR-SS032	AFR-SS033	AFR-SS034
SAMPLE ID	AFR-SS028-0001	AFR-SS029-0001	AFR-SS030-0001	AFR-SS031-0001	AFR-SS032-0001	AFR-SS033-0001	AFR-SS034-0001
SAMPLE DATE	20100302	20100309	20100309	20100309	20100309	20100309	20100309
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	28.7 J	13.7 J	34.3 J	19.5 J	48.5 J	25.7 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	18.67	NA	NA	NA	NA	NA	NA

LOCATION	AFR-SS035	AFR-SS036	AFR-SS037	AFR-SS038	AFR-SS039	AFR-SS040	AFR-SS041
SAMPLE ID	AFR-SS035-0001	AFR-SS036-0001	AFR-SS037-0001	AFR-SS038-0001	AFR-SS039-0001	AFR-SS040-0001	AFR-SS041-0001
SAMPLE DATE	20100309	20100309	20100309	20100309	20100309	20100309	20100310
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	26.7 J	12.8 J	20500 J	25.0 J	42.5 J	48.5 J	33.5 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	NA

LOCATION	AFR-SS042	AFR-SS043	AFR-SS044	AFR-SS045	AFR-SS046		
SAMPLE ID	AFR-SS042-0001	AFR-SS043-0001	AFR-SS044-0001	AFR-SS045-0001	AFR-SS046-0001	AFR-SS046-0001-AVG	AFR-SS046-0001-D
SAMPLE DATE	20100310	20100309	20100309	20100310	20100310	20100310	20100310
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	47.8 J	40.4 J	42.8 J	60.0 J	19.1 J	23.75 J	28.4 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	NA

LOCATION	**AFR-SS047**	**AFR-SS048**	**AFR-SS049**	**AFR-SS050**	**AFR-SS051**	**AFR-SS052**	**AFR-SS053**
SAMPLE ID	**AFR-SS047-0001**	**AFR-SS048-0001**	**AFR-SS049-0001**	**AFR-SS050-0001**	**AFR-SS051-0001**	**AFR-SS052-0001**	**AFR-SS053-0001**
SAMPLE DATE	**20100310**	**20100310**	**20100310**	**20100310**	**20100310**	**20100310**	**20100310**
SAMPLE CODE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
MATRIX	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**	**SO**
SAMPLE TYPE	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**	**NORMAL**
SUBMATRIX	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**	**SS**
TOP DEPTH	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BOTTOM DEPTH	**1**	**1**	**1**	**1**	**1**	**1**	**1**
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	19.5 J	37.4 J	22.1 J	16.2 J	19.2 J	16.8 J	26.4 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	NA

LOCATION	AFR-SS054	AFR-SS055	AFR-SS056		
SAMPLE ID	AFR-SS054-0001	AFR-SS055-0001	AFR-SS056-0001	AFR-SS056-0001-AVG	AFR-SS056-0001-D
SAMPLE DATE	20100310	20100310	20100310	20100310	20100310
SAMPLE CODE	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	NA	NA	NA	NA
METALS (MG/KG)					
LEAD	26.9 J	27.9 J	27.7 J	28.65 J	29.6 J
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
XRF (MG/KG)					
LEAD	NA	NA	NA	NA	NA

LOCATION	HSR1-SS001	HSR1-SS001C	HSR1-SS002	HSR1-SS002C	HSR1-SS003
SAMPLE ID	HSR1-SS001-0001	HSR1-SS01C-0001	HSR1-SS002-0001	HSR1-SS02C-0001	HSR1-SS003-0001
SAMPLE DATE	20100225	20100303	20100225	20100315	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	2 UJ	NA	1.9 UJ	NA
METALS (MG/KG)					
LEAD	33.8	28.3	64.9 J	23.9	NA
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)					
1-METHYLNAPHTHALENE	NA	NA	0.00853 U	NA	NA
2-METHYLNAPHTHALENE	NA	NA	0.00853 U	NA	NA
ACENAPHTHENE	NA	NA	0.00853 U	NA	NA
ACENAPHTHYLENE	NA	NA	0.00853 U	NA	NA
ANTHRACENE	NA	NA	0.00853 U	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	0.02	NA	NA
BENZO(A)ANTHRACENE	NA	NA	0.00853 U	NA	NA
BENZO(A)PYRENE	NA	NA	0.00954	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	0.0130	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	0.00853 U	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	0.00617 J	NA	NA
CHRYSENE	NA	NA	0.0126	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	0.00853 U	NA	NA
FLUORANTHENE	NA	NA	0.0155	NA	NA
FLUORENE	NA	NA	0.00853 U	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	0.00780 J	NA	NA
NAPHTHALENE	NA	NA	0.00853 U	NA	NA
PHENANTHRENE	NA	NA	0.00603 J	NA	NA
PYRENE	NA	NA	0.0143	NA	NA
XRF (MG/KG)					
LEAD	34	NA	55	NA	16

LOCATION	HSR1-SS004	HSR1-SS005	HSR1-SS006	HSR1-SS007	HSR1-SS008	HSR1-SS009	
SAMPLE ID	HSR1-SS004-0001	HSR1-SS005-0001	HSR1-SS006-0001	HSR1-SS007-0001	HSR1-SS008-0001	HSR1-SS009-0001	HSR1-SS010-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	NA	37.7 J	101 J	347
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	17.2 J
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	10900
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	5.48
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	0.00819 U	0.00522 J	0.00786 U
2-METHYLNAPHTHALENE	NA	NA	NA	NA	0.00819 U	0.00831	0.00786 U
ACENAPHTHENE	NA	NA	NA	NA	0.00189 J	0.0379	0.00786 U
ACENAPHTHYLENE	NA	NA	NA	NA	0.00220 J	0.00230 J	0.00786 U
ANTHRACENE	NA	NA	NA	NA	0.00683 J	0.119	0.00196 J
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	0.08	1	0.02
BENZO(A)ANTHRACENE	NA	NA	NA	NA	0.0599	0.909	0.0174
BENZO(A)PYRENE	NA	NA	NA	NA	0.0503	0.781	0.0160
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	0.0727	1.05	0.0240
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	0.0343	0.471	0.0122
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	0.0259	0.342	0.00798
CHRYSENE	NA	NA	NA	NA	0.0696	1.03	0.0214
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	0.00946	0.170	0.00329 J
FLUORANTHENE	NA	NA	NA	NA	0.0898	1.37	0.0267
FLUORENE	NA	NA	NA	NA	0.00819 U	0.0224	0.00786 U
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	0.0380	0.513	0.0136
NAPHTHALENE	NA	NA	NA	NA	0.00819 U	0.0284	0.00786 U
PHENANTHRENE	NA	NA	NA	NA	0.0241	0.512	0.00977
PYRENE	NA	NA	NA	NA	0.0824	1.22	0.0228
XRF (MG/KG)							
LEAD	24.33	12	27	35.67	60.67	245	384.67

LOCATION	HSR1-SS010			HSR1-SS011	HSR1-SS012	HSR1-SS013	HSR1-SS014
SAMPLE ID	HSR1-SS010-0001-AVG	HSR1-SS010-0001-D	HSR1-SS010-0102	HSR1-SS011-0001	HSR1-SS012-0001	HSR1-SS013-0001	HSR1-SS014-0001
SAMPLE DATE	20100225	20100226	20100301	20100225	20100225	20100225	20100225
SAMPLE CODE	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0
BOTTOM DEPTH	1	1	2	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	338	329	NA	15.0 J	NA	10.1 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	17.2 J	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	10900	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	5.48	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
2-METHYLNAPHTHALENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
ACENAPHTHENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
ACENAPHTHYLENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
ANTHRACENE	0.00196 J	NA	NA	0.00332 J	NA	NA	NA
BAP EQUIVALENT-HALFND	0.02	NA	NA	0.03	NA	NA	NA
BENZO(A)ANTHRACENE	0.0174	NA	NA	0.0199	NA	NA	NA
BENZO(A)PYRENE	0.016	NA	NA	0.0209	NA	NA	NA
BENZO(B)FLUORANTHENE	0.024	NA	NA	0.0320	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.0122	NA	NA	0.0164	NA	NA	NA
BENZO(K)FLUORANTHENE	0.00798	NA	NA	0.0101	NA	NA	NA
CHRYSENE	0.0214	NA	NA	0.0268	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00329 J	NA	NA	0.00816 U	NA	NA	NA
FLUORANTHENE	0.0267	NA	NA	0.0341	NA	NA	NA
FLUORENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.0136	NA	NA	0.0163	NA	NA	NA
NAPHTHALENE	0.00786 U	NA	NA	0.00816 U	NA	NA	NA
PHENANTHRENE	0.00977	NA	NA	0.0128	NA	NA	NA
PYRENE	0.0228	NA	NA	0.0303	NA	NA	NA
XRF (MG/KG)							
LEAD	384.67	NA	43.67	57.33	23.67	10 U	10 U

LOCATION	HSR1-SS015	HSR1-SS016	HSR1-SS017			HSR1-SS018	HSR1-SS019
SAMPLE ID	HSR1-SS015-0001	HSR1-SS016-0001	HSR1-SS017-0001	HSR1-SS017-0001-AVG	HSR1-SS017-0001-D	HSR1-SS018-0001	HSR1-SS019-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	63.9 J	71.4	71.4	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	26.9 J	26.9 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	30400	30400	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	5.75	5.75	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	0.00723 U	0.00755 U	0.00755 U	NA	NA	NA
2-METHYLNAPHTHALENE	NA	0.00723 U	0.00755 U	0.00755 U	NA	NA	NA
ACENAPHTHENE	NA	0.00723 U	0.00274 J	0.00274 J	NA	NA	NA
ACENAPHTHYLENE	NA	0.00723 U	0.00755 U	0.00755 U	NA	NA	NA
ANTHRACENE	NA	0.00777	0.0146	0.0146	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	0.05	0.1	0.1	NA	NA	NA
BENZO(A)ANTHRACENE	NA	0.0410	0.0716	0.0716	NA	NA	NA
BENZO(A)PYRENE	NA	0.0333	0.0676	0.0676	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	0.0478	0.0945	0.0945	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	0.0227	0.0531	0.0531	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	0.0160	0.0326	0.0326	NA	NA	NA
CHRYSENE	NA	0.0487	0.0802	0.0802	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	0.00666 J	0.0135	0.0135	NA	NA	NA
FLUORANTHENE	NA	0.0740	0.122	0.122	NA	NA	NA
FLUORENE	NA	0.00723 U	0.00221 J	0.00221 J	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	0.0231	0.0537	0.0537	NA	NA	NA
NAPHTHALENE	NA	0.00723 U	0.00755 U	0.00755 U	NA	NA	NA
PHENANTHRENE	NA	0.0315	0.0548	0.0548	NA	NA	NA
PYRENE	NA	0.0614	0.0979	0.0979	NA	NA	NA
XRF (MG/KG)							
LEAD	20.33	68	177.33	147	116.67	23.33	21.33

LOCATION	HSR1-SS020	HSR1-SS021	HSR1-SS022	HSR1-SS023	HSR1-SS024	HSR1-SS025	HSR1-SS026
SAMPLE ID	HSR1-SS020-0001	HSR1-SS021-0001	HSR1-SS022-0001	HSR1-SS023-0001	HSR1-SS024-0001	HSR1-SS025-0001	HSR1-SS026-0001
SAMPLE DATE	20100225	20100225	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	64.0	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	0.00214 J	0.00782 U	0.00817 U	0.00767 U	0.00808 U
2-METHYLNAPHTHALENE	NA	NA	0.00278 J	0.00782 U	0.00817 U	0.00767 U	0.00165 J
ACENAPHTHENE	NA	NA	0.0101	0.00273 J	0.00817 U	0.00194 J	0.00350 J
ACENAPHTHYLENE	NA	NA	0.00691 J	0.00273 J	0.00817 U	0.00767 U	0.00475 J
ANTHRACENE	NA	NA	0.0261	0.0308	0.00817 U	0.00357 J	0.0230
BAP EQUIVALENT-HALFND	NA	NA	0.8	0.2	0.008 U	0.07	0.2
BENZO(A)ANTHRACENE	NA	NA	0.460	0.163	0.00817 U	0.0502	0.147
BENZO(A)PYRENE	NA	NA	0.544	0.105	0.00817 U	0.0473	0.131
BENZO(B)FLUORANTHENE	NA	NA	0.750	0.151	0.00817 U	0.0698	0.193
BENZO(G,H,I)PERYLENE	NA	NA	0.341	0.0522	0.00817 U	0.0245	0.0735
BENZO(K)FLUORANTHENE	NA	NA	0.240	0.0602	0.00817 U	0.0247	0.0674
CHRYSENE	NA	NA	0.549	0.166	0.00817 U	0.0567	0.155
DIBENZO(A,H)ANTHRACENE	NA	NA	0.0906	0.0173	0.00817 U	0.00725 J	0.0200
FLUORANTHENE	NA	NA	0.459	0.293	0.00817 U	0.0719	0.255
FLUORENE	NA	NA	0.00602 J	0.00322 J	0.00817 U	0.00767 U	0.00300 J
INDENO(1,2,3-CD)PYRENE	NA	NA	0.366	0.0628	0.00817 U	0.0272	0.0785
NAPHTHALENE	NA	NA	0.00911	0.00782 U	0.00817 U	0.00767 U	0.00808 U
PHENANTHRENE	NA	NA	0.115	0.0913	0.00817 U	0.0202	0.0907
PYRENE	NA	NA	0.451	0.238	0.00817 U	0.0654	0.213
XRF (MG/KG)							
LEAD	19.67	51.67	32.67	52.67	11.67	24	39.33

LOCATION	HSR1-SS027	HSR1-SS028	HSR1-SS029	HSR1-SS030	HSR1-SS031	HSR1-SS032	HSR1-SS033
SAMPLE ID	HSR1-SS027-0001	HSR1-SS028-0001	HSR1-SS029-0001	HSR1-SS030-0001	HSR1-SS031-0001	HSR1-SS032-0001	HSR1-SS033-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	72.1	202	NA	NA	70.6
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00767 U	0.00810 U	NA	NA	NA	NA	0.00862 U
2-METHYLNAPHTHALENE	0.00767 U	0.00810 U	NA	NA	NA	NA	0.00862 U
ACENAPHTHENE	0.00767 U	0.00391 J	NA	NA	NA	NA	0.00862 U
ACENAPHTHYLENE	0.00767 U	0.00187 J	NA	NA	NA	NA	0.00178 J
ANTHRACENE	0.00767 U	0.0129	NA	NA	NA	NA	0.00862 U
BAP EQUIVALENT-HALFND	0.007	0.05	NA	NA	NA	NA	0.02
BENZO(A)ANTHRACENE	0.00247 J	0.0454	NA	NA	NA	NA	0.00862 U
BENZO(A)PYRENE	0.00238 J	0.0316	NA	NA	NA	NA	0.00972
BENZO(B)FLUORANTHENE	0.00368 J	0.0484	NA	NA	NA	NA	0.0150
BENZO(G,H,I)PERYLENE	0.00767 U	0.0170	NA	NA	NA	NA	0.00862 U
BENZO(K)FLUORANTHENE	0.00767 U	0.0187	NA	NA	NA	NA	0.00651 J
CHRYSENE	0.00267 J	0.0445	NA	NA	NA	NA	0.0129
DIBENZO(A,H)ANTHRACENE	0.00767 U	0.00565 J	NA	NA	NA	NA	0.00862 U
FLUORANTHENE	0.00329 J	0.0911	NA	NA	NA	NA	0.0174
FLUORENE	0.00767 U	0.00810 U	NA	NA	NA	NA	0.00862 U
INDENO(1,2,3-CD)PYRENE	0.00767 U	0.0196	NA	NA	NA	NA	0.00862 U
NAPHTHALENE	0.00767 U	0.00810 U	NA	NA	NA	NA	0.00862 U
PHENANTHRENE	0.00170 J	0.0512	NA	NA	NA	NA	0.00585 J
PYRENE	0.00300 J	0.0707	NA	NA	NA	NA	0.0149
XRF (MG/KG)							
LEAD	35	31.67	76.67	62.33	28.33	10 U	88.67

LOCATION	HSR1-SS034	HSR1-SS035	HSR1-SS036	HSR1-SS037	HSR1-SS038	HSR1-SS039	HSR1-SS040
SAMPLE ID	HSR1-SS034-0001	HSR1-SS035-0001	HSR1-SS036-0001	HSR1-SS037-0001	HSR1-SS038-0001	HSR1-SS039-0001	HSR1-SS040-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	21.4	NA	NA	NA	NA	58.3
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
ACENAPHTHENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
ACENAPHTHYLENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
ANTHRACENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.01	0.01	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.00764 U	0.00791	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.00547 J	0.00739 J	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.00863	0.0119	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.00764 U	0.00522 J	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.00764 U	0.00437 J	NA	NA	NA	NA	NA
CHRYSENE	0.00704 J	0.00933	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00764 U	0.00161 J	NA	NA	NA	NA	NA
FLUORANTHENE	0.00864	0.0119	NA	NA	NA	NA	NA
FLUORENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.00764 U	0.00526 J	NA	NA	NA	NA	NA
NAPHTHALENE	0.00764 U	0.00776 U	NA	NA	NA	NA	NA
PHENANTHRENE	0.00359 J	0.00294 J	NA	NA	NA	NA	NA
PYRENE	0.00757 J	0.0104	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	56	56.33	12.67	24.33	10 U	10 U	68

LOCATION	HSR1-SS041	HSR1-SS042	HSR1-SS043	HSR1-SS044	HSR1-SS045	HSR1-SS046	HSR1-SS047
SAMPLE ID	HSR1-SS041-0001	HSR1-SS042-0001	HSR1-SS043-0001	HSR1-SS044-0001	HSR1-SS045-0001	HSR1-SS046-0001	HSR1-SS047-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	81.1	NA	NA	82.3	NA	53.2
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	0.00788 U	0.00797 U	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	0.00788 U	0.00797 U	NA	NA	NA	NA
ACENAPHTHENE	NA	0.00788 U	0.00797 U	NA	NA	NA	NA
ACENAPHTHYLENE	NA	0.00239 J	0.00797 U	NA	NA	NA	NA
ANTHRACENE	NA	0.0115	0.00290 J	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	0.3	0.02	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	0.222	0.0132	NA	NA	NA	NA
BENZO(A)PYRENE	NA	0.198	0.0114	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	0.282	0.0179	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	0.0976	0.00811	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	0.104	0.00618 J	NA	NA	NA	NA
CHRYSENE	NA	0.220	0.0157	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	0.0301	0.00235 J	NA	NA	NA	NA
FLUORANTHENE	NA	0.226	0.0259	NA	NA	NA	NA
FLUORENE	NA	0.00788 U	0.00797 U	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	0.117	0.00830	NA	NA	NA	NA
NAPHTHALENE	NA	0.00788 U	0.00797 U	NA	NA	NA	NA
PHENANTHRENE	NA	0.0266	0.0116	NA	NA	NA	NA
PYRENE	NA	0.204	0.0210	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	73.67	31	25	118.67	14	69

LOCATION	HSR1-SS048	HSR1-SS049	HSR1-SS050	HSR1-SS051	HSR1-SS052	HSR1-SS053	HSR1-SS054
SAMPLE ID	HSR1-SS048-0001	HSR1-SS049-0001	HSR1-SS050-0001	HSR1-SS051-0001	HSR1-SS052-0001	HSR1-SS053-0001	HSR1-SS054-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	10.5	NA	12.6	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00817 U	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	0.00817 U	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	0.00817 U	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	0.00287 J	NA	NA	NA	NA	NA	NA
ANTHRACENE	0.00817 U	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.03	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.0269	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0.0209	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.0369	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.00817 U	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.0140	NA	NA	NA	NA	NA	NA
CHRYSENE	0.0350	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00817 U	NA	NA	NA	NA	NA	NA
FLUORANTHENE	0.0457	NA	NA	NA	NA	NA	NA
FLUORENE	0.00817 U	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.00817 U	NA	NA	NA	NA	NA	NA
NAPHTHALENE	0.00817 U	NA	NA	NA	NA	NA	NA
PHENANTHRENE	0.0114	NA	NA	NA	NA	NA	NA
PYRENE	0.0416	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	13.33	10 U	10 U	10 U	10 U	59.67	15.67

LOCATION	HSR1-SS055	HSR1-SS056	HSR1-SS057	HSR1-SS058			HSR1-SS059
SAMPLE ID	HSR1-SS055-0001	HSR1-SS056-0001	HSR1-SS057-0001	HSR1-SS058-0001	HSR1-SS058-0001-AVG	HSR1-SS058-0001-D	HSR1-SS059-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
2-METHYLNAPHTHALENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
ACENAPHTHENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
ACENAPHTHYLENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
ANTHRACENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	0.009	0.009	0.01	NA
BENZO(A)ANTHRACENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
BENZO(A)PYRENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
CHRYSENE	NA	NA	NA	0.00332 J	0.00326 J	0.00320 J	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
FLUORANTHENE	NA	NA	NA	0.00541 J	0.00511 J	0.00481 J	NA
FLUORENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
NAPHTHALENE	NA	NA	NA	0.00782 U	0.008215 U	0.00861 U	NA
PHENANTHRENE	NA	NA	NA	0.00233 J	0.00223 J	0.00213 J	NA
PYRENE	NA	NA	NA	0.00414 J	0.004125 J	0.00411 J	NA
XRF (MG/KG)							
LEAD	16.67	12.67	10 U	10 U	10 U	NA	14.33

LOCATION	**HSR1-SS060**
SAMPLE ID	**HSR1-SS060-0001**
SAMPLE DATE	**20100226**
SAMPLE CODE	**NORMAL**
MATRIX	**SO**
SAMPLE TYPE	**NORMAL**
SUBMATRIX	**SS**
TOP DEPTH	**0**
BOTTOM DEPTH	**1**
EXPLOSIVES (MG/KG)	
NITROGLYCERIN	NA
METALS (MG/KG)	
LEAD	NA
MISCELLANEOUS PARAMETERS (MEQ/100)	
CATION EXCHANGE CAPACITY	NA
MISCELLANEOUS PARAMETERS (MG/KG)	
TOTAL ORGANIC CARBON	NA
MISCELLANEOUS PARAMETERS (S.U.)	
PH	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)	
1-METHYLNAPHTHALENE	NA
2-METHYLNAPHTHALENE	NA
ACENAPHTHENE	NA
ACENAPHTHYLENE	NA
ANTHRACENE	NA
BAP EQUIVALENT-HALFND	NA
BENZO(A)ANTHRACENE	NA
BENZO(A)PYRENE	NA
BENZO(B)FLUORANTHENE	NA
BENZO(G,H,I)PERYLENE	NA
BENZO(K)FLUORANTHENE	NA
CHRYSENE	NA
DIBENZO(A,H)ANTHRACENE	NA
FLUORANTHENE	NA
FLUORENE	NA
INDENO(1,2,3-CD)PYRENE	NA
NAPHTHALENE	NA
PHENANTHRENE	NA
PYRENE	NA
XRF (MG/KG)	
LEAD	16

LOCATION	HSR1-SS010	HSR2-SS001	HSR2-SS001C	HSR2-SS002	HSR2-SS002C
SAMPLE ID	HSR2-SS036-0001-D	HSR2-SS001-0001	HSR2-SS01C-0001	HSR2-SS002-0001	HSR2-SS02C-0001
SAMPLE DATE	20100225	20100227	20100304	20100227	20100304
SAMPLE CODE	DUP	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	NA	1.9 UJ	NA	1.9 UJ
METALS (MG/KG)					
LEAD	NA	NA	17.1	NA	21.2
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)					
1-METHYLNAPHTHALENE	0.00884 U	NA	NA	NA	NA
2-METHYLNAPHTHALENE	0.00884 U	NA	NA	NA	NA
ACENAPHTHENE	0.00884 U	NA	NA	NA	NA
ACENAPHTHYLENE	0.00884 U	NA	NA	NA	NA
ANTHRACENE	0.00884 U	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.01	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.00884 UJ	NA	NA	NA	NA
BENZO(A)PYRENE	0.00410 J	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.00594 J	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.00884 U	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.00246 J	NA	NA	NA	NA
CHRYSENE	0.00580 J	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00884 U	NA	NA	NA	NA
FLUORANTHENE	0.00860 J	NA	NA	NA	NA
FLUORENE	0.00884 U	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.00884 U	NA	NA	NA	NA
NAPHTHALENE	0.00884 U	NA	NA	NA	NA
PHENANTHRENE	0.00389 J	NA	NA	NA	NA
PYRENE	0.00747 J	NA	NA	NA	NA
XRF (MG/KG)					
LEAD	415.67	10 U	NA	10 U	NA

LOCATION	HSR2-SS003	HSR2-SS003C	HSR2-SS004	HSR2-SS005	HSR2-SS006	HSR2-SS007	HSR2-SS008
SAMPLE ID	HSR2-SS003-0001	HSR2-SS03C-0001	HSR2-SS004-0001	HSR2-SS005-0001	HSR2-SS006-0001	HSR2-SS007-0001	HSR2-SS008-0001
SAMPLE DATE	20100227	20100304	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	2 UJ	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	19.3	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	NA
ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
CHRYSENE	NA	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA
FLUORENE	NA	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	NA
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA
PYRENE	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	NA	11.33	10 U	13.33	18	10 U

LOCATION	HSR2-SS009	HSR2-SS010	HSR2-SS011	HSR2-SS012	HSR2-SS013	HSR2-SS014	HSR2-SS015
SAMPLE ID	HSR2-SS009-0001	HSR2-SS010-0001	HSR2-SS011-0001	HSR2-SS012-0001	HSR2-SS013-0001	HSR2-SS014-0001	HSR2-SS015-0001
SAMPLE DATE	20100227	20100227	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	11.7 J	NA	23.4 J	8.30 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.0353	NA
2-METHYLNAPHTHALENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.0490	NA
ACENAPHTHENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.281	NA
ACENAPHTHYLENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.00376 J	NA
ANTHRACENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.633	NA
BAP EQUIVALENT-HALFND	NA	NA	0.01	0.009	0.01	13	NA
BENZO(A)ANTHRACENE	NA	NA	0.00860 U	0.00741 UJ	0.00876 J	8.75	NA
BENZO(A)PYRENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	8.51	NA
BENZO(B)FLUORANTHENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	11.2	NA
BENZO(G,H,I)PERYLENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	4.66	NA
BENZO(K)FLUORANTHENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	2.41	NA
CHRYSENE	NA	NA	0.00451 J	0.00519 J	0.00539 J	9.64	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	1.58	NA
FLUORANTHENE	NA	NA	0.00700 J	0.00659 J	0.00720 J	11.1	NA
FLUORENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.118	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	5.37	NA
NAPHTHALENE	NA	NA	0.00860 U	0.00741 U	0.00876 U	0.166	NA
PHENANTHRENE	NA	NA	0.00280 J	0.00190 J	0.00303 J	2.61	NA
PYRENE	NA	NA	0.00607 J	0.00536 J	0.00602 J	10.2	NA
XRF (MG/KG)							
LEAD	42	10 U	14	10 U	12	19	10 U

LOCATION	HSR2-SS016	HSR2-SS017	HSR2-SS018	HSR2-SS019	HSR2-SS020	HSR2-SS021	HSR2-SS022
SAMPLE ID	HSR2-SS016-0001	HSR2-SS017-0001	HSR2-SS018-0001	HSR2-SS019-0001	HSR2-SS020-0001	HSR2-SS021-0001	HSR2-SS022-0001
SAMPLE DATE	20100227	20100227	20100227	20100227	20100227	20100227	20100227
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	NA	NA	159 J	NA	NA	17.6 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	0.00892 U	NA	NA	NA	NA
2-METHYLNAPHTHALENE	NA	NA	0.00892 U	NA	NA	NA	NA
ACENAPHTHENE	NA	NA	0.00892 U	NA	NA	NA	NA
ACENAPHTHYLENE	NA	NA	0.00892 U	NA	NA	NA	NA
ANTHRACENE	NA	NA	0.00892 U	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	NA	NA	0.009 U	NA	NA	NA	NA
BENZO(A)ANTHRACENE	NA	NA	0.00892 UJ	NA	NA	NA	NA
BENZO(A)PYRENE	NA	NA	0.00892 U	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	NA	NA	0.00892 U	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	NA	NA	0.00892 U	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	NA	NA	0.00892 U	NA	NA	NA	NA
CHRYSENE	NA	NA	0.00892 UJ	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	NA	NA	0.00892 U	NA	NA	NA	NA
FLUORANTHENE	NA	NA	0.00434 J	NA	NA	NA	NA
FLUORENE	NA	NA	0.00892 U	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	NA	NA	0.00892 U	NA	NA	NA	NA
NAPHTHALENE	NA	NA	0.00892 U	NA	NA	NA	NA
PHENANTHRENE	NA	NA	0.00195 J	NA	NA	NA	NA
PYRENE	NA	NA	0.00441 J	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	10 U	12.33	152.67	10 U	10 U	12	11.67

LOCATION	HSR2-SS023	HSR2-SS024	HSR2-SS025	HSR2-SS026	HSR2-SS027
SAMPLE ID	HSR2-SS023-0001	HSR2-SS024-0001	HSR2-SS025-0001	HSR2-SS026-0001	HSR2-SS027-0001
SAMPLE DATE	20100227	20100227	20100227	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	NA	NA	NA	NA
METALS (MG/KG)					
LEAD	8.70 J	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)					
1-METHYLNAPHTHALENE	0.00752 U	NA	0.00792 U	NA	NA
2-METHYLNAPHTHALENE	0.00752 U	NA	0.00199 J	NA	NA
ACENAPHTHENE	0.00752 U	NA	0.00632 J	NA	NA
ACENAPHTHYLENE	0.00752 U	NA	0.00792 U	NA	NA
ANTHRACENE	0.00752 U	NA	0.0170	NA	NA
BAP EQUIVALENT-HALFND	0.008	NA	0.3	NA	NA
BENZO(A)ANTHRACENE	0.00752 UJ	NA	0.231 J	NA	NA
BENZO(A)PYRENE	0.00270 J	NA	0.213	NA	NA
BENZO(B)FLUORANTHENE	0.00514 J	NA	0.278	NA	NA
BENZO(G,H,I)PERYLENE	0.00752 U	NA	0.125	NA	NA
BENZO(K)FLUORANTHENE	0.00306 J	NA	0.101	NA	NA
CHRYSENE	0.00424 J	NA	0.268 J	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00752 U	NA	0.0368	NA	NA
FLUORANTHENE	0.00479 J	NA	0.280	NA	NA
FLUORENE	0.00752 U	NA	0.00792 U	NA	NA
INDENO(1,2,3-CD)PYRENE	0.00752 U	NA	0.141	NA	NA
NAPHTHALENE	0.00752 U	NA	0.00436 J	NA	NA
PHENANTHRENE	0.00284 J	NA	0.0688	NA	NA
PYRENE	0.00463 J	NA	0.262	NA	NA
XRF (MG/KG)					
LEAD	15.67	12.67	13	10 U	14.67

LOCATION	HSR2-SS028	HSR2-SS029				HSR2-SS030	HSR2-SS031
SAMPLE ID	HSR2-SS028-0001	HSR2-SS029-0001	HSR2-SS029-0001-AVG	HSR2-SS029-0001-D	HSR2-SS029-0102	HSR2-SS030-0001	HSR2-SS031-0001
SAMPLE DATE	20100226	20100227	20100227	20100227	20100301	20100227	20100227
SAMPLE CODE	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	1	0	0
BOTTOM DEPTH	1	1	1	1	2	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	130 J	134 J	134 J	NA	NA	7.48 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	24.2	24.2	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	10000	10000	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	5.57	5.57	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
2-METHYLNAPHTHALENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
ACENAPHTHENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
ACENAPHTHYLENE	0.00840 U	0.00368 J	0.00368 J	NA	NA	NA	NA
ANTHRACENE	0.00840 U	0.00506 J	0.00506 J	NA	NA	NA	NA
BAP EQUIVALENT-HALFND	0.01	0.03	0.03	NA	NA	NA	NA
BENZO(A)ANTHRACENE	0.00599 J	0.0234 J	0.0234 J	NA	NA	NA	NA
BENZO(A)PYRENE	0.00530 J	0.0159	0.0159	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0.00927	0.0310	0.031	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0.00334 J	0.00994	0.00994	NA	NA	NA	NA
CHRYSENE	0.00755 J	0.0327 J	0.0327 J	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
FLUORANTHENE	0.00819 J	0.0466	0.0466	NA	NA	NA	NA
FLUORENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
NAPHTHALENE	0.00840 U	0.00896 U	0.00896 U	NA	NA	NA	NA
PHENANTHRENE	0.00336 J	0.00675 J	0.00675 J	NA	NA	NA	NA
PYRENE	0.00746 J	0.0447	0.0447	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	178	317.33	314.33	311.33	86.67	10 U	10 U

LOCATION	HSR2-SS032	HSR2-SS033	HSR2-SS034	HSR2-SS035	HSR2-SS036		HSR2-SS037
SAMPLE ID	HSR2-SS032-0001	HSR2-SS033-0001	HSR2-SS034-0001	HSR2-SS035-0001	HSR2-SS036-0001	HSR2-SS036-0001-AVG	HSR2-SS037-0001
SAMPLE DATE	20100227	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	21.9 J	NA	NA	NA	110 J	110 J	832
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
2-METHYLNAPHTHALENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
ACENAPHTHENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
ACENAPHTHYLENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
ANTHRACENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	0.01	0.01	0.02
BENZO(A)ANTHRACENE	NA	NA	NA	NA	0.00595 J	0.00595 J	0.0111 J
BENZO(A)PYRENE	NA	NA	NA	NA	0.00427 J	0.004185 J	0.00984
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	0.00812	0.00703 J	0.0156
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	0.00386 J	0.00316 J	0.00526 J
CHRYSENE	NA	NA	NA	NA	0.00779 J	0.006795 J	0.0134 J
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
FLUORANTHENE	NA	NA	NA	NA	0.00998	0.00929 J	0.0181
FLUORENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
NAPHTHALENE	NA	NA	NA	NA	0.00752 U	0.00818 U	0.00897 U
PHENANTHRENE	NA	NA	NA	NA	0.00394 J	0.003915 J	0.00588 J
PYRENE	NA	NA	NA	NA	0.00884	0.008155 J	0.0164
XRF (MG/KG)							
LEAD	18.33	10 U	10 U	27.33	128.33	272	299.33

LOCATION	HSR2-SS038	HSR2-SS039	HSR2-SS040	HSR2-SS041	HSR2-SS042	HSR2-SS043	HSR2-SS044
SAMPLE ID	HSR2-SS038-0001	HSR2-SS039-0001	HSR2-SS040-0001	HSR2-SS041-0001	HSR2-SS042-0001	HSR2-SS043-0001	HSR2-SS044-0001
SAMPLE DATE	20100226	20100227	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	44.0 J	NA	NA	NA	NA	198 J	418
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00710 U	0.00743 U	NA	NA	NA	0.00357 J	NA
2-METHYLNAPHTHALENE	0.00710 U	0.00743 U	NA	NA	NA	0.00785 U	NA
ACENAPHTHENE	0.00149 J	0.00572 J	NA	NA	NA	0.00976	NA
ACENAPHTHYLENE	0.00710 U	0.00817	NA	NA	NA	0.0148	NA
ANTHRACENE	0.00710 U	0.0177	NA	NA	NA	0.0457	NA
BAP EQUIVALENT-HALFND	0.07	0.3	NA	NA	NA	0.2	NA
BENZO(A)ANTHRACENE	0.0562 J	0.225 J	NA	NA	NA	0.168 J	NA
BENZO(A)PYRENE	0.0515	0.205	NA	NA	NA	0.122	NA
BENZO(B)FLUORANTHENE	0.0738	0.286	NA	NA	NA	0.168	NA
BENZO(G,H,I)PERYLENE	0.0316	0.123	NA	NA	NA	0.0683	NA
BENZO(K)FLUORANTHENE	0.0255	0.0999	NA	NA	NA	0.0609	NA
CHRYSENE	0.0633 J	0.267 J	NA	NA	NA	0.165 J	NA
DIBENZO(A,H)ANTHRACENE	0.00710 U	0.0337	NA	NA	NA	0.0178	NA
FLUORANTHENE	0.0755	0.262	NA	NA	NA	0.398	NA
FLUORENE	0.00710 U	0.00214 J	NA	NA	NA	0.0215	NA
INDENO(1,2,3-CD)PYRENE	0.0338	0.139	NA	NA	NA	0.0746	NA
NAPHTHALENE	0.00710 U	0.00743 U	NA	NA	NA	0.00231 J	NA
PHENANTHRENE	0.0193	0.0559	NA	NA	NA	0.240	NA
PYRENE	0.0690	0.245	NA	NA	NA	0.309	NA
XRF (MG/KG)							
LEAD	44	26	11.33	10 U	11.67	259.67	325.33

LOCATION	HSR2-SS045	HSR2-SS046	HSR2-SS047	HSR2-SS048	HSR2-SS049	HSR2-SS050	
SAMPLE ID	HSR2-SS045-0001	HSR2-SS046-0001	HSR2-SS047-0001	HSR2-SS048-0001	HSR2-SS049-0001	HSR2-SS050-0001	HSR2-SS051-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	14.5 J	25.0	NA	NA	NA	99.2 J	197 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	25.2
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	11800
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	5.76
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	0.00603 J
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	0.00920
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	0.0111
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	0.00860 U
ANTHRACENE	NA	NA	NA	NA	NA	NA	0.0233
BAP EQUIVALENT-HALFND	NA	NA	NA	NA	NA	NA	0.6
BENZO(A)ANTHRACENE	NA	NA	NA	NA	NA	NA	0.427 J
BENZO(A)PYRENE	NA	NA	NA	NA	NA	NA	0.395
BENZO(B)FLUORANTHENE	NA	NA	NA	NA	NA	NA	0.512
BENZO(G,H,I)PERYLENE	NA	NA	NA	NA	NA	NA	0.254
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	NA	NA	0.172
CHRYSENE	NA	NA	NA	NA	NA	NA	0.477 J
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	NA	NA	0.0672
FLUORANTHENE	NA	NA	NA	NA	NA	NA	0.494
FLUORENE	NA	NA	NA	NA	NA	NA	0.00395 J
INDENO(1,2,3-CD)PYRENE	NA	NA	NA	NA	NA	NA	0.272
NAPHTHALENE	NA	NA	NA	NA	NA	NA	0.0103
PHENANTHRENE	NA	NA	NA	NA	NA	NA	0.114
PYRENE	NA	NA	NA	NA	NA	NA	0.479
XRF (MG/KG)							
LEAD	11.67	25.33	12	19.67	10 U	188.33	316

LOCATION	HSR2-SS051			HSR2-SS052	HSR2-SS053	HSR2-SS054	HSR2-SS055
SAMPLE ID	HSR2-SS051-0001-AVG	HSR2-SS051-0001-D	HSR2-SS051-0102	HSR2-SS052-0001	HSR2-SS053-0001	HSR2-SS054-0001	HSR2-SS055-0001
SAMPLE DATE	20100226	20100226	20100301	20100226	20100226	20100226	20100226
SAMPLE CODE	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	1	0	0	0	0
BOTTOM DEPTH	1	1	2	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	262.5 J	328	NA	18.0 J	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	25.2	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	11800	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	5.76	NA	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)							
1-METHYLNAPHTHALENE	0.00603 J	NA	NA	0.00792 U	0.00579 J	0.00917 U	NA
2-METHYLNAPHTHALENE	0.0092	NA	NA	0.00792 U	0.00616 J	0.00917 U	NA
ACENAPHTHENE	0.0111	NA	NA	0.00792 U	0.00881 U	0.00917 U	NA
ACENAPHTHYLENE	0.0086 U	NA	NA	0.00792 U	0.00881 U	0.00479 J	NA
ANTHRACENE	0.0233	NA	NA	0.00792 U	0.00881 U	0.00917 U	NA
BAP EQUIVALENT-HALFND	0.6	NA	NA	0.01	0.02	0.03	NA
BENZO(A)ANTHRACENE	0.427 J	NA	NA	0.00683 J	0.00881 U	0.00917 U	NA
BENZO(A)PYRENE	0.395	NA	NA	0.00602 J	0.0123	0.0194	NA
BENZO(B)FLUORANTHENE	0.512	NA	NA	0.00900	0.00881 U	0.0320	NA
BENZO(G,H,I)PERYLENE	0.254	NA	NA	0.00792 U	0.00881 U	0.00917 U	NA
BENZO(K)FLUORANTHENE	0.172	NA	NA	0.00390 J	0.00881 U	0.0108	NA
CHRYSENE	0.477 J	NA	NA	0.00863 J	0.0172	0.0250	NA
DIBENZO(A,H)ANTHRACENE	0.0672	NA	NA	0.00792 U	0.00881 U	0.00917 U	NA
FLUORANTHENE	0.494	NA	NA	0.0117	0.0235	0.0322	NA
FLUORENE	0.00395 J	NA	NA	0.00792 U	0.00881 U	0.00917 U	NA
INDENO(1,2,3-CD)PYRENE	0.272	NA	NA	0.00792 U	0.0113	0.0170	NA
NAPHTHALENE	0.0103	NA	NA	0.00792 U	0.00218 J	0.00917 U	NA
PHENANTHRENE	0.114	NA	NA	0.00608 J	0.0162	0.0109	NA
PYRENE	0.479	NA	NA	0.0103	0.0208	0.0321	NA
XRF (MG/KG)							
LEAD	309.665	303.33	40.33	14.67	25.33	10 U	10 U

LOCATION	HSR2-SS056	HSR2-SS057	HSR2-SS058	HSR2-SS059	HSR2-SS060
SAMPLE ID	HSR2-SS056-0001	HSR2-SS057-0001	HSR2-SS058-0001	HSR2-SS059-0001	HSR2-SS060-0001
SAMPLE DATE	20100226	20100226	20100226	20100226	20100226
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1
EXPLOSIVES (MG/KG)					
NITROGLYCERIN	NA	NA	NA	NA	NA
METALS (MG/KG)					
LEAD	NA	NA	51.7 J	23.6 J	14.7 J
MISCELLANEOUS PARAMETERS (MEQ/100)					
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)					
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)					
PH	NA	NA	NA	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (MG/KG)					
1-METHYLNAPHTHALENE	NA	0.00786 U	NA	NA	0.00785 U
2-METHYLNAPHTHALENE	NA	0.00786 U	NA	NA	0.00785 U
ACENAPHTHENE	NA	0.00786 U	NA	NA	0.00785 U
ACENAPHTHYLENE	NA	0.00786 U	NA	NA	0.00785 U
ANTHRACENE	NA	0.00786 U	NA	NA	0.00785 U
BAP EQUIVALENT-HALFND	NA	0.01	NA	NA	0.01
BENZO(A)ANTHRACENE	NA	0.00786 U	NA	NA	0.00785 U
BENZO(A)PYRENE	NA	0.00695 J	NA	NA	0.00453 J
BENZO(B)FLUORANTHENE	NA	0.00786 U	NA	NA	0.00785 U
BENZO(G,H,I)PERYLENE	NA	0.00786 U	NA	NA	0.00785 U
BENZO(K)FLUORANTHENE	NA	0.00419 J	NA	NA	0.00785 U
CHRYSENE	NA	0.00866	NA	NA	0.00661 J
DIBENZO(A,H)ANTHRACENE	NA	0.00786 U	NA	NA	0.00785 U
FLUORANTHENE	NA	0.0151	NA	NA	0.00862
FLUORENE	NA	0.00786 U	NA	NA	0.00785 U
INDENO(1,2,3-CD)PYRENE	NA	0.00786 U	NA	NA	0.00785 U
NAPHTHALENE	NA	0.00786 U	NA	NA	0.00785 U
PHENANTHRENE	NA	0.00604 J	NA	NA	0.00311 J
PYRENE	NA	0.0121	NA	NA	0.00777 J
XRF (MG/KG)					
LEAD	39	92	79.67	20	32.67

LOCATION	RR-SS001	RR-SS001C	RR-SS002	RR-SS002C		
SAMPLE ID	RR-SS001-0001	RR-SS01C-0001	RR-SS002-0001	RR-SS02C-0001	RR-SS02C-0001-AVG	RR-SS02C-0001-D
SAMPLE DATE	20100225	20100303	20100225	20100303	20100303	20100303
SAMPLE CODE	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
MATRIX	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1
EXPLOSIVES (MG/KG)						
NITROGLYCERIN	NA	2 UJ	NA	2 UJ	1.95 UJ	1.9 UJ
METALS (MG/KG)						
LEAD	18.6	16.6	NA	17.3	17.3	NA
MISCELLANEOUS PARAMETERS (MEQ/100)						
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)						
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)						
PH	NA	NA	NA	NA	NA	NA
XRF (MG/KG)						
LEAD	12.33	NA	11.33	NA	NA	NA

LOCATION	RR-SS003	RR-SS003C	RR-SS004	RR-SS005	RR-SS006	RR-SS007	RR-SS008	RR-SS009
SAMPLE ID	RR-SS003-0001	RR-SS03C-0001	RR-SS004-0001	RR-SS005-0001	RR-SS006-0001	RR-SS007-0001	RR-SS008-0001	RR-SS009-0001
SAMPLE DATE	20100225	20100303	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)								
NITROGLYCERIN	NA	2 UJ	NA	NA	NA	NA	NA	NA
METALS (MG/KG)								
LEAD	NA	21.6	NA	NA	NA	16.6	NA	42.4
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	9	NA	10.67	12.67	11.67	15	10.33	45

LOCATION	RR-SS010	RR-SS011	RR-SS012	RR-SS013	RR-SS014	RR-SS015	RR-SS016	RR-SS017
SAMPLE ID	RR-SS010-0001	RR-SS011-0001	RR-SS012-0001	RR-SS013-0001	RR-SS014-0001	RR-SS015-0001	RR-SS016-0001	RR-SS017-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)								
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)								
LEAD	24.1	NA	NA	NA	146	72.2	18.1	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	25.67	9.33	13.67	13	125.67	79	16	14.33

LOCATION	RR-SS018	RR-SS019	RR-SS020	RR-SS021	RR-SS022	RR-SS023	RR-SS024	RR-SS025
SAMPLE ID	RR-SS018-0001	RR-SS019-0001	RR-SS020-0001	RR-SS021-0001	RR-SS022-0001	RR-SS023-0001	RR-SS024-0001	RR-SS025-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)								
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)								
LEAD	16.8	NA	52.4	27.0	NA	NA	27.1	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	15.67	12.33	47	16.33	11.67	7.67	17.33	10 U

LOCATION	RR-SS026	RR-SS027	RR-SS028	RR-SS029			RR-SS030	RR-SS031
SAMPLE ID	RR-SS026-0001	RR-SS027-0001	RR-SS028-0001	RR-SS029-0001	RR-SS029-0001-AVG	RR-SS029-0001-D	RR-SS030-0001	RR-SS031-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)								
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)								
LEAD	NA	NA	NA	193	208 J	223 J	16.1 J	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NA	NA	NA	28.3	28.3	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NA	NA	NA	7180	7180	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NA	NA	NA	5.01	5.01	NA	NA	NA
XRF (MG/KG)								
LEAD	10 U	10 U	10 U	196	192.665	189.33	16.67	10 U

LOCATION	RR-SS032	RR-SS033	RR-SS034	RR-SS035	RR-SS036	RR-SS037	RR-SS038
SAMPLE ID	RR-SS032-0001	RR-SS033-0001	RR-SS034-0001	RR-SS035-0001	RR-SS036-0001	RR-SS037-0001	RR-SS038-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)							
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)							
LEAD	18.2 J	NA	63.1 J	NA	35.0 J	20.6 J	24.0 J
MISCELLANEOUS PARAMETERS (MEQ/100)							
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)							
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)							
PH	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)							
LEAD	27.33	10 U	59.33	12	46.67	19.33	27.33

LOCATION	RR-SS039			RR-SS040	RR-SS041	RR-SS042	RR-SS043	RR-SS044
SAMPLE ID	RR-SS039-0001	RR-SS039-0001-AVG	RR-SS039-0001-D	RR-SS040-0001	RR-SS041-0001	RR-SS042-0001	RR-SS043-0001	RR-SS044-0001
SAMPLE DATE	20100225	20100225	20100225	20100225	20100225	20100225	20100225	20100225
SAMPLE CODE	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1
EXPLOSIVES (MG/KG)								
NITROGLYCERIN	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)								
LEAD	149 J	149 J	NA	NA	14.5	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)								
CATION EXCHANGE CAPACITY	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)								
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)								
LEAD	151	144.335	137.67	10 U	19.33	10 U	10 U	11.67

LOCATION	RR-SS045	RR-SS046	RR-SS047
SAMPLE ID	RR-SS045-0001	RR-SS046-0001	RR-SS047-0001
SAMPLE DATE	20100225	20100225	20100225
SAMPLE CODE	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS
TOP DEPTH	0	0	0
BOTTOM DEPTH	1	1	1
EXPLOSIVES (MG/KG)			
NITROGLYCERIN	NA	NA	NA
METALS (MG/KG)			
LEAD	NA	NA	NA
MISCELLANEOUS PARAMETERS (MEQ/100)			
CATION EXCHANGE CAPACITY	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/KG)			
TOTAL ORGANIC CARBON	NA	NA	NA
MISCELLANEOUS PARAMETERS (S.U.)			
PH	NA	NA	NA
XRF (MG/KG)			
LEAD	10 U	10 U	10 U

Appendix B-7
Composite Samples

LOCATION	AFR-SS001C			AFR-SS002C	HSR1-SS001C	HSR1-SS002C	HSR2-SS001C	HSR2-SS002C	HSR2-SS003C
SAMPLE ID	AFR-SS01C-0001	AFR-SS01C-0001-	AFR-SS01C-0001-D	AFR-SS02C-0001	HSR1-SS01C-0001	HSR1-SS02C-0001	HSR2-SS01C-0001	HSR2-SS02C-0001	HSR2-SS03C-0001
SAMPLE DATE	20100310	20100310	20100310	20100309	20100303	20100315	20100304	20100304	20100304
SAMPLE CODE	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1	1
EXPLOSIVES									
NITROGLYCERIN	4 U	4 U	4 U	4 U	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
METALS (MG/KG)									
LEAD	96.9	96.9	NA	54.2	28.3	23.9	17.1	21.2	19.3

Appendix B-7
Composite Samples

LOCATION	PR-SS001C	RR-SS001C	RR-SS002C			RR-SS003C	TSR-SS004C	TSR-SS005C	TSR-SS006C
SAMPLE ID	PR-SSC01-0001	RR-SS01C-0001	RR-SS02C-0001	RR-SS02C-0001-	RR-SS02C-0001-D	RR-SS03C-0001	TSR-SS04C-0001	TSR-SS05C-0001	TSR-SS06C-0001
SAMPLE DATE	20100224	20100303	20100303	20100303	20100303	20100303	20100303	20100303	20100303
SAMPLE CODE	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX	SS	SS	SS	SS	SS	SS	SS	SS	SS
TOP DEPTH	0	0	0	0	0	0	0	0	0
BOTTOM DEPTH	1	1	1	1	1	1	1	1	1
EXPLOSIVES									
NITROGLYCERIN	0.87 U	2 UJ	2 UJ	1.95 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ	2 UJ
METALS (MG/KG)									
LEAD	161	16.6	17.3	17.3	NA	21.6	103	188	408

LOCATION	**TSR-SS008C**	**TSR-SS009C**	**TSR-SS010C**
SAMPLE ID	**TSR-SS08C-0001**	**TSR-SS09C-0001**	**TSR-SS10C-0001**
SAMPLE DATE	**20100303**	**20100303**	**20100303**
SAMPLE CODE	**NORMAL**	**NORMAL**	**NORMAL**
MATRIX	**SO**	**SO**	**SO**
SAMPLE TYPE	**NORMAL**	**NORMAL**	**NORMAL**
SUBMATRIX	**SS**	**SS**	**SS**
TOP DEPTH	**0**	**0**	**0**
BOTTOM DEPTH	**1**	**1**	**1**
EXPLOSIVES			
NITROGLYCERIN	2 UJ	2 UJ	2 UJ
METALS (MG/KG)			
LEAD	97.3	195	145

APPENDIX C

XRF_FBL CORRELATION STATISTICAL EVALUATIONS

Correlation Analysis

Correlations between XRF and Fixed Based Laboratory (FBL) lead concentrations were computed for six military ranges at NSA Mid-South. The correlation, r, always falls between -1 and 1. Correlation values near 0 indicate a very weak linear relationship. The strength of the linear relationship increases as the correlation moves away from 0 toward either -1 or 1. Correlation values close to -1 and 1 indicate that the points lie close to a straight line. The extreme values -1 and 1 occur only in the case of a perfect linear relationship. The coefficient of determination, R^2, is the correlation squared and can be thought of as the variation of the data points about a regression line that can be explained by the XRF concentrations. R^2 values between 0 and 0.30 are considered weak, 0.30 to 0.7 are considered moderate, and greater than about 0.80 are considered to indicate a very strong relationship between the two measurement methods. The maximum possible value is exactly 1.0.

The correlation analyses were conducted to determine whether XRF field measurements used to delineate contamination at the sites are comparable to laboratory data. As stated in the December 2009 Sampling and Analysis Plan (SAP), an acceptable correlation between the XRF and FBL will be between 0.65 and 1. Note that the correlation analysis establishes a relationship for the observed concentration ranges. The relationship should not be extrapolated to concentrations outside the observed concentrations. Predicted FBL concentrations can be obtained by using the regression equation for sites where an acceptable correlation between the XRF and FBL concentrations exists. The intercept of the regression equation is the average FBL concentration when the XRF concentration is not present. The slope of the regression equation is the average rate of change in the FBL concentration as the XRF concentration increases one unit. Table 1 presents the correlation, R^2, and regression equation for the military ranges at NSA Mid-South. A detailed discussion of the correlation analysis for each range follows Table 1.

Table 1
Summary of Correlation Analysis

Range	Correlation	R^2	Acceptable for Prediction?	Prediction Equation	Applicable Concentration Range (mg/kg)
Pistol Range	-0.1	0.011	No	NA	NA
Rifle Range	0.99	0.98	Yes	FBL = 0.69 + 1.0*XRF	196 to ND
Air Craft Firing Range	-0.041	0.0016	No	NA	NA
Trap Skeet Range 1 & 2	0.91	0.83	Yes	FBL = 47.3 + 1.0*XRF	2911 to ND
Horse Stables Skeet Range 1	0.79	0.63	Yes	FBL = 9.3 + 0.7*XRF	385 to ND
Horse Stables Skeet Range 2	0.73	0.53	Yes	FBL = -12.4 + 1.1*XRF	326 to ND

NA = Not applicable correlation is not acceptable.

Figure C.1 presents the scatterplot of the XRF and FBL lead concentrations for the Pistol Range 1. There are three samples with elevated FBL concentrations. The corresponding XRF concentrations for these three samples are less than the Action Level and within the ranges of the other samples. The correlation between the XRF and FBL concentrations is -0.1 and the corresponding R^2 value is 0.011. The correlation indicates a weak linear relationship. The correlation between the XRF and FBL is not acceptable as outlined by the December 2009 SAP. Table 2 presents the samples that were used in the correlation analysis.

Table 2 Pistol Range		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
PR-SS004	25	27.3
PR-SS007	91.67	49.8
PR-SS012	107.67	123
PR-SS001	114	127
PR-SS032	121.67	21100 J
PR-SS010	150.67	148
PR-SS005	203	235
PR-SS025	252.67	17300 J
PR-SS028	262.67	268
PR-SS020	264	328
PR-SS033	280.67	242
PR-SS023	300.67	335
PR-SS019	316.33	292
PR-SS034	317.33	222
PR-SS013	337.33	21000
PR-SS018	354	530
PR-SS035	358.33	395
PR-SS038	454	497
PR-SS016	459.33	428
PR-SS017	496.33	694 J
PR-SS027	522	425
PR-SS040	558.33	585 J
PR-SS024	800.33	1000 J
PR-SS039	1014.7	1490 J
PR-SS037	1178.7	1660
PR-SS014	1692.7	2230

Figure C.9 presents the scatterplot of the XRF and FBL lead concentrations for the Rifle Range. The concentrations at the Rifle Range were less than 200mg/kg. The correlation between the XRF and FBL concentrations is 0.99 and the corresponding R^2 value is 0.98. The correlation indicates a strong linear relationship. The correlation between the XRF and FBL is acceptable as outlined by the December 2009 SAP. FBL concentrations can be predicted from XRF concentrations from ND to 196 mg/kg using the following equation.

$$FBL = 0.69 + 1.0*XRF$$

Table 3 presents the samples that were used in the correlation analysis.

Table 3 Rifle Range		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
RR-SS001	12.33	18.6
RR-SS007	15	16.6
RR-SS018	15.67	16.8
RR-SS016	16	18.1
RR-SS021	16.33	27
RR-SS030	16.67	16.1 J
RR-SS024	17.33	27.1
RR-SS037	19.33	20.6 J
RR-SS041	19.33	14.5
RR-SS010	25.67	24.1
RR-SS032	27.33	18.2 J
RR-SS038	27.33	24 J
RR-SS009	45	42.4
RR-SS036	46.67	35 J
RR-SS020	47	52.4
RR-SS034	59.33	63.1 J
RR-SS015	79	72.2
RR-SS014	125.67	146
RR-SS039	151	149 J
RR-SS029	196	193

Figure C.4 presents the scatterplot of the XRF and FBL lead concentrations for the Aircraft Firing Range. There is one sample with an extreme FBL concentration of 124 mg/kg that is greatly effecting the slope. The corresponding XRF concentration (11.67 mg/kg) is within the action level and the other XRF concentrations. Therefore this sample was retained in the correlation analysis. The correlation between the XRF and FBL concentrations is -0.041 and the corresponding R^2 value is 0.0016. The correlation indicates a weak linear relationship. The correlation between the XRF and FBL is not acceptable as outlined by the December 2009 SAP. Table 4 presents the samples that were used in the correlation analysis.

Table 4 Aircraft Firing Range		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
AFR-SS022	12	12.2
AFR-SS008	15.67	15
AFR-SS017	12	15.7
AFR-SS001	13.33	16.5 J
AFR-SS013	10 U	17.4
AFR-SS016	15	17.4
AFR-SS004	11.67	17.5 J
AFR-SS027	11.33	17.8
AFR-SS020	16	18.5
AFR-SS018	16	18.6
AFR-SS012	13	19.6
AFR-SS003	17.67	20 J
AFR-SS005	20.33	21.6
AFR-SS015	31.67	23
AFR-SS019	28.67	24.3
AFR-SS006	23	25.2
AFR-SS002	39	28.1 J
AFR-SS007	18	29.2
AFR-SS024	23.67	30.8
AFR-SS023	11.67	124

Figures C.2.A and C.2.B present the scatterplot of the XRF and FBL lead concentrations for the Trap Skeet Range 1 & 2. There are two samples with XRF concentrations above 5,000 mg/kg that are affecting the slope of the regression line. The correlation between the XRF and FBL concentrations is 0.87 and the corresponding R^2 value is 0.76. The correlation indicates a strong linear relationship. Figure 5 presents the scatterplot of the XRF and FBL lead concentrations without the two largest concentrations. The correlation between the XRF and FBL concentrations is 0.91 and the R^2 value is 0.83. Based on the fact that there were only two samples with concentrations greater than 5,000 mg/kg the regression analysis without the two highest concentrations will be used for predicting laboratory concentrations. Both correlations are acceptable as outlined by the December 2009 SAP. FBL concentrations can be predicted from XRF concentrations from ND to 2911 mg/kg using the following equation.

$$FBL = 47.3 + 1.0*XRF$$

Table 5 presents the samples that were used in the correlation analysis.

Table 5 Trap Skeet Range 1 & 2		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
TSR-SS001	105.67	85.3 J
TSR-SS002	327.33	317 J
TSR-SS003	42.33	36.8 J
TSR-SS004	298.67	240 J
TSR-SS005	367.67	466 J
TSR-SS006	14	20.8 J
TSR-SS009	101.33	152 J
TSR-SS010	97	118 J
TSR-SS013	672.67	785 J
TSR-SS015	66	265 J
TSR-SS019	2910.67	2840 J
TSR-SS022	6506	12500 J
TSR-SS024	535	64.2 J
TSR-SS025	140	110 J
TSR-SS030	1547.33	2520 J
TSR-SS033	139	179 J
TSR-SS036	12	18.1 J
TSR-SS039	1876.33	1410 J
TSR-SS041	857.33	1860 J
TSR-SS042	10 U	9.24 J
TSR-SS045	5356	2820 J
TSR-SS047	258.67	239 J

Figure C.5 presents the scatterplot of the XRF and FBL lead concentrations for Horse Stables Skeet Range 1. All samples at the Horse Stables Skeet Range 1 were less than 385 mg/kg. The correlation between the XRF and FBL concentrations is 0.79 and the corresponding R^2 value is 0.63. The correlation indicates a moderate linear relationship. The correlation between the XRF and FBL is acceptable as outlined by the December 2009 SAP. FBL concentrations can be predicted from XRF concentrations from ND to 385 mg/kg using the following equation.

$$FBL = 9.3 + 0.7*XRF$$

Table 6 presents the samples that were used in the correlation analysis.

Table 6 Horse Stables Skeet Range 1		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
HSR1-SS001	34	33.8
HSR1-SS002	55	64.9 J
HSR1-SS008	60.67	37.7 J
HSR1-SS009	245	101 J
HSR1-SS010	384.67	347
HSR1-SS011	57.33	15 J
HSR1-SS013	10 U	10.1 J
HSR1-SS016	68	63.9 J
HSR1-SS017	177.33	71.4
HSR1-SS021	51.67	64
HSR1-SS029	76.67	72.1
HSR1-SS030	62.33	202
HSR1-SS033	88.67	70.6
HSR1-SS035	56.33	21.4
HSR1-SS040	68	58.3
HSR1-SS042	73.67	81.1
HSR1-SS045	118.67	82.3
HSR1-SS047	69	53.2
HSR1-SS051	10 U	10.5
HSR1-SS053	59.67	12.6

Figure C.8 presents the scatterplot of the XRF and FBL lead concentrations for the Horse Stables Skeet Range 2. The correlation between the XRF and FBL concentrations is 0.73 and the corresponding R^2 value is 0.53. The correlation indicates a moderate linear relationship. The correlation between the XRF and FBL is acceptable as outlined by the December 2009 SAP. FBL concentrations can be predicted from XRF concentrations from ND to 326 mg/kg using the following equation.

$$FBL = -12.4 + 1.1*XRF$$

Table 7 presents the samples that were used in the correlation analysis.

Table 7 Horse Stable Skeet Range 2		
Sample Location	XRF Concentration (mg/kg)	FBL Concentration (mg/kg)
HSR2-SS012	10 U	8.3 J
HSR2-SS030	10 U	7.48 J
HSR2-SS045	11.67	14.5 J
HSR2-SS021	12	17.6 J
HSR2-SS011	14	23.4 J
HSR2-SS052	14.67	18 J
HSR2-SS023	15.67	8.7 J
HSR2-SS032	18.33	21.9 J
HSR2-SS059	20	23.6 J
HSR2-SS046	25.33	25
HSR2-SS060	32.67	14.7 J
HSR2-SS009	42	11.7 J
HSR2-SS038	44	44 J
HSR2-SS058	79.67	51.7 J
HSR2-SS036	128.33	110 J
HSR2-SS018	152.67	159 J
HSR2-SS028	178	130 J
HSR2-SS050	188.33	99.2 J
HSR2-SS043	259.67	198 J
HSR2-SS037	299.33	832
HSR2-SS051	316	197 J
HSR2-SS029	317.33	134 J
HSR2-SS044	325.33	418

Figure C.1
Pistol Range
Soil Correlation Analysis

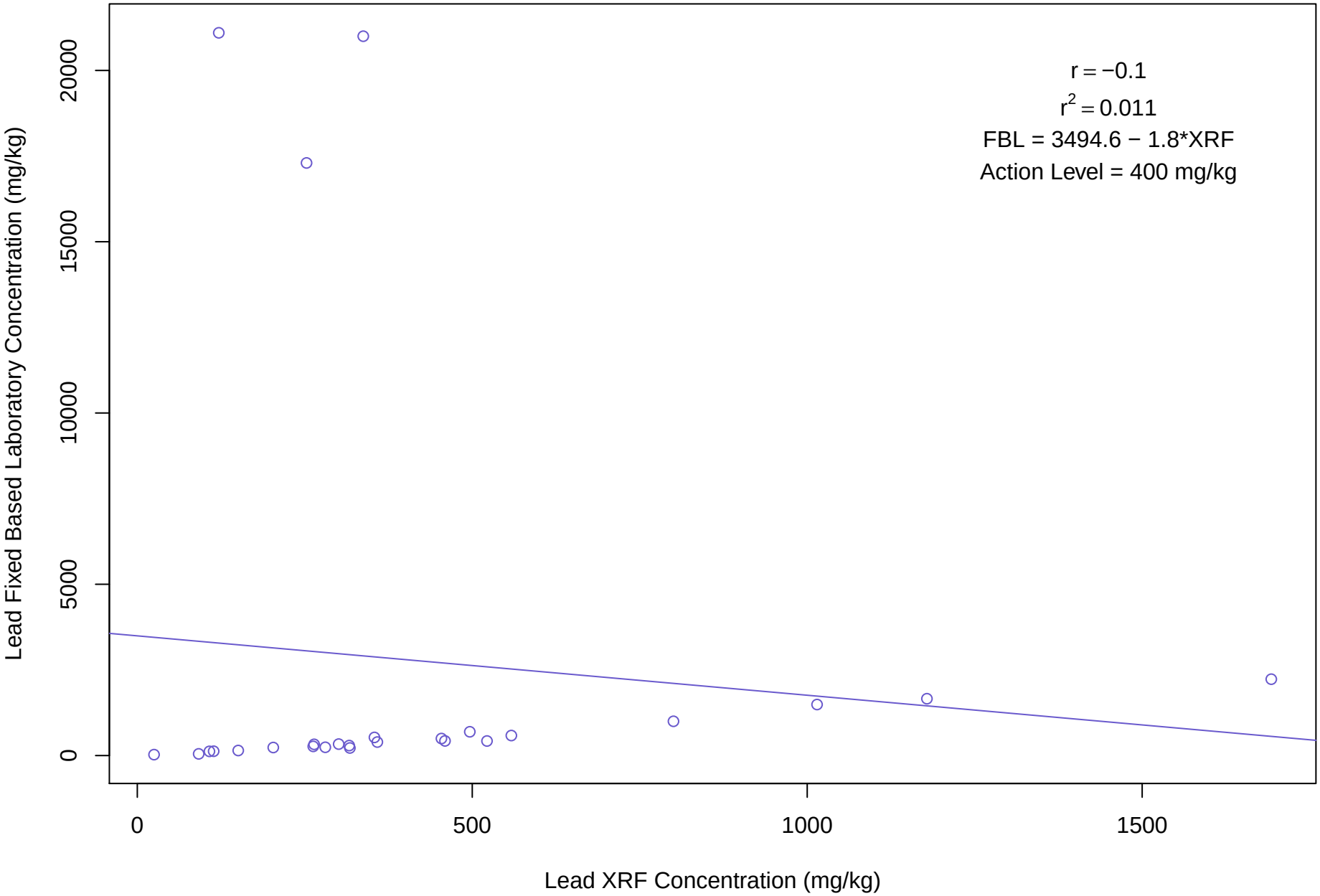


Figure C.2.A
Trap Skeet Range 1 & 2
Soil Correlation Analysis

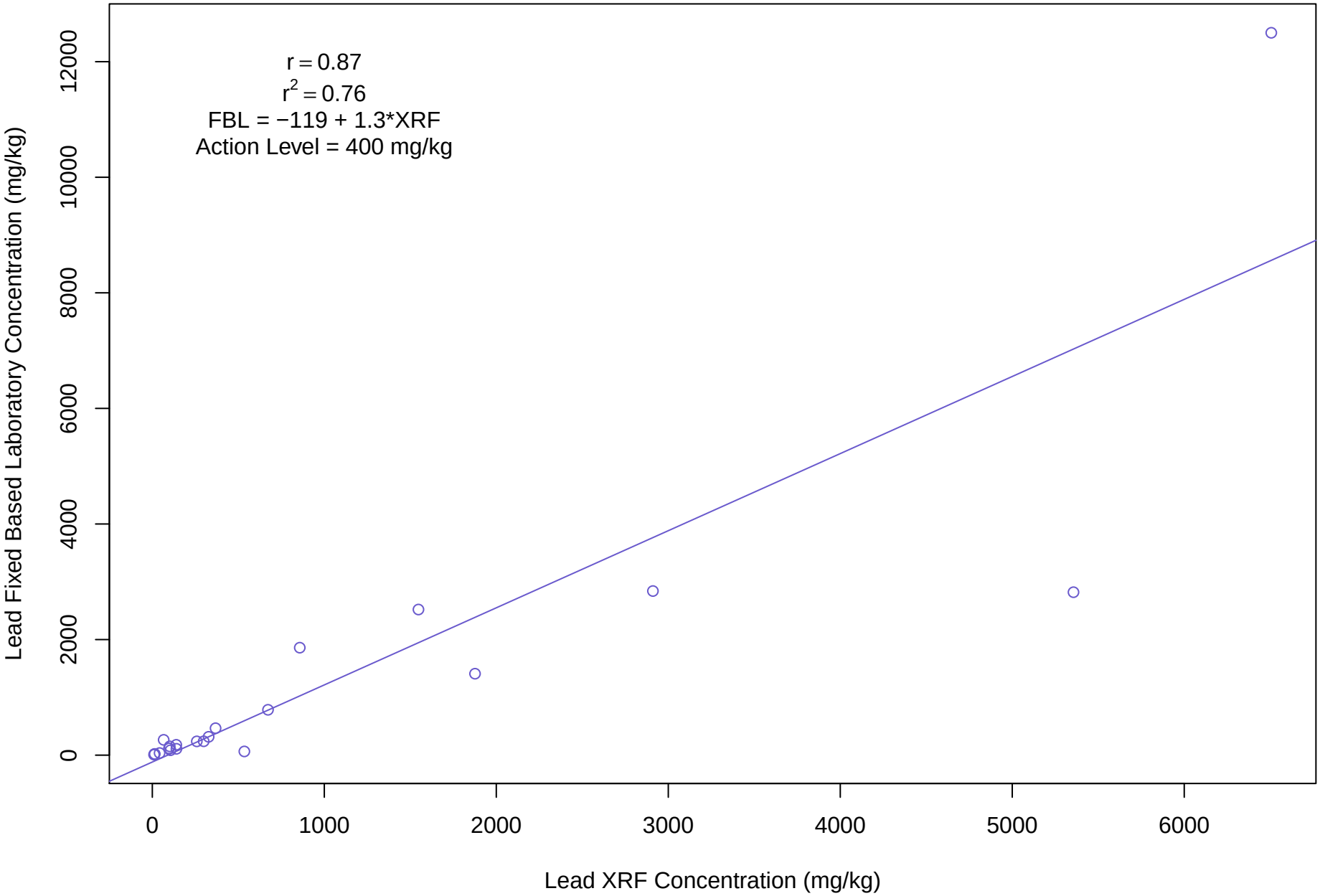
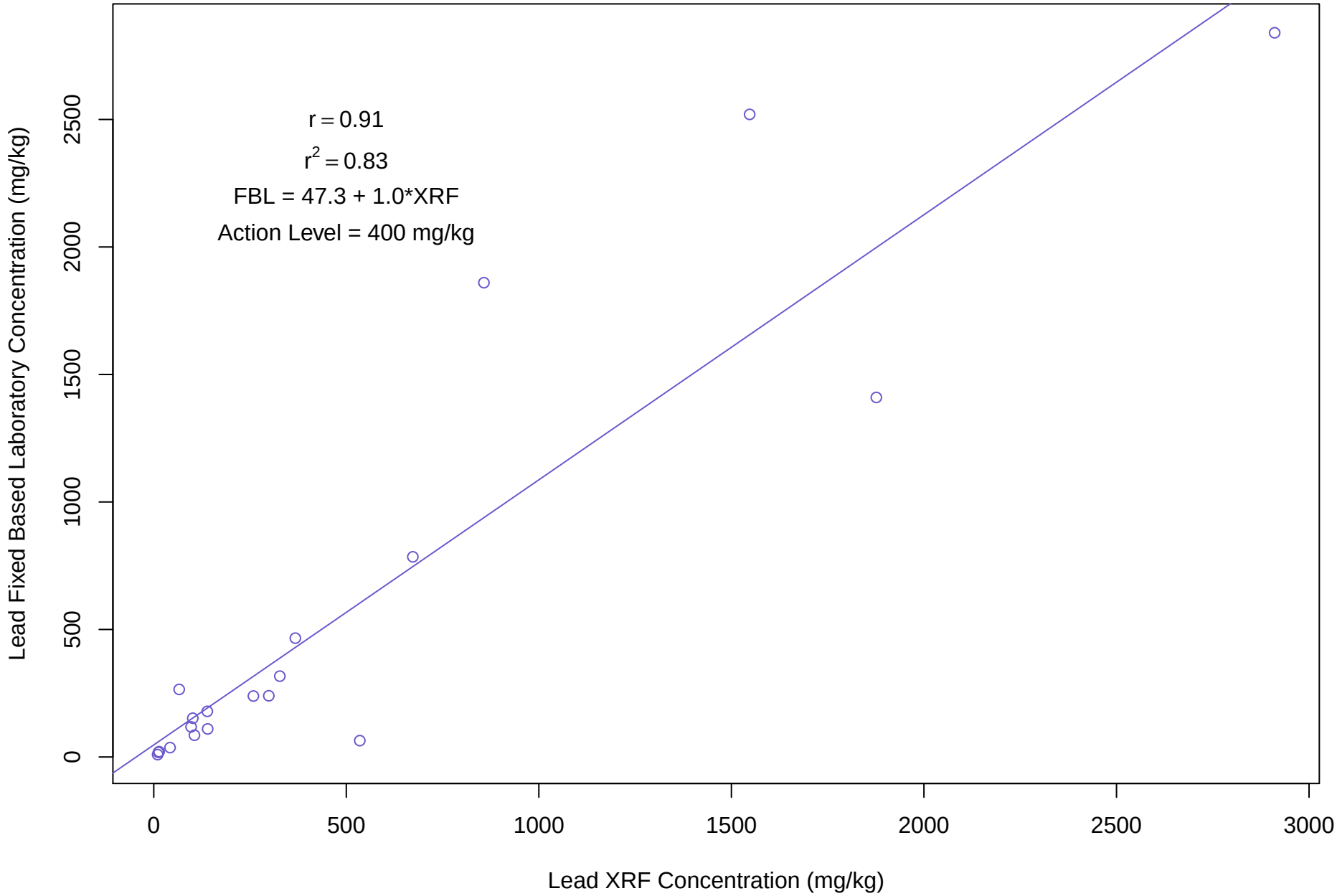


Figure C.2.B
Trap Skeet Range 1 & 2 (XRF Concentration Less 2911 mg/kg)
Soil Correlation Analysis



Appendix C-1
Trap and Skeet Range
XRF/FBL Correlation Statistical Evaluations

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect	Predicted lab Values
TRAP SKEET RANGE	TSR-SS007-0001	TSR-SS007	20100302	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS042-0001	TSR-SS042	20100228	LEAD	10	U	XRF	N	Existing Lab Value
TRAP SKEET RANGE	TSR-SS043-0001	TSR-SS043	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS044-0001	TSR-SS044	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS048-0001	TSR-SS048	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS049-0001	TSR-SS049	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS050-0001	TSR-SS050	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS051-0001	TSR-SS051	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS052-0001	TSR-SS052	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS053-0001	TSR-SS053	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS054-0001	TSR-SS054	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS055-0001	TSR-SS055	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS056-0001	TSR-SS056	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS057-0001	TSR-SS057	20100301	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS058-0001	TSR-SS058	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS059-0001	TSR-SS059	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS060-0001	TSR-SS060	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS061-0001	TSR-SS061	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS062-0001	TSR-SS062	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS063-0001	TSR-SS063	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS064-0001	TSR-SS064	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS065-0001	TSR-SS065	20100228	LEAD	10	U	XRF	N	57.3
TRAP SKEET RANGE	TSR-SS036-0001	TSR-SS036	20100228	LEAD	12		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS017-0001	TSR-SS017	20100302	LEAD	12.33		XRF	Y	59.6
TRAP SKEET RANGE	TSR-SS008-0001	TSR-SS008	20100302	LEAD	13.33		XRF	Y	60.6
TRAP SKEET RANGE	TSR-SS034-0001	TSR-SS034	20100228	LEAD	13.33		XRF	Y	60.6
TRAP SKEET RANGE	TSR-SS006-0001	TSR-SS006	20100302	LEAD	14		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS035-0001	TSR-SS035	20100228	LEAD	14.33		XRF	Y	61.6
TRAP SKEET RANGE	TSR-SS018-0001	TSR-SS018	20100302	LEAD	17.33		XRF	Y	64.6
TRAP SKEET RANGE	TSR-SS016-0001	TSR-SS016	20100302	LEAD	17.67		XRF	Y	65
TRAP SKEET RANGE	TSR-SS027-0001	TSR-SS027	20100228	LEAD	22.67		XRF	Y	70
TRAP SKEET RANGE	TSR-SS011-0001	TSR-SS011	20100302	LEAD	27		XRF	Y	74.3
TRAP SKEET RANGE	TSR-SS003-0001	TSR-SS003	20100302	LEAD	42.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS026-0001	TSR-SS026	20100228	LEAD	44.33		XRF	Y	91.6
TRAP SKEET RANGE	TSR-SS024-0102	TSR-SS024	20100302	LEAD	48		XRF	Y	95.3
TRAP SKEET RANGE	TSR-SS032-0102	TSR-SS032	20100302	LEAD	54.33		XRF	Y	102
TRAP SKEET RANGE	TSR-SS041-0102	TSR-SS041	20100302	LEAD	55		XRF	Y	102
TRAP SKEET RANGE	TSR-SS015-0001	TSR-SS015	20100302	LEAD	66		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS010-0001	TSR-SS010	20100302	LEAD	97		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS009-0001	TSR-SS009	20100302	LEAD	101.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS001-0001	TSR-SS001	20100302	LEAD	105.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS033-0001	TSR-SS033	20100228	LEAD	139		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS025-0001	TSR-SS025	20100228	LEAD	140		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS022-0102	TSR-SS022	20100302	LEAD	146.33		XRF	Y	194
TRAP SKEET RANGE	TSR-SS038-0102	TSR-SS038	20100302	LEAD	211		XRF	Y	258
TRAP SKEET RANGE	TSR-SS047-0001	TSR-SS047	20100227	LEAD	258.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS004-0001	TSR-SS004	20100302	LEAD	298.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS002-0001	TSR-SS002	20100302	LEAD	327.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS005-0001	TSR-SS005	20100302	LEAD	367.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS024-0001	TSR-SS024	20100228	LEAD	535		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS030-0102	TSR-SS030	20100302	LEAD	619.67		XRF	Y	667
TRAP SKEET RANGE	TSR-SS013-0001	TSR-SS013	20100302	LEAD	672.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS041-0001	TSR-SS041	20100227	LEAD	857.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS038-0001	TSR-SS038	20100227	LEAD	1198.33		XRF	Y	1246
TRAP SKEET RANGE	TSR-SS014-0001-D	TSR-SS014	20100302	LEAD	1421.33		XRF	Y	1469
TRAP SKEET RANGE	TSR-SS014-0001	TSR-SS014	20100302	LEAD	1425		XRF	Y	1472
TRAP SKEET RANGE	TSR-SS030-0001	TSR-SS030	20100228	LEAD	1547.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS032-0001	TSR-SS032	20100228	LEAD	1673.67		XRF	Y	1721
TRAP SKEET RANGE	TSR-SS029-0001	TSR-SS029	20100228	LEAD	1790.33		XRF	Y	1838
TRAP SKEET RANGE	TSR-SS039-0001	TSR-SS039	20100227	LEAD	1876.33		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS046-0001	TSR-SS046	20100227	LEAD	1970.67		XRF	Y	2018
TRAP SKEET RANGE	TSR-SS037-0001	TSR-SS037	20100227	LEAD	2038.33		XRF	Y	2086
TRAP SKEET RANGE	TSR-SS028-0001	TSR-SS028	20100228	LEAD	2059		XRF	Y	2106
TRAP SKEET RANGE	TSR-SS012-0001	TSR-SS012	20100302	LEAD	2271.67		XRF	Y	2319
TRAP SKEET RANGE	TSR-SS040-0001	TSR-SS040	20100227	LEAD	2860.33		XRF	Y	2908
TRAP SKEET RANGE	TSR-SS019-0001	TSR-SS019	20100228	LEAD	2910.67		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS031-0001	TSR-SS031	20100228	LEAD	3282.33		XRF	Y	Extrapolation
TRAP SKEET RANGE	TSR-SS021-0001	TSR-SS021	20100228	LEAD	3540.33		XRF	Y	Extrapolation
TRAP SKEET RANGE	TSR-SS023-0001	TSR-SS023	20100228	LEAD	3581.33		XRF	Y	Extrapolation

Appendix C-1
Trap and Skeet Range
XRF/FBL Correlation Statistical Evaluations

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect	Predicted lab Values
TRAP SKEET RANGE	TSR-SS020-0001	TSR-SS020	20100228	LEAD	4344		XRF	Y	Extrapolation
TRAP SKEET RANGE	TSR-SS045-0001	TSR-SS045	20100228	LEAD	5356		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS022-0001	TSR-SS022	20100228	LEAD	6506		XRF	Y	Existing Lab Value
TRAP SKEET RANGE	TSR-SS022-0001-D	TSR-SS022	20100228	LEAD	6841.33		XRF	Y	Existing Lab Value

Figure C.4
Aircraft Firing Range
Soil Correlation Analysis

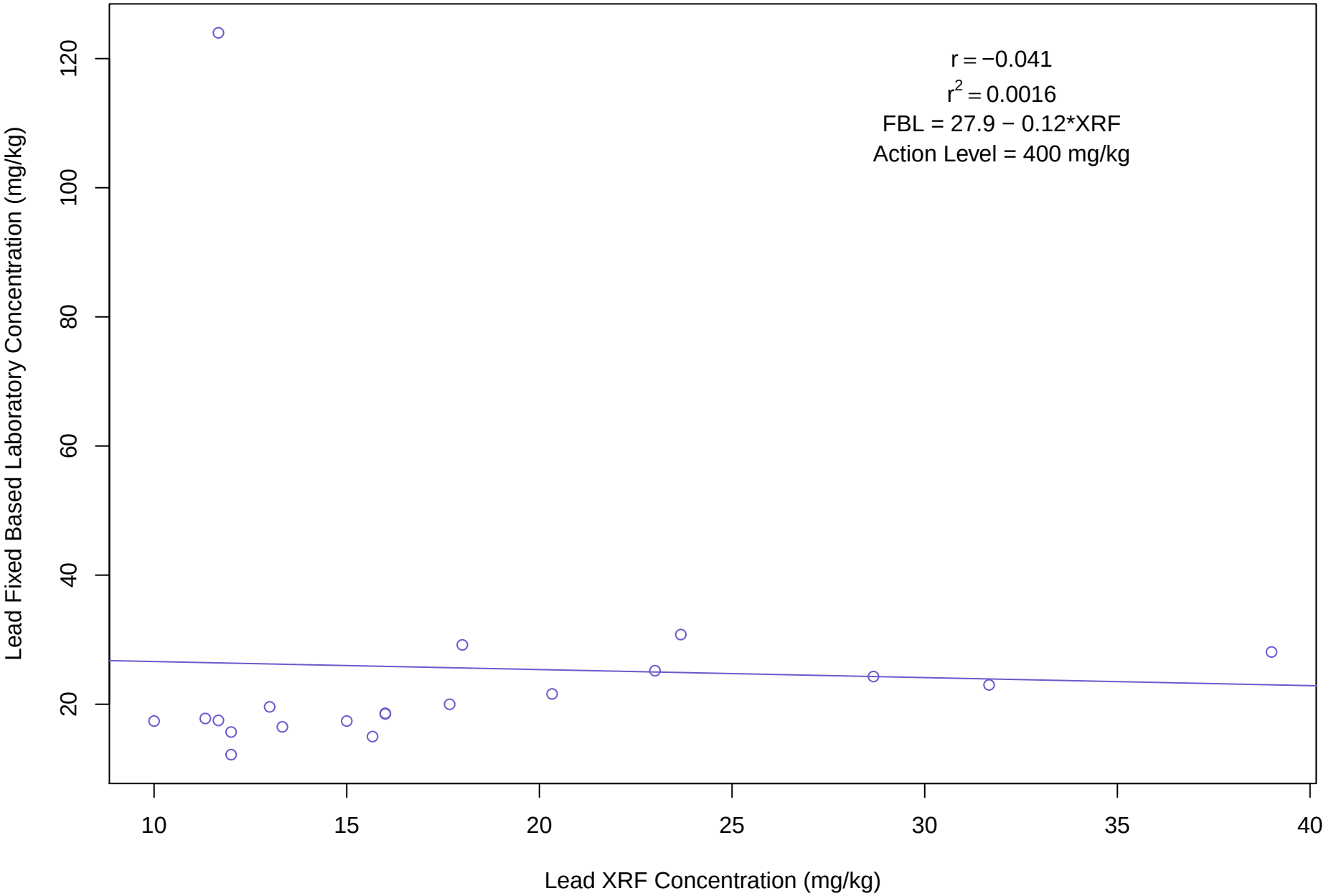
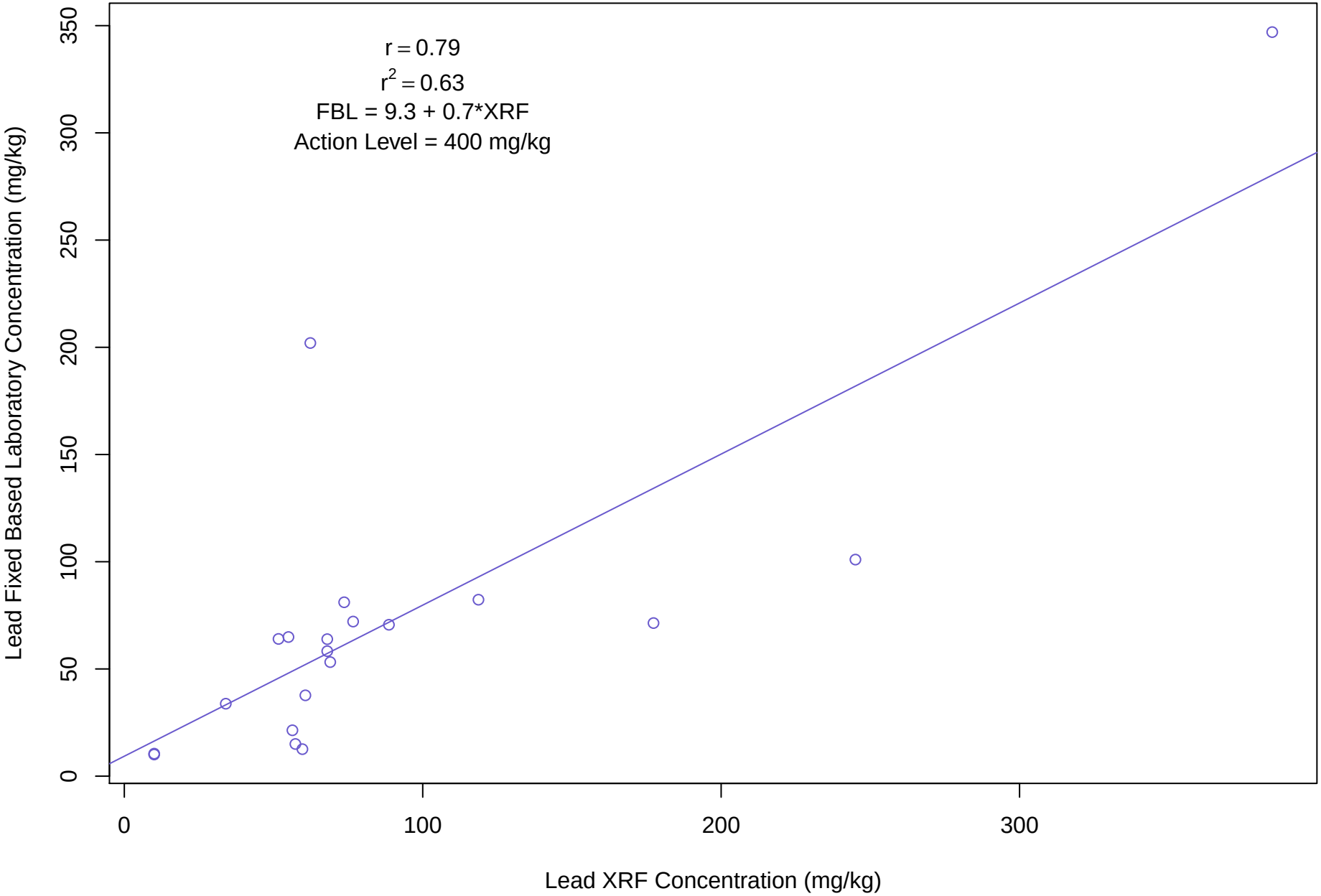


Figure C.5
Horse Stables Skeet Range 1
Soil Correlation Analysis



Appendix C-2
Horse Skeet Range 1
XRF/FBL Correlation Statistical Evaluations

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect	Predicted laboratory Concentration
HORSE STABLES SKEET RANGE 1	HSR1-SS013-0001	HSR1-SS013	20100225	LEAD	10	U	XRF	N	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS014-0001	HSR1-SS014	20100225	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS032-0001	HSR1-SS032	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS038-0001	HSR1-SS038	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS039-0001	HSR1-SS039	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS041-0001	HSR1-SS041	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS049-0001	HSR1-SS049	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS050-0001	HSR1-SS050	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS051-0001	HSR1-SS051	20100226	LEAD	10	U	XRF	N	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS052-0001	HSR1-SS052	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS057-0001	HSR1-SS057	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS058-0001	HSR1-SS058	20100226	LEAD	10	U	XRF	N	16.3
HORSE STABLES SKEET RANGE 1	HSR1-SS024-0001	HSR1-SS024	20100226	LEAD	11.67		XRF	Y	17.5
HORSE STABLES SKEET RANGE 1	HSR1-SS005-0001	HSR1-SS005	20100225	LEAD	12		XRF	Y	17.7
HORSE STABLES SKEET RANGE 1	HSR1-SS036-0001	HSR1-SS036	20100226	LEAD	12.67		XRF	Y	18.2
HORSE STABLES SKEET RANGE 1	HSR1-SS056-0001	HSR1-SS056	20100226	LEAD	12.67		XRF	Y	18.2
HORSE STABLES SKEET RANGE 1	HSR1-SS048-0001	HSR1-SS048	20100226	LEAD	13.33		XRF	Y	18.6
HORSE STABLES SKEET RANGE 1	HSR1-SS046-0001	HSR1-SS046	20100226	LEAD	14		XRF	Y	19.1
HORSE STABLES SKEET RANGE 1	HSR1-SS059-0001	HSR1-SS059	20100226	LEAD	14.33		XRF	Y	19.3
HORSE STABLES SKEET RANGE 1	HSR1-SS054-0001	HSR1-SS054	20100226	LEAD	15.67		XRF	Y	20.3
HORSE STABLES SKEET RANGE 1	HSR1-SS003-0001	HSR1-SS003	20100225	LEAD	16		XRF	Y	20.5
HORSE STABLES SKEET RANGE 1	HSR1-SS060-0001	HSR1-SS060	20100226	LEAD	16		XRF	Y	20.5
HORSE STABLES SKEET RANGE 1	HSR1-SS055-0001	HSR1-SS055	20100226	LEAD	16.67		XRF	Y	21
HORSE STABLES SKEET RANGE 1	HSR1-SS020-0001	HSR1-SS020	20100225	LEAD	19.67		XRF	Y	23.1
HORSE STABLES SKEET RANGE 1	HSR1-SS015-0001	HSR1-SS015	20100225	LEAD	20.33		XRF	Y	23.5
HORSE STABLES SKEET RANGE 1	HSR1-SS019-0001	HSR1-SS019	20100225	LEAD	21.33		XRF	Y	24.2
HORSE STABLES SKEET RANGE 1	HSR1-SS018-0001	HSR1-SS018	20100225	LEAD	23.33		XRF	Y	25.6
HORSE STABLES SKEET RANGE 1	HSR1-SS012-0001	HSR1-SS012	20100225	LEAD	23.67		XRF	Y	25.9
HORSE STABLES SKEET RANGE 1	HSR1-SS025-0001	HSR1-SS025	20100226	LEAD	24		XRF	Y	26.1
HORSE STABLES SKEET RANGE 1	HSR1-SS004-0001	HSR1-SS004	20100225	LEAD	24.33		XRF	Y	26.3
HORSE STABLES SKEET RANGE 1	HSR1-SS037-0001	HSR1-SS037	20100226	LEAD	24.33		XRF	Y	26.3
HORSE STABLES SKEET RANGE 1	HSR1-SS044-0001	HSR1-SS044	20100226	LEAD	25		XRF	Y	26.8
HORSE STABLES SKEET RANGE 1	HSR1-SS006-0001	HSR1-SS006	20100225	LEAD	27		XRF	Y	28.2
HORSE STABLES SKEET RANGE 1	HSR1-SS031-0001	HSR1-SS031	20100226	LEAD	28.33		XRF	Y	29.1
HORSE STABLES SKEET RANGE 1	HSR1-SS043-0001	HSR1-SS043	20100226	LEAD	31		XRF	Y	31
HORSE STABLES SKEET RANGE 1	HSR1-SS028-0001	HSR1-SS028	20100226	LEAD	31.67		XRF	Y	31.5
HORSE STABLES SKEET RANGE 1	HSR1-SS022-0001	HSR1-SS022	20100226	LEAD	32.67		XRF	Y	32.2
HORSE STABLES SKEET RANGE 1	HSR1-SS001-0001	HSR1-SS001	20100225	LEAD	34		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS027-0001	HSR1-SS027	20100226	LEAD	35		XRF	Y	33.8
HORSE STABLES SKEET RANGE 1	HSR1-SS007-0001	HSR1-SS007	20100225	LEAD	35.67		XRF	Y	34.3
HORSE STABLES SKEET RANGE 1	HSR1-SS026-0001	HSR1-SS026	20100226	LEAD	39.33		XRF	Y	36.8
HORSE STABLES SKEET RANGE 1	HSR1-SS010-0102	HSR1-SS010	20100301	LEAD	43.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS021-0001	HSR1-SS021	20100225	LEAD	51.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS023-0001	HSR1-SS023	20100226	LEAD	52.67		XRF	Y	46.2
HORSE STABLES SKEET RANGE 1	HSR1-SS002-0001	HSR1-SS002	20100225	LEAD	55		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS034-0001	HSR1-SS034	20100226	LEAD	56		XRF	Y	48.5
HORSE STABLES SKEET RANGE 1	HSR1-SS035-0001	HSR1-SS035	20100226	LEAD	56.33		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS011-0001	HSR1-SS011	20100225	LEAD	57.33		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS053-0001	HSR1-SS053	20100226	LEAD	59.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS008-0001	HSR1-SS008	20100225	LEAD	60.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS030-0001	HSR1-SS030	20100226	LEAD	62.33		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS016-0001	HSR1-SS016	20100225	LEAD	68		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS040-0001	HSR1-SS040	20100226	LEAD	68		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS047-0001	HSR1-SS047	20100226	LEAD	69		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS042-0001	HSR1-SS042	20100226	LEAD	73.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS029-0001	HSR1-SS029	20100226	LEAD	76.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS033-0001	HSR1-SS033	20100226	LEAD	88.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS017-0001-D	HSR1-SS017	20100225	LEAD	116.67		XRF	Y	91
HORSE STABLES SKEET RANGE 1	HSR1-SS045-0001	HSR1-SS045	20100226	LEAD	118.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS017-0001	HSR1-SS017	20100225	LEAD	177.33		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS009-0001	HSR1-SS009	20100225	LEAD	245		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR1-SS010-0001	HSR1-SS010	20100225	LEAD	384.67		XRF	Y	Existing Lab Value
HORSE STABLES SKEET RANGE 1	HSR2-SS036-0001-D	HSR1-SS010	20100225	LEAD	415.67		XRF	Y	300

Appendix C-3
Horse Skeet Range 2
XRF/FBL Correlation Statistical Evaluations

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect
HORSE STABLES SKEET RANGE 2	HSR2-SS001-0001	HSR2-SS001	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS002-0001	HSR2-SS002	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS003-0001	HSR2-SS003	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS005-0001	HSR2-SS005	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS008-0001	HSR2-SS008	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS010-0001	HSR2-SS010	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS012-0001	HSR2-SS012	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS015-0001	HSR2-SS015	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS016-0001	HSR2-SS016	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS019-0001	HSR2-SS019	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS020-0001	HSR2-SS020	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS026-0001	HSR2-SS026	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS030-0001	HSR2-SS030	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS031-0001	HSR2-SS031	20100227	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS033-0001	HSR2-SS033	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS034-0001	HSR2-SS034	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS041-0001	HSR2-SS041	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS049-0001	HSR2-SS049	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS054-0001	HSR2-SS054	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS055-0001	HSR2-SS055	20100226	LEAD	10	U	XRF	N
HORSE STABLES SKEET RANGE 2	HSR2-SS004-0001	HSR2-SS004	20100227	LEAD	11.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS040-0001	HSR2-SS040	20100226	LEAD	11.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS022-0001	HSR2-SS022	20100227	LEAD	11.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS042-0001	HSR2-SS042	20100226	LEAD	11.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS045-0001	HSR2-SS045	20100226	LEAD	11.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS013-0001	HSR2-SS013	20100227	LEAD	12		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS021-0001	HSR2-SS021	20100227	LEAD	12		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS047-0001	HSR2-SS047	20100226	LEAD	12		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS017-0001	HSR2-SS017	20100227	LEAD	12.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS024-0001	HSR2-SS024	20100227	LEAD	12.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS025-0001	HSR2-SS025	20100227	LEAD	13		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS006-0001	HSR2-SS006	20100227	LEAD	13.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS011-0001	HSR2-SS011	20100227	LEAD	14		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS027-0001	HSR2-SS027	20100226	LEAD	14.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS052-0001	HSR2-SS052	20100226	LEAD	14.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS023-0001	HSR2-SS023	20100227	LEAD	15.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS007-0001	HSR2-SS007	20100227	LEAD	18		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS032-0001	HSR2-SS032	20100227	LEAD	18.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS014-0001	HSR2-SS014	20100227	LEAD	19		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS048-0001	HSR2-SS048	20100226	LEAD	19.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS059-0001	HSR2-SS059	20100226	LEAD	20		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS046-0001	HSR2-SS046	20100226	LEAD	25.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS053-0001	HSR2-SS053	20100226	LEAD	25.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS039-0001	HSR2-SS039	20100227	LEAD	26		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS035-0001	HSR2-SS035	20100226	LEAD	27.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS060-0001	HSR2-SS060	20100226	LEAD	32.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS056-0001	HSR2-SS056	20100226	LEAD	39		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS051-0102	HSR2-SS051	20100301	LEAD	40.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS009-0001	HSR2-SS009	20100227	LEAD	42		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS038-0001	HSR2-SS038	20100226	LEAD	44		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS058-0001	HSR2-SS058	20100226	LEAD	79.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS029-0102	HSR2-SS029	20100301	LEAD	86.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS057-0001	HSR2-SS057	20100226	LEAD	92		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS036-0001	HSR2-SS036	20100226	LEAD	128.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS018-0001	HSR2-SS018	20100227	LEAD	152.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS028-0001	HSR2-SS028	20100226	LEAD	178		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS050-0001	HSR2-SS050	20100226	LEAD	188.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS043-0001	HSR2-SS043	20100226	LEAD	259.67		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS037-0001	HSR2-SS037	20100226	LEAD	299.33		XRF	Y

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect
HORSE STABLES SKEET RANGE 2	HSR2-SS051-0001-D	HSR2-SS051	20100226	LEAD	303.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS029-0001-D	HSR2-SS029	20100227	LEAD	311.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS051-0001	HSR2-SS051	20100226	LEAD	316		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS029-0001	HSR2-SS029	20100227	LEAD	317.33		XRF	Y
HORSE STABLES SKEET RANGE 2	HSR2-SS044-0001	HSR2-SS044	20100226	LEAD	325.33		XRF	Y

Figure C.8
Horse Stables Skeet Range 2
Soil Correlation Analysis

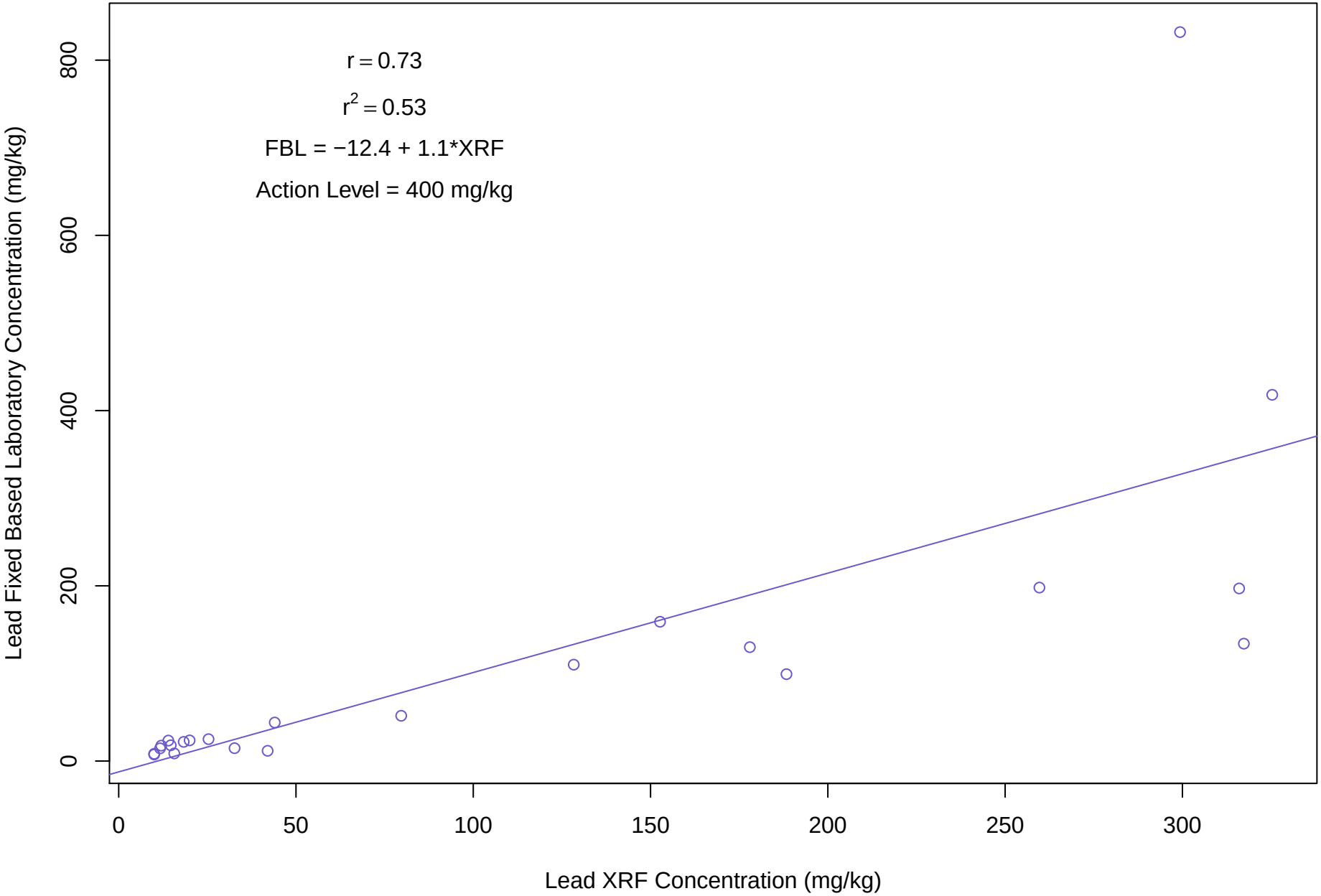
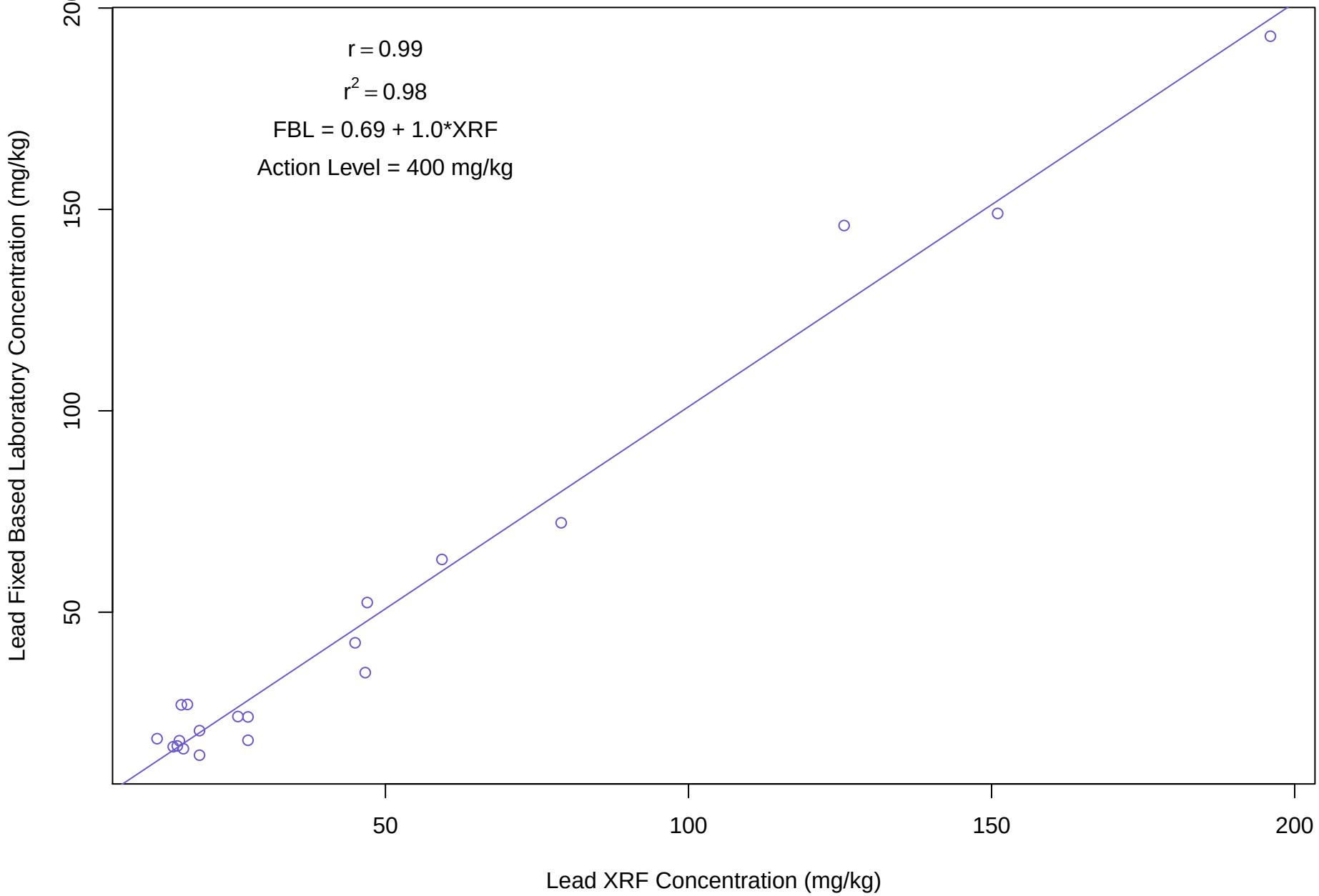


Figure C.9
Rifle Range
Soil Correlation Analysis



Appendix C-4
Rifle Range
XRF/FBL Correlation Statistical Evaluations
Page 1 of 1

site	sample_id	location_id	sample_date	parameter	val_res	val_qual	fraction	detect	Predicted laboratory Concentration
RIFLE RANGE	RR-SS023-0001	RR-SS023	20100225	LEAD	7.67		XRF	Y	8.4
RIFLE RANGE	RR-SS003-0001	RR-SS003	20100225	LEAD	9		XRF	Y	9.7
RIFLE RANGE	RR-SS011-0001	RR-SS011	20100225	LEAD	9.33		XRF	Y	10
RIFLE RANGE	RR-SS025-0001	RR-SS025	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS026-0001	RR-SS026	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS027-0001	RR-SS027	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS028-0001	RR-SS028	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS031-0001	RR-SS031	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS033-0001	RR-SS033	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS040-0001	RR-SS040	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS042-0001	RR-SS042	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS043-0001	RR-SS043	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS045-0001	RR-SS045	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS046-0001	RR-SS046	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS047-0001	RR-SS047	20100225	LEAD	10	U	XRF	N	10.7
RIFLE RANGE	RR-SS008-0001	RR-SS008	20100225	LEAD	10.33		XRF	Y	10.7
RIFLE RANGE	RR-SS004-0001	RR-SS004	20100225	LEAD	10.67		XRF	Y	10.7
RIFLE RANGE	RR-SS002-0001	RR-SS002	20100225	LEAD	11.33		XRF	Y	10.7
RIFLE RANGE	RR-SS006-0001	RR-SS006	20100225	LEAD	11.67		XRF	Y	10.7
RIFLE RANGE	RR-SS022-0001	RR-SS022	20100225	LEAD	11.67		XRF	Y	10.7
RIFLE RANGE	RR-SS044-0001	RR-SS044	20100225	LEAD	11.67		XRF	Y	10.7
RIFLE RANGE	RR-SS035-0001	RR-SS035	20100225	LEAD	12		XRF	Y	10.7
RIFLE RANGE	RR-SS001-0001	RR-SS001	20100225	LEAD	12.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS019-0001	RR-SS019	20100225	LEAD	12.33		XRF	Y	13
RIFLE RANGE	RR-SS005-0001	RR-SS005	20100225	LEAD	12.67		XRF	Y	13.4
RIFLE RANGE	RR-SS013-0001	RR-SS013	20100225	LEAD	13		XRF	Y	13.7
RIFLE RANGE	RR-SS012-0001	RR-SS012	20100225	LEAD	13.67		XRF	Y	14.7
RIFLE RANGE	RR-SS017-0001	RR-SS017	20100225	LEAD	14.33		XRF	Y	15
RIFLE RANGE	RR-SS007-0001	RR-SS007	20100225	LEAD	15		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS018-0001	RR-SS018	20100225	LEAD	15.67		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS016-0001	RR-SS016	20100225	LEAD	16		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS021-0001	RR-SS021	20100225	LEAD	16.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS030-0001	RR-SS030	20100225	LEAD	16.67		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS024-0001	RR-SS024	20100225	LEAD	17.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS037-0001	RR-SS037	20100225	LEAD	19.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS041-0001	RR-SS041	20100225	LEAD	19.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS010-0001	RR-SS010	20100225	LEAD	25.67		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS032-0001	RR-SS032	20100225	LEAD	27.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS038-0001	RR-SS038	20100225	LEAD	27.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS009-0001	RR-SS009	20100225	LEAD	45		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS036-0001	RR-SS036	20100225	LEAD	46.67		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS020-0001	RR-SS020	20100225	LEAD	47		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS034-0001	RR-SS034	20100225	LEAD	59.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS015-0001	RR-SS015	20100225	LEAD	79		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS014-0001	RR-SS014	20100225	LEAD	125.67		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS039-0001-D	RR-SS039	20100225	LEAD	137.67		XRF	Y	138
RIFLE RANGE	RR-SS039-0001	RR-SS039	20100225	LEAD	151		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS029-0001-D	RR-SS029	20100225	LEAD	189.33		XRF	Y	Existing Lab Value
RIFLE RANGE	RR-SS029-0001	RR-SS029	20100225	LEAD	196		XRF	Y	Existing Lab Value

APPENDIX D

RESPONSES TO TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION COMMENTS

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243 - 1535

7006 2150 0005 3507 8384
RETURN RECEIPT REQUESTED

August 13, 2010

Mr. Lawson Anderson
Tetra Tech NUS, Inc.
65 Union Avenue
Memphis, TN 38103-5165

Re: Site Investigation Report for the Military Munitions Response Program
Naval Support Activity Mid-South (NSA Mid-South), Millington, TN
Tennessee Hazardous Waste Permit Number: TNHW-094, TN2 17 002 2600
June 11, 2010

Dear Sir:

The Tennessee Department of Environment and Conservation (TDEC) has completed its review of the Site Investigation Report for the Military Munitions Response Program (MMRP) at NSA Mid-South, dated June 11, 2010. Six sites were investigated as part of the SI. They include the Pistol Range (UXO 1), Former Navy Rifle Range (UXO 000001), Aircraft firing Range {Area of Concern (AOC 3)}, Trap/Skeet Range #1 (AOC 1), Horse Stables Skeet Range #1 (AOC 3), and Former Horse Stables Skeet Range #2 (UXO 000002).

Attached to this letter are TDEC's comments for the SI Report. If you have any questions regarding this letter, you may contact me at (615) 532-0864 or email me at Roger.Donovan@tn.gov.

Sincerely,

Roger Donovan, P.G.
Corrective Action Section

cc: Jeff Pallas, Chief, RUST Branch, U.S. EPA, Region
Howard Hickey, NAVFAC MW
David Criswell, Navy BRAC PMO SE
Paul Gentry, Spectra Tech
William Krispin, Manager, Permitting Section, Division
Charlie Burroughs, Manager, Corrective Action Section, Division
Herb Nicholson, Manager, Chattanooga Environmental Field Office, Division
File 50

Department of Environment and Conservation Comments for the Site Investigation Report for the Military Munitions Response Program Naval Support Activity Mid-South (NSA Mid-South), Millington, TN Dated June 11, 2010

Pistol Range (UXO 1)

The Site Investigation Report (SI) analytical results show lead is present in surface soils at the site above the 400 milligrams per kilogram (mg/kg) Residential Regional Screen Level (RSL) and the 800 mg/kg Industrial RSL. Exceedances for lead are located around the areas in front, on top and on the backside of the backstop portion of the target berm. The SI recommends remediation of the berm. The Division concurs with the recommendation.

Trap/Skeet Ranges #1 and #2 (AOC 1)

Based on exceedances of lead and polynuclear aromatic hydrocarbons (PAHs) a Focused Feasibility Study is recommended for the sites. The Division concurs with the recommendation. Before a Focused Feasibility Study is submitted, the Division requires additional information regarding how the background BaP equivalent concentration of 0.565 mg/kg was established for the installation. The area of the Focused Feasibility Study may need to be expanded based on this review and discussion.

Aircraft Firing Range (AOC 2)

Of the 48 samples collected and submitted for lead analysis, one sample was above the 400 mg/kg RSL and the 800 mg/kg Industrial RSL at 20,500 mg/kg. The SI recommends No Further Action (NFA) for the site based on the single isolated exceedance for lead which is located beneath an existing asphalt parking area with controlled access. The Division cannot approve an NFA for the Aircraft Firing Range based on the above information. The exposure controls mentioned above are considered a final remedy and will require the installation to implement additional institutional controls (i.e. site inspection and land use controls) to maintain human exposure control of the site.

Horse Stables Skeet Range #1 (AOC 3)

There were no lead detections above relevant action levels. Twenty surface samples were collected for PAHs, with 16 exceeding the BaP equivalent Project Action Limit (PAL) of 0.015 mg/kg at concentrations ranging from 0.02 mg/kg to 1 mg/kg. Only two of the 20 samples exceeded the installation background BaP equivalent concentration of 0.565 mg/kg established during the RFI investigation. Based on this information the SI recommends NFA for the Horse Stables Skeet Range #1. The Division requires additional information regarding how the background BaP for equivalent concentration of 0.565 mg/kg was established for the installation. Additionally, there are two locations with PAH samples exceeding this background number. Therefore, the Division cannot grant an NFA for the site.

Horse Stables Skeet Range #2 (UXO 000002)

The SI report recommends NFA for the site based upon only two exceedances of lead above relevant action levels and two exceedances of the 0.565 mg/kg BaP equivalent background concentration. The Division requires additional information regarding how the background BaP for equivalent concentration of 0.565 mg/kg was established for the installation. Additionally, even if the Division recognizes the BaP background number there are two locations with PAH samples in exceedance and two locations with lead exceeding relevant action levels. Therefore, the Division cannot approve an NFA for the site.

Former Navy Rifle Range (UXO 000001)

The Navy requests NFA for the Former Navy Rifle Range since there were no exceedances of lead above relevant action levels in any of the samples collected at the site. The Division concurs with the NFA request.

NAVY RESPONSES TO TDEC COMMENTS DATED AUGUST 13, 2010
ON THE DRAFT SITE INVESTIGATION REPORT
FOR THE MILITARY MUNITIONS RESPONSE PROGRAM
AT
NSA MID-SOUTH

The Tennessee Department of Environment and Conservation (TDEC) has reviewed the draft "Site Investigation Report for the Military Munitions Response Program, Naval Support Activity Mid-South (NSA Mid-South), Millington, TN", dated June 11, 2010, and has the following comments.

1. Pistol Range (UXO 1)

The Site Investigation Report (SI) analytical results show lead is present in surface soils at the site above the 400 milligrams per kilogram (mg/kg) Residential Regional Screen Level (RSL) and the 800 mg/kg Industrial RSL. Exceedances for lead are located around the areas in front, on top and on the backside of the backstop portion of the target berm. The SI recommends remediation of the berm. The Division concurs with the recommendation.

Response:

No response necessary.

2. Trap/Skeet Ranges #1 and #2 (AOC 1)

Based on exceedances of lead and polynuclear aromatic hydrocarbons (PAHs) a Focused Feasibility Study is recommended for the sites. The Division concurs with the recommendation. Before a Focused Feasibility Study is submitted, the Division requires additional information regarding how the background BaP equivalent concentration of 0.565 mg/kg was established for the installation. The area of the Focused Feasibility Study may need to be expanded based on this review and discussion.

Response:

The USEPA Region 4 October 1997 Technical Memorandum referenced in the June 2010 SI Report proposed a background screening level for benzo(a)pyrene equivalent (BEQ) concentrations at NSA Memphis (the former name of NSA Mid-South) of 0.565 milligrams per kilogram (mg/kg). The technical memorandum and BEQ background screening level were subsequently approved by the BRAC/Base Cleanup Team (BCT) comprised of the Navy, EPA, and TDEC for use during the RCRA Facility Investigation (RFI). A copy of the technical memorandum was electronically submitted to TDEC by Tetra Tech on August 18, 2010; and is included with this Response to Comment as Attachment 1. TDEC

subsequently approved the use of this BEQ background screening level at the September 8, 2010 NSA Mid-South BCT meeting.

3. Aircraft Firing Range (AOC 2)

Of the 48 samples collected and submitted for lead analysis, one sample was above the 400 mg/kg RSL and the 800 mg/kg Industrial RSL at 20,500 mg/kg. The SI recommends No Further Action (NFA) for the site based on the single isolated exceedance for lead which is located beneath an existing asphalt parking area with controlled access. The Division cannot approve an NFA for the Aircraft Firing Range based on the above information. The exposure controls mentioned above are considered a final remedy and will require the installation to implement additional institutional controls (i.e. site inspection and land use controls) to maintain human exposure control of the site.

Response

The SI Report has been revised to recommend that the location of the 20,500 mg/kg result (that is, the 0-1' depth interval of AFR-SS037) be resampled; as well as collecting a sample from the 1-2' depth interval at AFR-SS037, and the 0-1' and 1-2' intervals at six additional locations immediately around and further to the north of AFR-SS037 to more definitively delineate any surface or subsurface soil exceedances that may be present under the parking area. Soil samples will be collected from each interval noted and analyzed for lead, in accordance with the approved UFP-SAP. A figure has been included as Exhibit 1 showing the proposed locations of the additional samples. TDEC concurred with this revised recommendation at the September 8, 2010 NSA Mid-South BCT meeting.

4. Horse Stables Skeet Range #1 (AOC 3)

There were no lead detections above relevant action levels. Twenty surface samples were collected for PAHs, with 16 exceeding the BaP equivalent Project Action Limit (PAL) of 0.015 mg/kg at concentrations ranging from 0.02 mg/kg to 1 mg/kg. Only two of the 20 samples exceeded the installation background BaP equivalent concentration of 0.565 mg/kg established during the RFI investigation. Based on this information the SI recommends NFA for the Horse Stables Skeet Range #1. The Division requires additional information regarding how the background BaP for equivalent concentration of 0.565 mg/kg was established for the installation. Additionally, there are two locations with PAH samples exceeding this background number. Therefore, the Division cannot grant an NFA for the site.

Response

As stated in Response #2, The October 1997 Technical Memorandum proposing a background screening level for BEQ concentrations at NSA Mid-South of 0.565 mg/kg was electronically submitted to TDEC by Tetra Tech in August 2010, and approved for use by TDEC at the September 8, 2010 NSA Mid-South BCT meeting.

Exhibit 2 presents Figure 7-2 from the June 2010 SI Report and shows the two locations with BEQ concentrations greater than the proposed background screening level of 0.565 mg/kg. The SI Report has been revised to recommend excavating outward 25 feet in each direction from locations HSR1-SS09 and HSR1-SS02 to a depth of 1-foot below the existing ground surface. Once the limits of each excavation are reached, soil samples will be collected at the limits of each excavation, as well as from the floor of each excavation and analyzed for PAHs in accordance with the approved UFP-SAP, to confirm removal of the observed BEQ exceedances. TDEC concurred with this revised recommendation at the September 8, 2010 NSA Mid-South BCT meeting.

5. <u>Horse Stables Skeet Range #2 (UXO 000002)</u>

The SI report recommends NFA for the site based upon only two exceedances of lead above relevant action levels and two exceedances of the 0.565 mg/kg BaP equivalent background concentration. The Division requires additional information regarding how the background BaP for equivalent concentration of 0.565 mg/kg was established for the installation. Additionally, even if the Division recognizes the BaP background number there are two locations with PAH samples in exceedance and two locations with lead exceeding relevant action levels. Therefore, the Division cannot approve an NFA for the site.

Response

Exhibit 3 presents Figures 8-1 and 8-2 from the June 2010 SI Report and shows the sampling locations where lead and BEQ exceedances of the respective screening levels (that is, 400 mg/kg and 0.565 mg/kg) were detected. The SI Report has been revised to recommend excavating outward 50 feet in each direction from locations HSR2-SS037, HSR2-SS044, HSR2-SS014, and HSR2-SS051 to a depth of 1-foot below the existing ground surface. Once the limits of each excavation are reached, soil samples will be collected from the sidewalls and bottom of each excavation and analyzed for lead (HSR2-SS037 and HSR2-SS044) and PAHs (HSR2-SS-014 and HSR2-SS051) in accordance with the approved UFP-SAP,

to confirm removal of the noted observed lead and BEQ exceedances. TDEC concurred with this revised recommendation at the September 8, 2010 NSA Mid-South BCT meeting.

6. <u>Former Navy Rifle Range (UXO 000001)</u>

The Navy requests NFA for the Former Navy Rifle Range since there were no exceedances of lead above relevant action levels in any of the samples collected at the site. The Division concurs with the NFA request.

Response

No response necessary.

UNITED STATES ENVIRONM
RE
61For
Atlanta, Geo

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 2

To Brian Mulhearn	From Brian Donaldson
Dept./Agency Ensafe	Phone # 404-562-8554
Fax # (901) 372-2454	Fax # 404-562-8518

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

October 9, 1997

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1D-00632

4WD-OTS

MEMORANDUM

SUBJECT: Risk review comments, Human Health and Ecological aspects, NSA Memphis Memphis, TN

FROM: Ted W. Simon, Ph.D. D.A.B.T., Toxicologist
Office of Technical Services

TO: Brian Donaldson, RPM
FFB/BRAC

CC: Elmer W. Akin, Chief
Office of Technical Services

Per your request, I have reviewed the **Technical Memorandum, Revision 0: Distribution of Benzo(a)pyrene Equivalent Concentrations at NSA Memphis SWMUs.** Please feel free to share these comments without anyone you deem appropriate.

My purpose in this memo is to indicate a proposed screening level for B(a)P equivalents in surface soil that appears to be consistent with anthropogenic background at NSA Memphis. *This background screening level is 565 µg/kg in surface soil.*

Rationale

91 surface soil samples were obtained at various locations around NSA Memphis. The distribution of these soil samples was lognormal (X^2=99.25, $p<0.0001$) with a geometric mean of 579 µg/kg and a geometric standard deviation of 2.76 µg/kg. Visual inspection of a distribution of the actual data indicates that 69 of the data points are clustered between 150 and 700 µg/kg, and that 22 higher detections occurred up to almost 90000 µg/kg. Such a distribution is typical of anthropogenic background with site-specific waste-stream contamination superimposed.

The 69 values for Benzo(a)pyrene equivalents below 700 µg/kg occurred in a normal distribution (X^2=22.0, $p<0.0025$) with a mean 373.4 µg/kg and a standard deviation of 97.25 µg/kg.

The upper 95th percentile (mean + 1.96 st. dev.) of the normal distribution of the lower 69 values is 564 µg/kg. Rounding up to 565 µg/kg provides the background screening level for benzo(a)pyrene equivalents. The choice of the upper 95th percentile in this case is consistent with previous Agency practice.

Mr. Brian Mulhearn of EnSafe who prepared this memo indicated that you have another version. The presence of this other version is not anticipated to change the background screening level to any great extent.

Please let me know if you need any further help.

T.W. Simon/tws:4WD-OTS:28642/10/09/97/A:\DISK2\OCT97\NSA_BG.BAP

TETRA TECH

Exhibit 1
Additional Sampling Locations
Lead Results
Aircraft Firing Range (AOC 2)
NSA Mid-South
Millington, Tennessee

Legend

- FBL Sample Location <400 mg/kg / >400 mg/kg
- XRF Sample Location <280 mg/kg / >280 mg/kg No ND points
- Additional Sample Location
- Composite Sampling Area
- Aircraft Firing Range
- Firing Line
- Surface Danger Zone
- Target Berm
- Road
- Contour (1-ft interval)

80 40 0 80 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 8/26/10
Revised By: K. MOORE 8/26/10

Contract Number: 112G01642/112G01506
CTO: F275/0107

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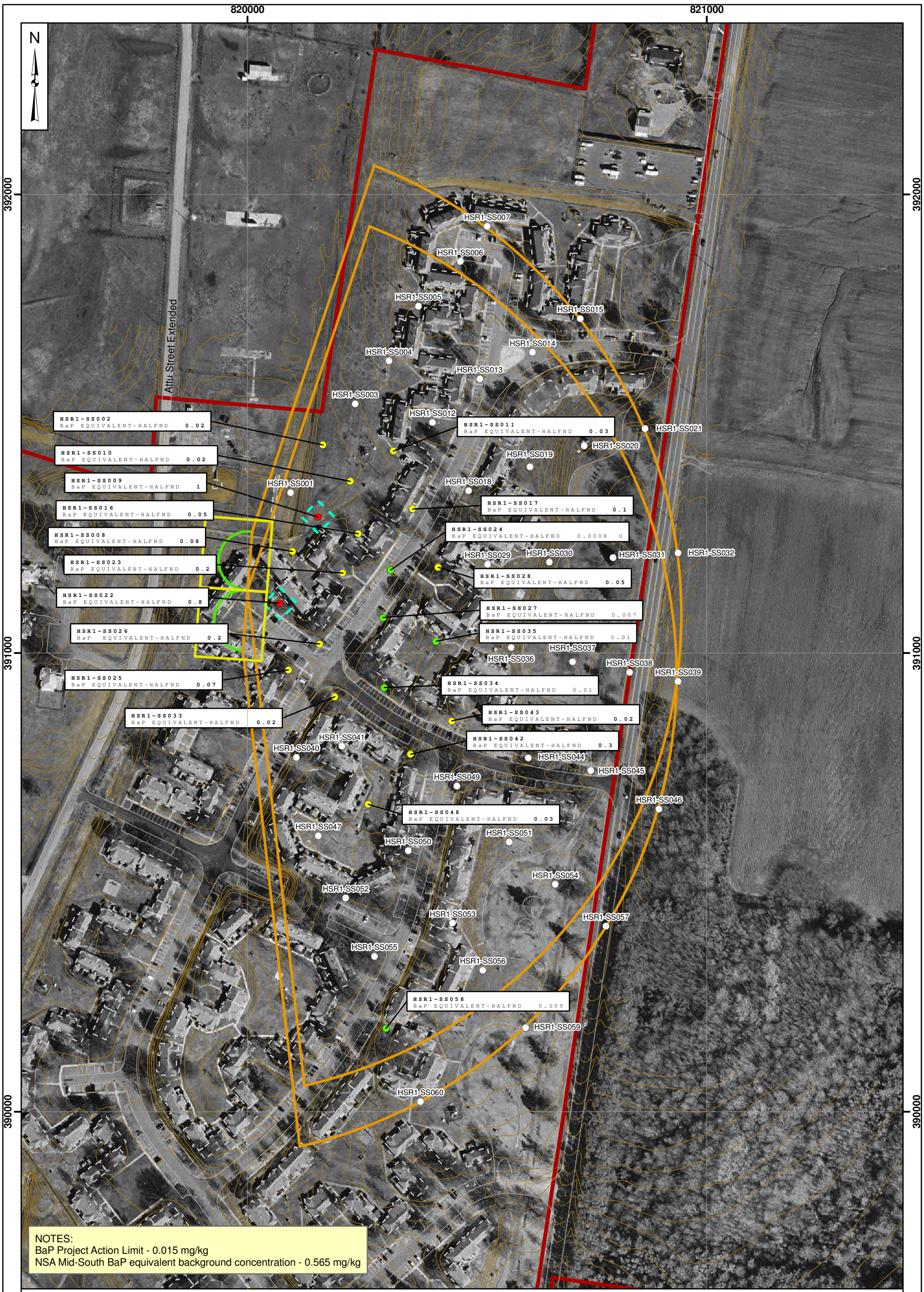

TETRA TECH

Exhibit 2 - Proposed Soil Removal Areas
Benzo(a)pyrene (BaP) Equivalent Results
Horse Stables Skeet Range #1 (AOC 3)
NSA Mid-South
Millington, Tennessee

Legend

- BaP > 0.565 mg/kg
- BaP > 0.015 mg/kg and < 0.565 mg/kg
- BaP < 0.015 mg/kg
- Not Analyzed
- Composite Sampling Area
- Horse Stable Skeet Range #1
- Firing Line
- Road
- Demolished Structure
- Proposed Limits of Excavation
- Installation Boundary
- Contour (1-ft interval)

200 100 0 200 Feet

Drawn By: K. MOORE 4/20/10
Checked By: G. POPE 8/26/10
Revised By: K. MOORE 8/26/10

Contract Number: 112G01642/112G01506
CTO: F275/0107

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TETRA TECH

Exhibit 3 - Proposed Soil Remval Areas
Lead Results
Former Horse Stables Skeet Range #2
(UXO 000002)
NSA Mid-South
Millington, Tennessee

Legend

- Non-Detect
- Composite Sampling Area
- Horse Stables Skeet Range #2
- Firing Line
- Road
- Demolished Structure
- Proposed Limits of Excavation
- Installation Boundary
- Contour (1-ft interval)
- FBL Sample Location <400 mg/kg / >400 mg/kg
- FBL-XRF Correlation Results <400 mg/kg / >400 mg/kg

200 100 0 200 Feet

Drawn By: K. MOORE 4/21/10
Checked By: G. POPE 8/26/10
Revised By: K. MOORE 8/26/10

Contract Number: 112G01642/112G01506
CTO: F275/0107

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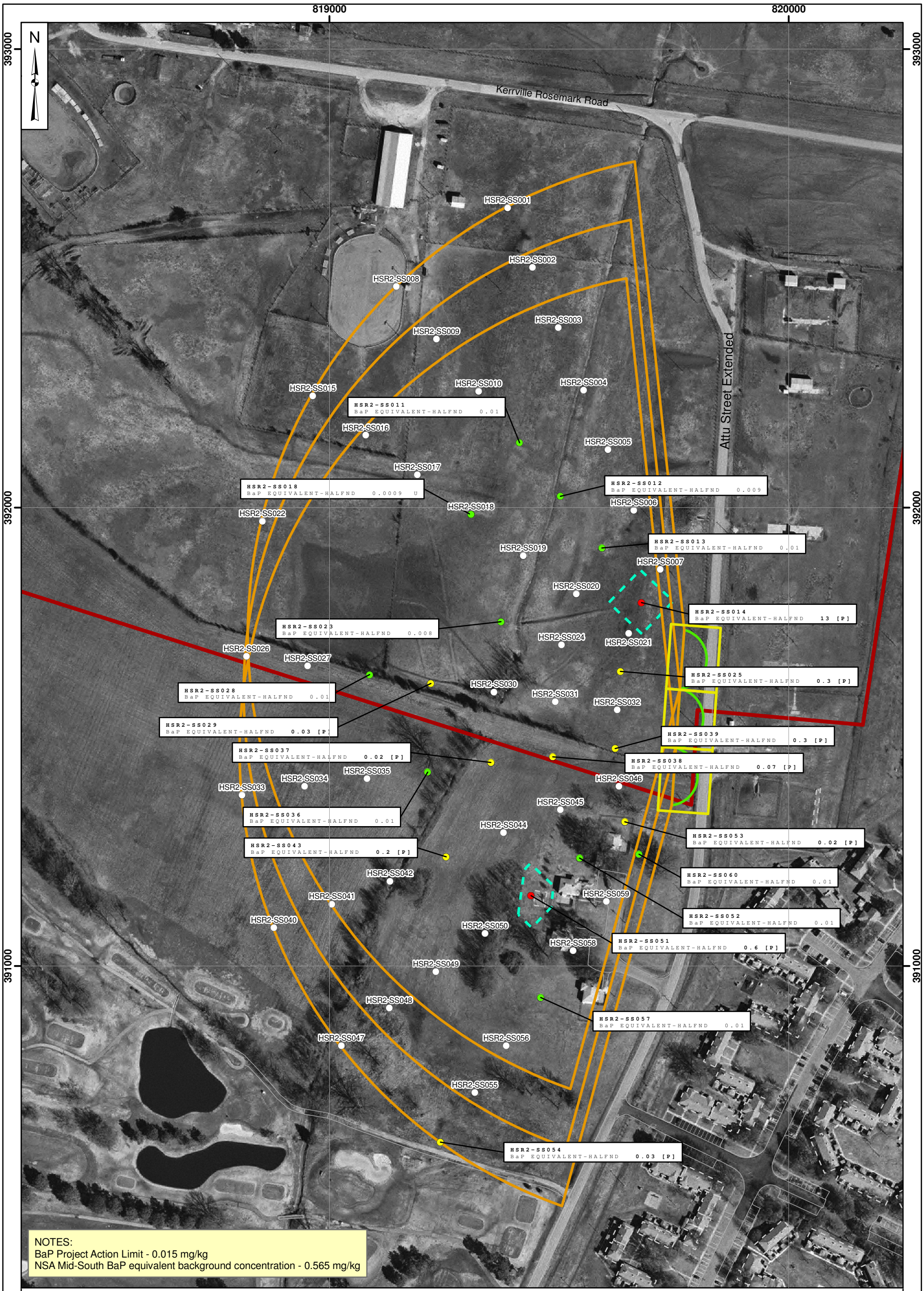

TETRA TECH

Exhibit 3 - Proposed Soil Removal Area
Benzo(a)pyrene (BaP) Equivalent Results
Former Horse Stables Skeet Range #2
(UXO 000002)
NSA Mid-South
Millington, Tennessee

Legend

- BaP > 0.565 mg/kg
- BaP > 0.015 mg/kg and < 0.565 mg/kg
- BaP < 0.015 mg/kg
- Not Analyzed
- Composite Sampling Area
- Horse Stable Skeet Range #2
- Firing Line
- Proposed Limits of Excavation
- Road
- Demolished Structure
- Installation Boundary

200 100 0 200 Feet

Drawn By: K. MOORE 4/20/10
Checked By: G. POPE 8/26/10
Revised By: K. MOORE 8/26/10

Contract Number: 112G01642/112G01506
CTO: F275/0107

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