FINAL

CONTAMINATION ASSESSMENT/ REMEDIAL ACTIVITIES INVESTIGATION DREDGE SPOIL FILL AREA (SITE 14) NAVAL AIR STATION PENSACOLA PENSACOLA, FLORIDA

INTERIM DATA REPORT

October 1991

Contract N62467-88-C-0200

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• 19.
Further assessment activities are required on and in the vicinity of Site 14.

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RECORD OF DOCUMENT CHANGES

Revisions to this document were made based on comments received from the U.S. Environmental Protection Agency, Florida Department of Environmental Regulation, Florida Department of Natural Resources, and National Oceanic and Atmospheric Administration. All revisions are in bold and enclosed in brackets to denote changes to the last version of this document.

EXECUTIVE SUMMARY

As part of the U.S. Navy's Installation Restoration Program, Phase I of the Contamination Assessment/Remedial Activities Investigation was conducted for the Dredge Spoil Fill Area (Site 14), located on the Naval Air Station in Pensacola, Florida. This work was performed by Ecology and Environment, Inc., (E & E) under contract to the U.S. Navy, Southern Division, Naval Facilities Engineering Command.

Site 14 is a dredge spoil fill area created in the late 1970s from the dredging of Pensacola Bay to create an aircraft carrier turning basin and port. The objective of the Phase I investigation at Site 14 was to identify principal areas and primary contaminants of concern at the site and to provide recommendations for subsequent phases of investigation. The recommendations for additional work at Site 14 are presented under a separate cover. The Phase I tasks included aerial photograph and existing data analysis; site reconnaissance; habitat/biota survey; surface emissions survey and particulate air sampling; radiation survey; utilities survey; the collection and analysis of sediment, soil, and groundwater samples; and a hydrologic assessment.

The results of this investigation indicate that sediment, soil, and groundwater contamination are present on and in the vicinity of Site 14. Metals, total recoverable petroleum hydrocarbons (TRPHs), volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and phenols are the primary contaminants. Some of the detected contamination is clearly associated with the dredge spoil contained within the fill area. However, additional sources of contamination are apparently impacting Site 14.

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Tvo areas of sediment contamination appear to be present in vater bodies surrounding the dredge spoil fill area. *An* exposed clay layer along the eastern shoreline exhibited slightly to moderately elevated levels of metals, TRPHs, PAHs, and phenols, similar to the concentrations found in soil samples collected from the fill area. Sediment samples collected in a drainagevay from Chevalier Field near the southvestern corner of the site shoved evidence of TRPE and PAE contamination. Fuel spills and contaminated runoff from Chevalier Field are the suspected sources of this contamination.

Soil contamination is evident along the perimeter of the dredge spoil settling basins and along the western side of the site adjacent to Chevalier Field. Sampling vas not performed in the interior of the settling basins because of the unstable condition of the basins' subsurfaces. Elevated levels of metals, TRPEs, PAHs, and phenols are present in the spoil material vithin the settling basins. These contaminants do not appear to have spread to soils surrounding the fill area. Highly elevated TRPE concentrations detected in soil borings adjacent to Chevalier Field are possibly the result of fuel spills and contaminated runoff from the adjacent runways.

Groundwater contamination, vhich vas limited to metals, also has tvo apparent sources. The highest concentrations of several metals (zinc, lead, and copper) occurred in groundvater samples collected from wells adjacent to Chevalier Field. Hovever, concentrations of other metals (chromium, cadmium, and nickel) were highest in groundwater samples from wells on the central and southern berms. Based on the predicted easterly direction of groundvater flov, Chevalier Field appears to be the source of zinc, lead, and copper contamination, and the dredge spoil appears to be the source of chromium, cadmium, and nickel contamination. Metals concentrations that exceed Florida standards occurred in six of the 10 groundvater samples, but these occurrences could reflect the fact that the turbid groundvater samples were not filtered prior to acid preservation.

Further assessment activities are required at and in the vicinity of Site 14.

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1. INTRODUCTION

This Interim Data Report presents the findings of the Phase I investigation activities performed for Site 14, the Dredge Spoil Fill Area, located at the Naval Air Station (NAS) in Pensacola, Escambia County, Florida (see figures 1-1 and 1-2). This report has been prepared by Ecology and Environment, Inc., (E & E) for the Southern Division, U.S. Navy, Naval Facilities Engineering Command, under Contract No. N62467-88-C-0200. The information presented in this report is based on information and file documents provided by the Navy and on information gathered during the Phase I fieldwork conducted on the site from October 1990 to February 1991. This investigation was conducted in accordance with the administrative documents prepared by E & E for this project, which include the (June 1990] Project Management Plan, [June 1990) Site Management Plan, [July 1990] Generic Quality Assurance Project Plan (GQAPP), [July 1990] General Health and Safety Plan, and [June 1990) Contamination Assessment/Remedial Activities Investigation Work Plan--Group C with appended Site-Specific Health and Safety Plan and Site-Specific Quality Assurance Plan. [All references to these documents in this report apply only to the 1990 versions.]

Site 14 lies along the waterfront east of Chevalier Field adjacent to the southern edge of Site 13 (see figures 1-1 and 1-2). The east side of Site 14 is bordered by Pensacola Bay. The site area was created by the dredging activities conducted in the late 1970s to create an aircraft carrier turning basin and port. [Prom 1986 to 1989, additional dredge spoil materials, which had been removed from the channel leading from the carrier port to Pensacola pass and to the Port of Pensacola, vere disposed of at the site.] Since this area of land was created by

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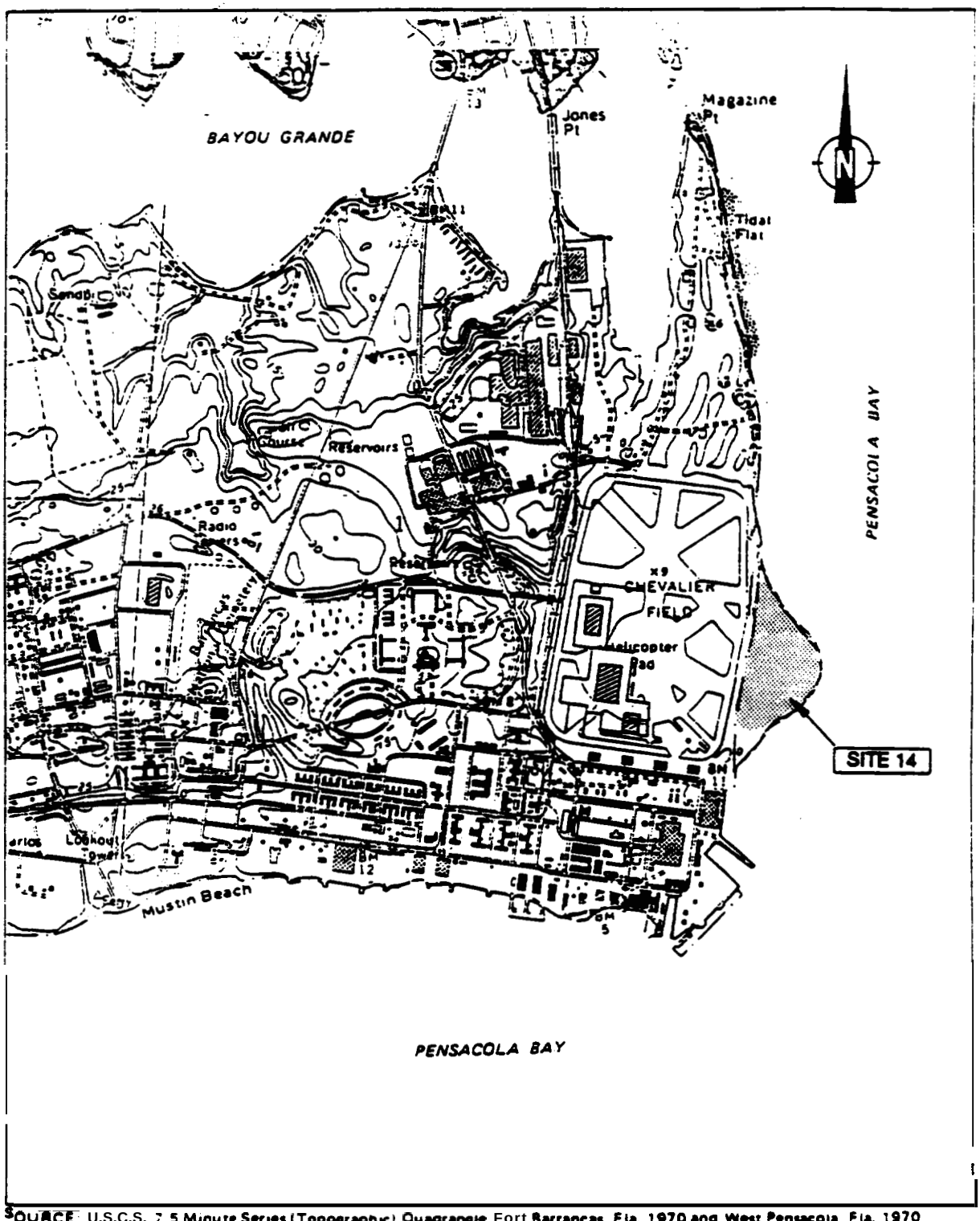

SOURCE: U.S.C.S. 7.5 Minute Series (Topographic) Quadrangle Fort Barrancas, Fla. 1970 and West Pensacola, Fla. 1970. Photorevised 1987

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Figure 1-1 LOCATION *MAP* — NAS PENSACOLA SITE 14

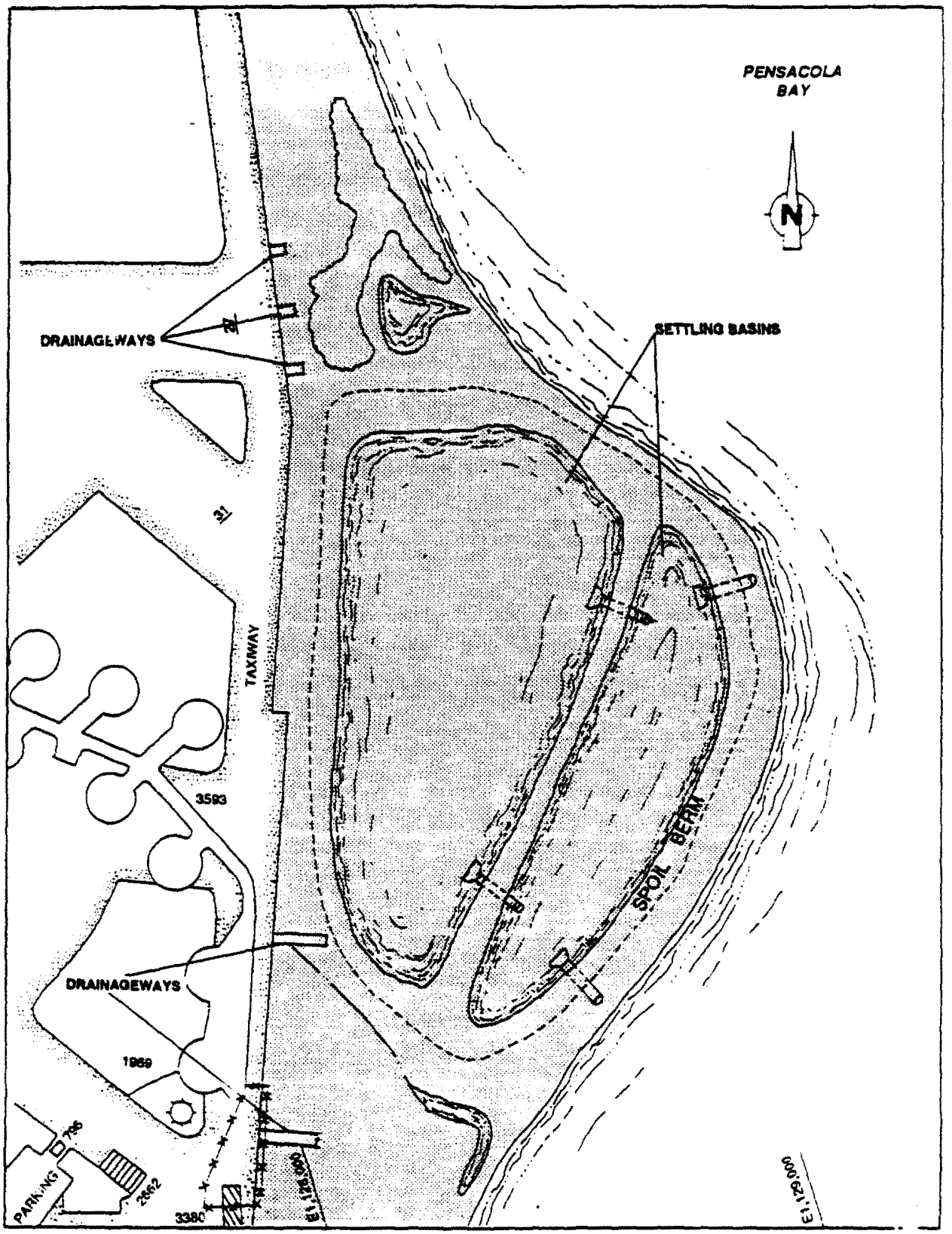

Figure 1-2 SITEMAP —NAS PENSACOLA SITE 14

No buildings, permanent monitoring vells, or paved areas are found on site. Tvo major basins are found vithin the site, one in the eastern area and a larger one along the western side of the site (see Figure 1-2). These basins were presumably created during the disposal of dredge material to act as settling basins to control turbid runoff during spoil discharge. The berms surrounding the basins are approximately 20 feet above mean sea level (MSL).

The purpose of the Phase I investigation vas to identify principal areas and primary contaminants of concern at the site and to provide recommendations for subsequent phases of investigation. The Phase I fieldwork included a site reconnaissance; habitat/biota survey; surface emissions survey and particulate air sampling; radiation survey; utilities survey; and the collection and analysis of sediment, soil, and groundvater samples. In addition, a hydrologic assessment, vhich included the determination of groundvater and surface water elevations and groundvater flov direction and hydraulic gradient, was performed at the site. The recommendations for additional work at this site are presented in this submittal under separate cover.

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2. INVESTIGATION METHODOLOGY

2.1 AERIAL PHOTOGRAPH AND EXISTING DATA ANALYSIS

Prior to the initiation of fieldwork, E & E personnel examined all available aerial photographs of NAS Pensacola for past and present conditions, features, and developments that might have had direct relevance to the fieldwork methodology. The aerial photograph analysis task involved assembling and stereoscopically analyzing historical photographic imagery and topographic maps available for the site area. Photographs were scaled to allow analysis of past and present surface conditions, drainage, and land use. The aerial photographs used in the analysis are listed in Table 2-1. The photographs were analyzed to obtain information regarding the evolution of site features that might have affected hydrologic conditions and to aid in the performance of such tasks as field reconnaissance and monitoring well placement.

Existing data on metals concentrations in Pensacola Bay sediments collected in 1982 by the Florida Department of Environmental Regulation (FDER 1988; see Table 3-1 and Figure 3-1 of the Group C Work Plan) were used as comparative data in the analysis of analytical screening results. Results from FDER sediment sampling stations PNB-5 and PNB-6 were selected as representative of ambient bay conditions. Concentrations of metals (zinc, lead, cadmium, nickel, and copper) measured at these stations were used as background values for metals detected in sediments and spoil material at Site 14.

2.2 SITE RECONNAISSANCE

A field reconnaissance survey was conducted on and around the site. Available aerial photographs and maps were used as guides in locating surface features. Visual inspections were made of surface conditions, stressed vegetation, surface drainage patterns, areas of exposed site

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Table 2-1

PHOTOGRAPHS AND MAPS USED IN THE AERIAL PHOTOGRAPH ANALYSIS
NAS PENSACOLA SITE 14

Source	Photograph/Map Number	Date	Scale
NAS Pensacola Public Works Department	1276833*	2/5/90	1:2,400
	1276835.	2/5/90	1:2,400
	1276836*	5/22/06	1:2,400
	1276912*	9/29/06	1: 2,400
Florida Department of Transportation	PD-3886-12-03	10/26/89	1:24,000
	PD-3886-12-04	10/26/89	1:24,000
	PD-3618-12-03	11/21/06	1:24,000
	PD-3618-12-04	11/21/06	1:24,000
	PD-3109-12-03	9/22/03	1:24,000
	PD-3109-12-04	9/22/83	1:24,000
	PD-2684-12B-04	3/9/01	1:24,000
	PD-2684-12B-05	3/9/01	1:24,000
	PD-1888-11-03	4/28/76	1 :24,000
	PD-1888-11-04	4/28/76	1:24,000
	PD-1331-11-03	5/4/73	1:24,000
	PD-1331-11-04	5/4/73	1: 24,000
	PD-868-4-09	4/6/70	1:24,000
	PD-868-4-10	4/6/70	1:24,000
	PD-616-8-03	3/25/60	1: 24,000
	PD-616-8-04	3/25/60	1:24,000
	PD-285-8-01	10/8/64	1:12,000
	PD-285-8-03	10/8/64	1:12,000
	PMS-7054-3-1	10/12/61	1 :24,000
	PMS-7054-3-2	10/12/61	1:24,000
U.S. Department of Agriculture	CPF-4H-17	1/22/51	1:24,000
	CPF-1V-78	1/3/58	1: 24,000
West Florida Regional Planning council	PD-3618-12-03	11/21/06	1:4,800

14[NASP]UH6037:T0232/338/23

*Map.

Source: Ecology and Environment, Inc., 1991.

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debris, and leachate seeps. These observations of surface conditions on the site were used to update the site map.

The reconnaissance survey team utilized radiation and air monitoring equipment during walkovers of site areas, in accordance with Section 6.1.1 of the GQAPP. Areas with readings above background were flagged and identified on a site map for future reference. All findings of the physical reconnaissance were mapped in detail and recorded in the field logbook.

2.3 HABITAT/BIOTA SURVEY

A habitat/biota survey was conducted for the site, and existing literature pertaining to NAS Pensacola was also examined to identify probable on-site biota. During the physical reconnaissance, E & E biologists determined the on-site terrestrial and aquatic habitats and the surrounding habitats that could be affected by off-site contaminant migration. Rare, threatened, and endangered species and their potential habitats were identified, and general site conditions were evaluated regarding the site's ability to support viable populations of plants and animals.

2.4 HNu/OVA SURFACE EMISSIONS SURVEY AND PARTICULATE AIR SAMPLING

A surface emissions survey was conducted using HNu and/or organic vapor analyzer (OVA) air monitoring equipment. The survey was conducted in accordance with Section 6.1.1 of the GOAPP. Due to the steep slope of the berm and the unstable nature of the spoil material within the settling basins, the surface emissions survey could not be conducted according to a pre-established grid. Instead, a walkover survey was conducted, and readings were mapped accordingly. After the survey was completed, a grid was laid over the survey map to establish locational coordinates for the data points (see Figure 3-2). Grid coordinates were assigned as (x,y), with "x" being the coordinate east of the origin and "y" being the coordinate north of the origin. Measurements were made around the exterior perimeter of the berm, along the'berm crests, and around the settling basin perimeters. All readings were recorded in the field logbook. In addition, preliminary air screening was conducted with a particulate monitor to determine if the site represents a source

of particulates in the air. The air sampling vas conducted in accordance with Section 6.1.[1] of the GOAPP.

2.5 RADIATION SURVEY

Although the Group C work plan did not specify that a formal radiation survey be conducted at Site 14, an informal radiation survey vas conducted using a Bicron Micro-R-meter in accordance vith Section 6.3.[6] of the GQAPP. Again, due to the steep slope of the berm and the unstable subsurface of the spoil basins, the survey was not conducted according to a pre-established grid. All readings vere recorded in the field logbook.

2.6 UTILITIES SURVEY

Prior to conducting any augering, boring, or drilling, E 6 E located all underground cables, pipes, utilities, and other subsurface features that could potentially be damaged, create a safety hazard, or othervise hinder fieldwork. The appropriate authorities (e.g., NAS Pensacola Public Works and Southern Bell) were contacted to identify the location of all underground utilities in the site area. In addition, E & E examined available maps and documents and conducted a metal detector survey to determine the presence of any other potentially hazardous subsurface features on site. The locations of all underground utilities or other obstructing features were marked with surveyor flags, fluorescent paint, or by other methods, as appropriate.

2.7 DATA ANALYSIS

Information obtained from the results of the above-described physical surveys was given primary consideration in the development of placement strategies for the Phase I temporary monitoring vells, soil borings, and sediment samples. Prior to establishing the Phase I temporary monitoring well locations or other sampling points, the results of the aerial photograph analysis, site reconnaissance, surface emissions surveys and particulate air sampling, radiation survey, and utilities survey were evaluated to identify areas of potential surface or subsurface contamination, leachate seeps or streams, areas of stressed vegetation, and boundaries of spoil areas. The proposed Phase

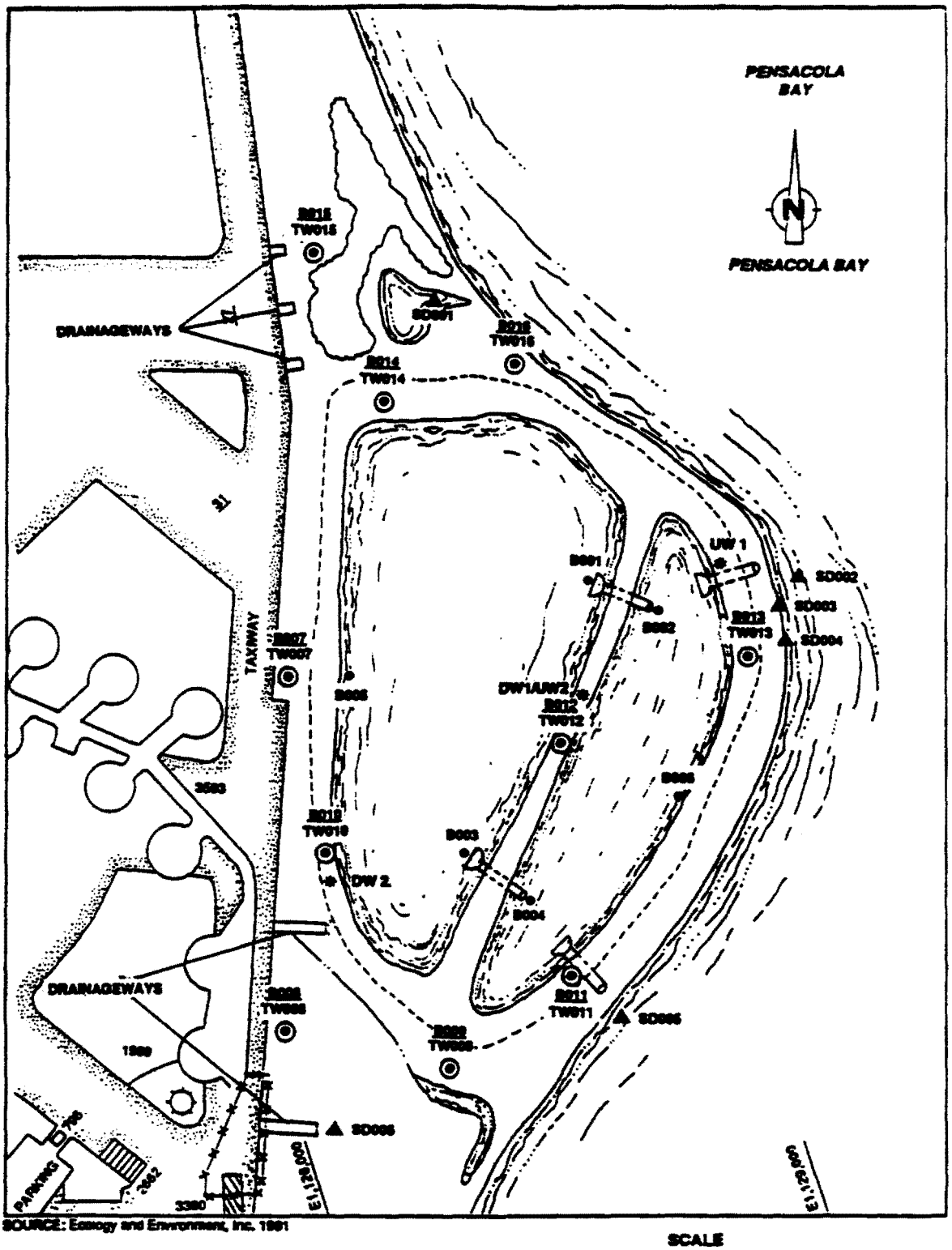
I temporary monitoring well locations and other sampling points, shown on Figure 14-2 of the work plan, were then revised, as appropriate upon approval by Southern Division.

2.8 SEDIMENT SAMPLING

Six sediment samples were collected: one from the pond north of the fill area, two from nearshore sand substrate, two from a nearshore cohesive clay layer, and one from a drainage ditch northeast of Building 3380 (see Figure 2-1). At each location, the sediment sample was collected from the sediment surface to a depth of approximately 6 inches using a stainless-steel trowel. The composition of bottom materials retrieved during sampling was recorded in the field logbook. All sediment sampling and equipment decontamination activities were conducted in accordance with sections 6.9.2 and 6.10 of the GQAPP. All sediment samples were shipped to E & E's Analytical Services Center (ASC) and analyzed for the screening parameters listed in Table 2-2.

2.9 SOIL BORINGS AND TEMPORARY MONITORING WELL INSTALLATION

Sixteen soil borings were completed at Site 14 (see Figure 2-1). At each boring location, samples were collected by compositing soils over 5-foot depth intervals from the land surface to the water table. Each 5-foot depth interval was assigned a letter designation as follows: A interval = surface to 5 feet below land surface (BLS); B interval = 5 to 10 feet BLS; C interval = 10 to 15 feet BLS; and so on to the water table. Samples were collected using either hand-operated bucket augers or a solid-stem auger powered by a drill rig. No soil samples were collected within the spoil basins per Navy directions due to the instability and unsupportive nature of the spoil material. Lithologic characteristics of the materials encountered in each borehole were recorded in the field notebook. All sampling, compositing, and lithologic logging activities were performed in accordance with Section 6.6 of the GQAPP. Equipment decontamination was performed in accordance with Section 6.10 of the GQAPP. All the soil samples collected from the soil borings were shipped to E & E's ASC and analyzed for the screening parameters listed in Table 2-2.



SOURCE: Ecology and Environment, Inc. 1991

SCALE

0 200 400 FEET

KEY:

- Water Control Stucture
- Soil Boring
- Temporary Monitoring Well
- Sediment Sample Location
- SD001 Sediment Sample Number
- B001 Soil Boring Number
- TW007 Temporary Monitoring Well Number
- Particulate Air Sampling Location
- DW 1/UW 2 Particulate Air Sampling Location Number (downwind/upwind)

Figure 2-1 PARTICULATE AIR SAMPLING, SEDIMENT SAMPLE, SOIL BORING, AND TEMPORARY MONITORING WELL LOCATIONS — NAS PENSACOLA SITE 14

Table 2-2

SAMPLING AND ANALYTICAL SUMMARY
NAS PENSACOLA SITE 14

Medium	No. of Samples	Duplicator	Total	Analytical Suite[a,b]
Sediment	6	0	6	A
Soil	34	3	37	A
Groundwater[c]	10	1	11	A

14[NASP]UH6037:T0232/339/29

Koy:

[a]Analytical suite designation is as follows:

A = Volatile organic compounds including chlorobenzene, polynuclear aromatic hydrocarbons, phenols, pesticides and total PCBs, total recoverable hydrocarbons, and metals (total, unfiltered).

[b]Specific constituents encompassed by tho various chemical groups included within analytical suite A are identified in Tables 9-1 through 9-4 of tho Generic Quality Assurance Project Plan.

[c]Groundwater samples and analyses shown are for temporary wells only.

Source: Ecology and Environment, Inc., 1991.

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Temporary stainless-steel monitoring vells vere installed in 10 of the 16 soil borings (see Figure 2-1). Each vell vas constructed vith 5 feet of 0.01-inch slotted screen and installed to a depth that alloved the vell screen to bracket the water table. The vells were installed using solid-stem augers powered by a drill rig. Lithologic characteristics of materials encountered during installation of the vells vere recorded in the field logbook. All equipment decontamination activities vere performed in accordance vith Section 6.10 of the GQAPP. All of the soil boring and temporary monitoring vell information and the lithologic logs are contained in Appendix C.

2.10 GROUNDVATER SAMPLING

Ten groundvater samples and one duplicate sample vere collected from the 10 temporary monitoring vells shown in Figure 2-1. Veather conditions; water levels; purge volumes; and groundvatcr pH, specific conductance, and temperature measurements vere recorded in the field logbook prior to sampling. In addition, prior to purging, each well vas checked for the presence of floating and/or sinking immiscible hydrocarbons using an MMC International oil-vater probe. Each groundvater sample was collected immediately following vell purging. All vell purging and sampling activities vere performed in accordance vith sections 6.8 and 6.11 of the GQAPP. Equipment decontamination vas performed in accordance with Section 6.10 of the GQAPP. All of the groundvater samples collected from the temporary monitoring vells vere analyzed for the screening par —ters listed in Table 2-2.

2.11 HYDROLOGIC ASSESSMENT

The hydrologic assessment of the site and surrounding areas included the determination of vater level elevations in the 10 temporary monitoring wells. Vellhead top-of-casing (TOC) elevations and static water levels in the temporary monitoring wells vere measured relative to the top of a driven reference stake located adjacent to each vell using a spirit level and tape measure. Polloving groundvater sampling and removal of the temporary monitoring vells, the elevations of the driven reference stakes were surveyed using a transit vith reference to U.S.

Geological Survey (USGS) Benchmark No. A161. The static water levels in the temporary monitoring wells were used to establish groundwater flow directions and horizontal hydraulic gradients in the shallow aquifer in the site vicinity.

In conjunction with the wellhead survey, the elevations of on-site water bodies (i.e., the pond north of the spoil fill area and the two spoil settling basins) were established.

2.12 FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

All field tasks performed during the investigation were documented in the field logbooks according to the procedures specified in Section 7.2 of the GQAPP.

2.12.1 Field QA/QC Samples

Field QA/QC samples were prepared for all samples collected at the site during the Phase I investigation according to the procedures described in Section 6.12 of the GQAPP. Chain-of-custody was maintained for all samples collected, packaged, and shipped to E 6 E's ASC for analysis. Sample management was performed as specified in Section 7 of the GOAPP. The collected field QA/QC samples and corresponding analytical parameters are listed in Table 2-2.

2.12.2 Decontamination Procedures

All equipment used during field activities was decontaminated in accordance with Section 6.10 of the GQAPP.

2.13 INVESTIGATION-DERIVED WASTE MANAGEMENT

Excess soil material generated during soil boring and temporary monitoring well installation activities was temporarily contained adjacent to the well or boring and then backfilled into the borehole after the auger flights or temporary well casings had been removed following sample collection. Any soil material remaining after completion of borehole backfilling was placed in 55-gallon drums, sealed, labeled, and moved to a central area on the site. Each drum has a painted-on label listing the site number and the type of material contained in the drum.

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All water generated during development and purging of the temporary monitoring wells was temporarily contained adjacent to the well and then poured back into the well following collection of samples.

Potentially contaminated clothing and disposable materials, wastes generated during decontamination activities, and other potentially contaminated, investigation-derived materials vere placed in 55-gallon drums, labeled, and moved to a central area on the site. These drums are sealed and labeled "trash." All drummed investigation-derived materials were subsequently picked up and disposed of by NAS Pensacola.

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3. RESULTS

3.1 AERIAL PHOTOGRAPH AND EXISTING DATA ANALYSIS

The dredged spoil fill area composing Site 14 was created in the late 1970s from the dredging of Pensacola Bay to create a turning basin and port for an aircraft carrier. Review of aerial photographs prior to this time indicated that during the 1950s, Site 14 was shallow bay bottom and a narrow, linear beach paralleled the eastern edge of Chevalier Field. By 1961, a broad spit that projected 1900 feet into the bay had formed. Review of the October 12, 1961, aerial photograph revealed the initial formation of a tidal pond at the northwestern corner of the site and a drainage ditch that extended from the edge of Chevalier Field southeasterly to a small tidal pond at the southwestern corner of the site. These surface water and drainage features were evident in the 1964 and 1968 aerial photographs, although the ponds' tidal inlets appeared to be isolated from the open bay by 500 feet of beach. During the period between 1961 and 1968, shrubby vegetation became established around both ponds and along the northern portion of the spit. An east-west trending dune system with sporadic shrubs also developed during this period.

The May 4, 1973, and April 28, 1976, aerial photographs indicated that the spit had diminished to 1,400 feet in length and that the northern pond had been reduced from a width of approximately 180 feet to 80 feet. The photographs also showed the presence of medium-sized trees along the northern and southwestern portions of the spit and well-established dune vegetation in the interior of the spit.

The 1981, 1983, and 1986 aerial photographs revealed an artificially-created berm encircling most of the spit, which had been reduced to a length of 1,000 feet. The northern and southern wetland areas were excluded from the encircling berm. The eastern half of the

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spit was heavily vegetated with trees and shrubs, but the western half was composed of bare sand, presumably dredged spoil. Six linear features of unknown purpose or origin extended approximately 100 feet into the spoil from the eastern border of Chevalier Pield.

[Additional dredged spoil materials from various sources were disposed of at the site] between 1986 and 1989. The October 26, 1989, photograph revealed that the berm was widened (and probably heightened) and that a north-south trending berm vas added to split the spoil area into two settling basins, vith the eastern basin about half the size of the western basin. The trees and vegetation of the eastern half of the spit were removed, and both basins contained water. The locations of the two water control structures on the center berm were evident. Large trees were present in the northern and southern wetland areas; sparse vegetation was present on the berm.

32 SITE RECONNAISSANCE

During the site reconnaissance, visual inspections vere made of the spoil berms, settling basins, beach, and northern and southern wetland areas. The spoil berm are approximately 20 feet high and encircle a settling basin split into two by a central dividing berm. A "dune" picket fence runs the length of the top of the western berm along Chevalier Pield. Water control structures made of 36-inch diameter corrugated, galvanized steel pipe transect the central dividing berm at two locations and the eastern berm at two locations (see Figure 1-2). These structures are apparently designed to route overflow water from the western settling basin into the eastern basin and eventually into Pensacola Bay. Plastic sheeting appears to underlie at least portions of the central berm.

Shallow pools of water were present in portions of both settling basins. The dried portions of the basin floors were composed of soft, fine, gray-brovn sediments with dessication cracks. A strong organic odor was evident on the downwind side of the ponds and was apparently emanating from the pond areas. A rusty, 55-gallon drum was found in the western basin near the northeast corner. The drum was not labeled and appeared to be empty.

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A 50- to 100-foot wide beach borders the eastern berm. The berm has been partially eroded by wave action. A 4- to 5-inch outcropping layer of black, clayey, cohesive sediments, similar to the sediments in the settling basins, was found to extend under the eastern berm onto the beach and nearshore bay bottom south of the northern water control structure. Chunks of this clayey material were also found littered along the beach and nearshore waters.

No leachate seeps or other obvious signs of contamination were seen in the vicinity of the wetland areas north and south of the spoil area.

3.3 HABITAT/BIOTA SURVEY

Site 14 encompasses several habitat types disturbed by previous base activities (see Figure 3-1). Periodic blooms of algae or bacteria occur in the pools of temporary standing water within the settling basins, coloring the water and surrounding substrate pink or magenta. The high sand berms surrounding the settling basins are vegetated with small shrubs and herbaceous plants. Dominant groundcover species identified on the berm include ~~Diodia teres~~, Heterotheca subaxillaris, Triplasis purpurea, and Panicum amarum.

A brackish pond and emergent wetland north of the fill area have numerous water fowl, including seven species of ducks and five species of wading birds. The pond is surrounded by dense stands of Phragmites australis, Spartina patens, Panicum repens, and Ludwigia sp.

Another brackish wetland located south of the spoil area has been ditched and planted with slash pine. P. australis is the dominant species in this area with other typical wetland species, including those common to disturbed areas but occurring in various densities. These species include catbrier (Smilax sp.), wax myrtle (Myrica cerifera), marsh hay cordgrass (S. patens), cattails (Typha sp.), snowbush (Baccharis halimifolia), and broomsedge (Andropogon sp.). A drainage channel from the wetland, connected to the bay during extreme high tides, contains blue crabs and small baitfish. Sea oats, which are protected by state law, are prevalent along the back beach south of the spoil area. More than 30 species of shorebirds feed along the beachfront or within the settling basins (see Appendix A). Marsh rabbits also inhabit the site. No rare, threatened, or endangered

[Bold items enclosed in brackets denote changes to the last version of document]

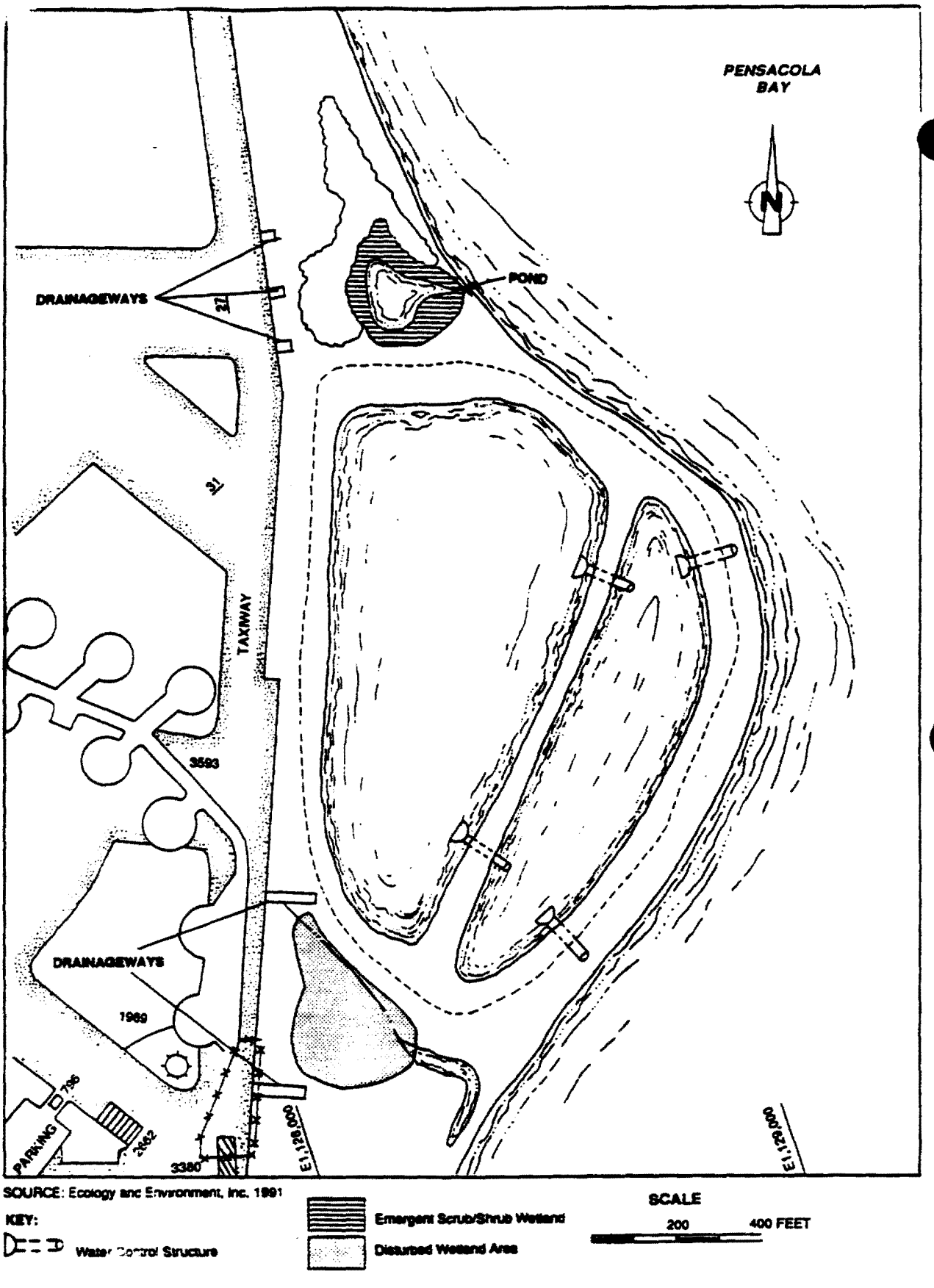

Figure 3-1 SENSITIVE **HABITAT/BIOTA** MAP —NAS PENSACOLA **SITE 14**

species were observed. Vegetation does not appear to be stressed, and no obvious impacts from hazardous wastes were observed on site.

3.4 SURFACE EMISSIONS SURVEY AND PARTICULATE AIR SAMPLING

An OVA was used to monitor surface emissions in and around the exterior perimeter of the berm, along the crest of the berm, and around the perimeters of the settling basins. No elevated surface emissions readings were measured. Appendix B presents the grid coordinates for each point where surface emission readings were taken (see Figure 3-2). Background readings were recorded in the field logbooks.

On November 13, 1990, a Mini-Ram particulate air monitoring device was used to determine if Site 14 could represent a source of particulates in the air. [Figure 2-1 presents the particulate air sampling locations at Site 14.] Two tests were performed to monitor both settling basins. Wind velocity during both tests was northeast 5 to 10 miles per hour (mph). The time-weighted average (TWA) of particulates at the first upwind station [(UW1)], located on the northeastern corner of the spoil berm, was 0.07 milligrams per cubic meter (mg/m^3) after 15.2 minutes. A station located on the center of the central dividing berm served as the downwind station for the first test and the upwind station for the second test [(DW1/UW2)]. The TWA after 15.0 minutes was 0.04 mg/m^3. The TWA at the second downwind station [(DW2)], located on the southwestern corner of the spoil berm, was 0.07 mg/m^3 after 15.0 minutes. Based on these results, the site does not appear to be a significant source of particulates.

3.5 RADIATION SURVEY

[A radiation survey vas conducted at Site 14, as described in Section 2.5.] Background radiation levels for [gamma radiation at] NAS Pensacola were 2 to 3 microRoentgens per hour (µR/h). No readings above this background level were found on Site 14. Appendix B presents the grid coordinates for each point where radiation readings were taken (see Figure 3-2).

[Bold items enclosed in brackets denote changes to the last version of document]

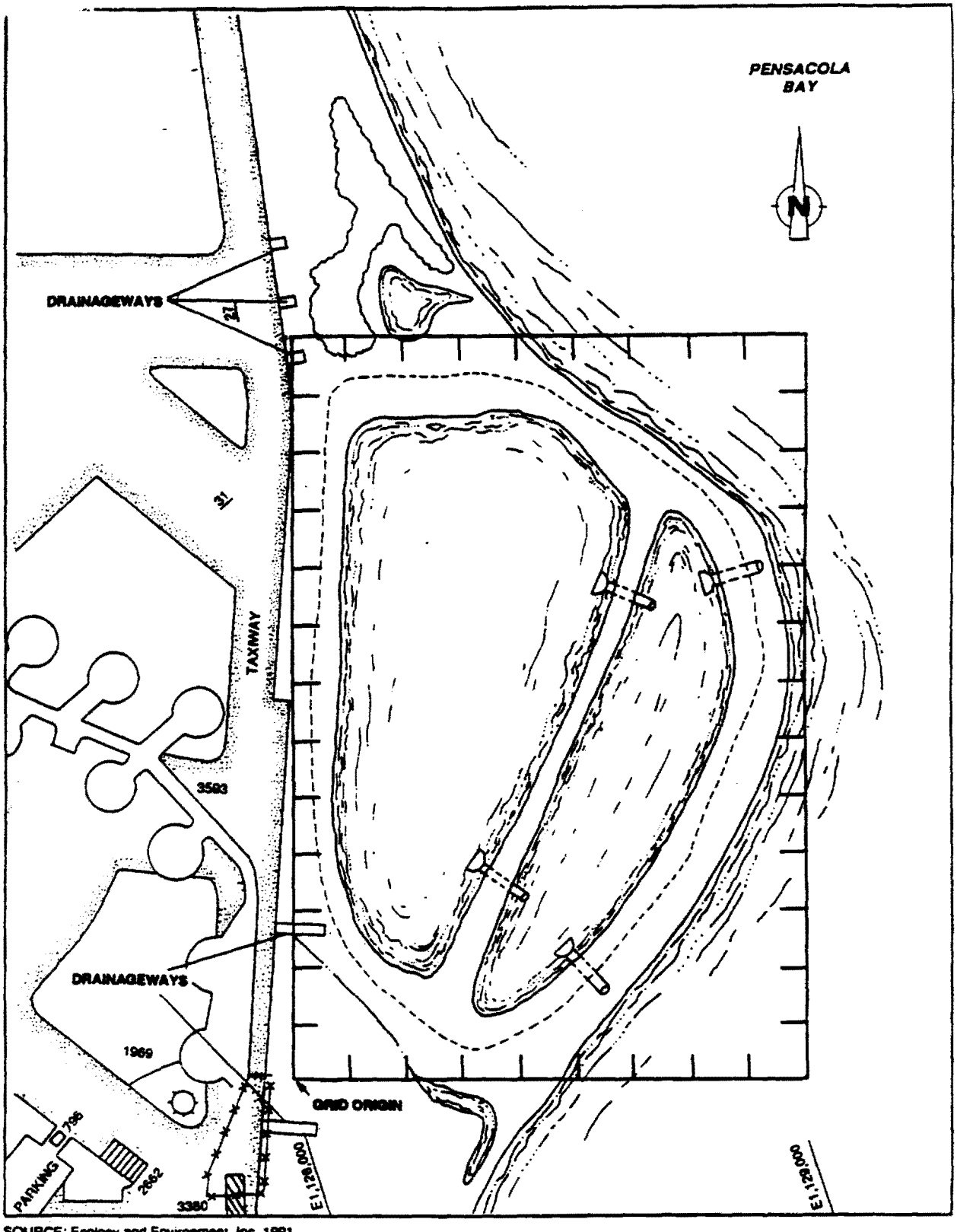

Figure 3-2 SURVEY GRID *MAP* — NAS **PENSACOLA SITE**14

3.6 HYDROLOGIC ASSESSMENT

3.6.1 Shallov Subsurface Lithology

Appendix C presents the lithologic logs for the 16 soil borings completed at Site 14. Based on the information collected during the augering of the boreholes, the shallow subsurface lithology beneath Site 14 can be generally characterized as white to light brown, fine- to coarse-grained quartz sand with shell fragments. The borings located around the perimeters of the settling basins (B001 through B006) consisted of a 1.5 foot to 4.0 foot layer of dark blue to black, cohesive, dredge material composed of clays and silts overlying white to tan, fine-to medium-grained sand. Borings B007 and B008 along the western perimeter of the site near Chevalier Field contained red, medium- to coarse-grained sand in the upper 2 feet.

Boring B013 located on the northeastern corner of the berm contained some organic material intermixed with sand from 20 to 23.5 feet BLS. This organic material may be from the same layer as the material found on the beach northeast of B013 during the site reconnaissance. Whether this material is a naturally occurring stratigraphic layer or dredge spoil that has escaped through the berm from the eastern settling basin is unknown. All the other borings located on the berm consisted of only sand and shell fragments from land surface to the water table.

The upper layers of sand at borings B015 and B016, located near the northern wetland, also contained dark gray organic material.

[OVA readings taken in the open borehole during drilling ranged from 0 to 9 parts per million (ppm). OVA readings from open boreholes are presented in Appendix C.]

3.6.2 Water Levels and Groundwater/Surface Water Flow

Table 3-1 lists the water level elevations measured in the temporary monitoring wells, pools in the two settling basins, and the pond north of the spoil area. Based on the measurements taken from the soil borings and temporary monitoring wells, the depth to the water table across the site ranges from greater than 23 feet BLS on top of the berm to 2 to 3 feet BLS around the perimeter of the site. Depth to the water table within the settling basins is 4.0 to 5.5 feet BLS.

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Table 3-1

TEMPORARY MONITORING WELL CONSTRUCTION INFORMATION
AND WATER LEVEL ELEVATIONS
NAS PENSACOLA SITE 14

Well numb. r	total Depth (BLS)	Depth to Water (BLS)	Depth to Water BTOC	TOC Elovation	Water Level Elovation	Date Measured
TW007	7.87	3.47	5.60	8.05	2.45	1/10/91
TW008	6.84	2.76	5.92	7.5	1.58	1/10/91
TW009	7.99	3.29	5.30	6.28	0.90	1/13/91
TW010	26.7	23.02	26.32	NC	NC	1/13/91
TW011	25.51	23.78	23.27	23.4	0.13	1/14/91
w 1 2	27.19	24.69	26.50	27.17	1.07	1/13/91
TW013	27.36	24.67	27.31	27.23	-.08	1/13/91
TW014	26.0	22.52	26.52	28.52	2.0	1/10/91
TW015	NC	NC	4.0	NC	NC	1/10/91
TW016	7.46	2.62	5.16	5.14	-.02	1/13/91

14[NASP]UN6037:T0232/361/22

Notes:

All depths are in feet.
All elevations are in toot referenced to moan sea level (MSL).
All wells were constructed ot 2-inch diameter stainless steel with 5 toot of 0.01-inch screen.

Key:

NC = Information not collected.
BLS = Below land surface.
TOC = Top of caring.
BTOC = Below top ot caring.

Source: Ecology and Environment, Inc., 1991.

[Bold items enclosed io brackets denote changes to the last version of document]

3.6.2.1 Groundwater Plov

Figure 3-3 illustrates the water level elevations and the groundwater flow direction in the upper portion of the surficial zone of the Sand-and-Gravel Aquifer at Site 14; the surface water elevations in the settling basins and northern pond are also shown. Based on the groundwater elevations, the main directional component of shallow groundwater flow is easterly, and the hydraulic gradient ranges from 0.003 at the southern portion of the site to 0.008 at the northern portion. Because of the proximity of this site to Pensacola Bay, groundwater flow direction probably varies as a result of tidal fluctuations.

3.6.2.2 Surface Water Plov

As discussed in Section 3.2, the water control structures located in the central dividing and eastern berms appear to be designed to discharge overflow from the western settling basin into the eastern basin and then into Pensacola Bay. The vertical pipes on the control structure are approximately 20 feet above land surface and are constructed of galvanized steel: consequently, the basins would have to fill to 20 feet above land surface before overflow would occur.

Open, concrete drainageways at the eastern edge of Chevalier Field channel surface runoff from the asphalt runways into the ponds and associated wetlands north and south of the spoil area (see Figure 1-2). These brackish water ponds have relic tidal inlets that have been closed off by natural beach accretion and berm construction and are nonfunctional except during extreme high tides. Thus, these standing water bodies have no net flow.

3.7 CHEMICAL ANALYSES

[The folloving section presents the results of the laboratory analyses of the sediment, soil, and groundwater samples. The specific analytical parameters and parameter groups are listed or referenced in Table 2-2.]

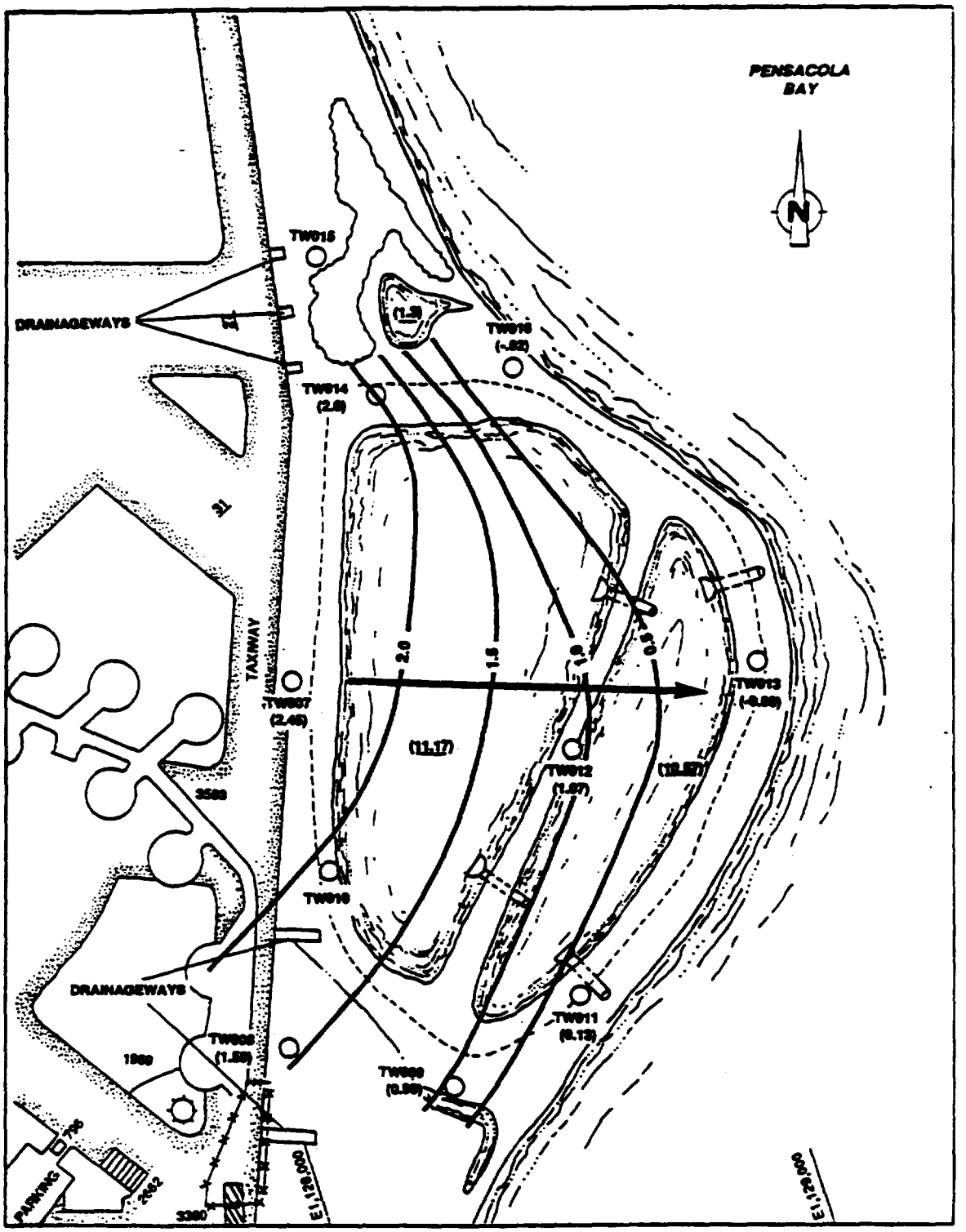

Figure 3-3 WATER LEVEL ELEVATIONS — NAS PENSACOLA SITE 14

3.7.1 Sediment

Table 3-2 summarizes the analytical screening results for sediment samples collected at Site 14. Figure 2-1 shows the locations of the sediment samples at the site. The complete analytical screening results for sediment samples are presented in Appendix D.

In general, at least one sediment sample collected at Site 14 exhibited elevated levels of metals, total recoverable petroleum hydrocarbons (TRPHs), and polynuclear aromatic hydrocarbons (PAHs). Pesticides and PCBs were not detected in any sediment samples. Volatile organic compounds (VOCs) and phenols were detected only in low concentrations. Contaminant concentrations tended to be highest in two fine-grained samples collected near the northeastern water control structure outfall and in a sediment sample from a drainage channel near the southwestern corner of the site. This distribution of contaminants suggests that sediments are being impacted by different sources of contamination.

3.7.1.1 Metals

Chromium and zinc were the only metals present in all of the sediment samples; lead, nickel, and copper were also present in two samples. Arsenic, cadmium, and silver were not detected in any sediment samples. Figure *3-4* presents total metals concentrations detected in the sediment samples.

Total metals concentrations were highest in two sediment samples (SD003 and SD004) collected from the nearshore clay layer near the northeastern water control structure. In these two samples, the chromium and zinc concentrations present were the primary contaminants and were 10 to 20 times higher than those concentrations detected in samples collected from nearshore sandy areas. [Nickel] and copper detected in these two samples were also elevated relative to background levels measured by FDER in Pensacola Bay (FDER 1988). No other sediment samples exhibited significantly elevated levels of metals compared to ambient levels in the bay. This distribution of metals suggests that metals in nearshore sediments are confined to an outcropping of a fine-grained sediment layer.

[Bold items enclosed in brackets denote changes to the last version of document]

Table 3-2

SUMMARY ANALYTICAL SCREENING RESULTS FOR SEDIMENT SAMPLES
NAS PENSACOLA SITE 14
(All results in µg/kg, unless noted)

Parameter	[Detection Limit]	Sample Number (Location) P14SD001 (SD001)	P14SD002 (SD002)	P14SD003 (SD003)	P14SD004 (SD004)	P14D005 (SD005)	P14SD006 (SD006)
Chromium (mg/kg)	6.9	1.5	1.4	27	31	1.6	1.5
Zinc (mg/kg)	2	6.5	3.8	37	45	2.7	9.0
Lead (mg/kg)	4	--	--	4.1	6.6	--	--
Nickel (mg/kg)	4	--	--	9.2	13	--	--
Copper (mg/kg)	2.5	--	--	8.3	10	--	--
TRPHs (mg/kg)	5	22	--	5.4	7.4	--	2,500
Methylene Chloride	1,000	0,300 B)	3,400 B)	7,100(B)	6,200(B)	5,600 B)	5,500(B)
Total PAHs as Benzo-a-pyrene	1,000	(L)	1,100	I,700	1,900	(L)	4,700
Phenols as Trichlorophenol	2,000]	2,200	4,300	(L)	3,200	--	--

14[NASP]UH6037:T0232/276/18

Note: These results were reported on a wet-weight basis.

Key:

Qualifiers:
(B) = Compound also present in method blank.
(L) = Present below stated detection limit.

Dash (--) indicates compound not detected.

Source: Ecology and Environment, Inc., 1991.

[Bold items enclosed in brackets denote changes to the last version of document]

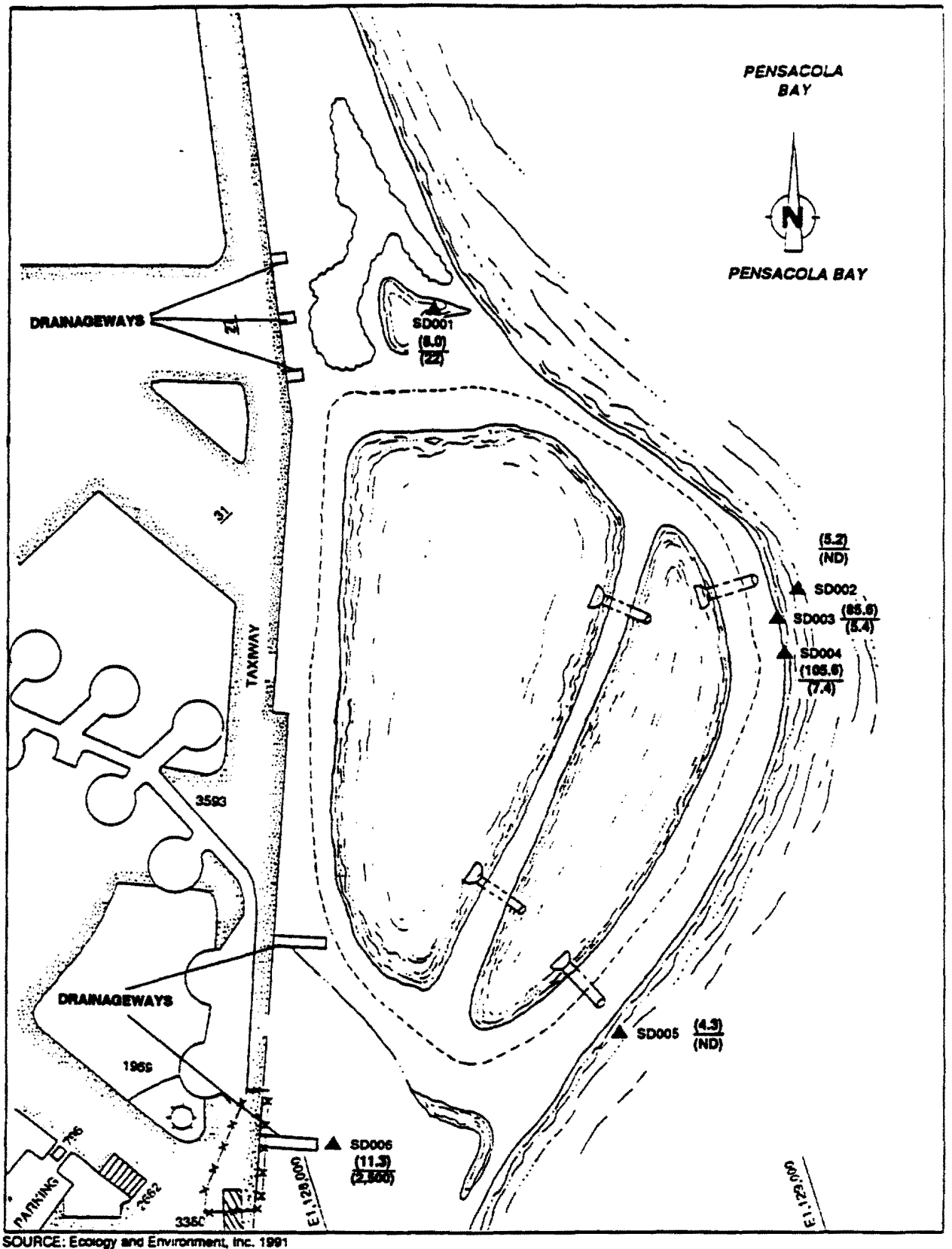

Figure 3-4 TOTAL METALS AND TRPH CONCENTRATIONS IN SEDIMENT SAMPLES — NAS PENSACOLA SITE 14

3.7.1.2 **TRPHs**

An elevated TRPH concentration (2,500 milligrams per kilogram [mg/kg]) was detected in sediment sample SD006, vhich vas collected in a drainageway near the southwestern corner of the site (see Figure 3-4). This sample had a gasoline and diesel fuel odor, vhich suggests that the drainage way most likely had been contaminated by fuel draining off of the adjacent runvay from Chevalier Field. No other sediment samples exhibited significant TRPH levels, although SD001 collected from the northern pond exhibited a slightly elevated concentration (22 mg/kg) compared to trace TRPH levels detected in the four nearshore samples. Contaminated runoff from Chevalier Field is also a possible source of TRPHs to th·s pond, vhich receives surface runoff from a series of concrete drainageways (see Figure 2-1).

3.7.1.3 VOCs

Hethylene chloride vas detected in all sediment samples at concentrations as high as 8,300 micrograms per kilogram (µg/kg). Hovever, this common laboratory solvent vas also detected at similar levels in all of the laboratory method blanks (see Section'3.9.2); therefore, the presence in the sediment samples is attributable to laboratory-derived contamination. No other VOCs were detected in sediment samples at Site 14.

3.7.1.4 PAHs

PAHs were detected in all sediment samples at generally lov levels. As vith the TRPH results, sample SD006, collected from the drainage channel near the southwestern comer of the site, exhibited the highest PAH concentration (4,700 µg/kg) of all samples. Concentrations of PAHs in the other five samples ranged from belov the detection limit (1,000 µg/kg) to 1,900 µg/kg at SD004 near the northeastern vater control structure.

3.7.1.5 Phenols

Phenols vere present in four of the sediment samples (SD001 through SD004) in concentrations ranging from belov the detection limit of 2,000

µg/kg in sample SD003 to 4,300 µg/kg in sample SD002. These concentrations occurred mainly in sediments near the northeastern water control structure.

3.7.1.6 Pesticides and PCBs

Pesticides and PCBs were not detected in any sediment samples at Site 14.

3.7.2 Soil

Table 3-3 summarizes the analytical screening results for soil samples collected at Site 14. Figure 2-1 shows the boring locations at Site 14. The complete analytical screening results for soil samples are presented in Appendix E.

In general, three or more of the soil samples collected at Site 14 exhibited elevated levels of metals, TRPHs, VOCs, and phenols. Pesticides and PCBs were not detected in any of the soil samples. PAHs were detected at low levels in about 50% of the soil samples. The highest contaminant concentrations were usually detected in samples collected from the A interval, except for those samples collected from soil borings located on the berm, in which the highest levels usually occurred in the C, D, or E interval.

3.7.2.1 Metals

Most metals contamination occurred in soil samples collected from borings within the settling basins (B001 through B006), although concentrations were generally only slightly to moderately elevated compared to ambient sediment data for Pensacola Bay (FDER 1988). Metals concentrations detected in borings on the berm usually occurred in the lower sampling intervals (C, D, or E), close to the same elevation relative to HSL as the A interval samples from within the settling basins. Of the five soil samples collected from borings outside the berm, only three samples exhibited detectable levels of metals at very low concentrations.

[Figure 3-5 illustrates the distribution of chromium and cadmium concentrations detected in Site 14 soil samples.] Concentrations of metals in soil samples from within the settling basins were relatively

Table 3-3

SUMMARY ANALYTICAL SCREENING RESULTS FOR SOIL SAMPLES
NAS PENSACOLA SITE 14
(All results in µg/kg, unless noted)

Parameter	[Detection Limit	Sample Number (Location and Depth Interval) P14S001A (B001A)]	P14S002A (B002A)	P14S003A (B003A)	P14S004A (B004A)	P14S005A (B005A)	P14S005AD[a] (B005A)	P14S006A (B006A)
Arsenic (mg/kg)	6.9	--	--	--	--	--	--	--
Chromium (mg/kg)	1	9.8	16	17	17	15	11	12
Zinc (mg/kg)	2	18	28	33	31	21	15	15
Lead (mg/kg)	4	--	--	--	--	--	--	--
Cadmium (mg/kg)	0.5	1.5	2.0	2.2	2.1	2.4	1.7	1.3
Copper (mg/kg)	2.5	2.1	4.0	4.0	4.3	3.3	--	2.8
TRPHs (mg/kg)	5	--	25	9.2	6.6	91	81	300
Methylene Chloride	1.000	2,700	2,700	1,900	1,700	1,100	1,200	1,300
Trans-1,2-Dichloroethene	1,000	--	--	--	--	--	--	--
1,1,1-Trichloroethane	1,000	--	--	--	--	--	--	--
Total PAY. as Benzo-a-pyrene	1,000	1,800	1,700	2,000	2.400	(L)	1,500	1,200
Phenols as Trichlorophenol	2,000]	13,000	5,000	3,300	16.000	20,000	7,500	4,300

14[NASP]UH6037:T0232/280/5

Key at end of table.

[Bold items enclosed in brackets denote changes to the last version of document]

Table 3-3 (Cont.)

Parameter	[Detection Limit	Sample Number (Location and Depth Interval) P14S007A (B007A)	P14S008A (B008A)	P14S009A (B009A)	P14S010A (B010A)	P14S010B (B010B)	P14S010C (B010C)
Arsenic (mg/kg)	6.9	--	7.4	--	--	--	--
Chromium (mg/kg)	1	--	1.8	1.9	--	--	--
Zinc (mg/kg)	2	--	--	--	--	--	--
Lead (mg/kg)	4	--	--	--	--	--	--
Cadmium (mg/kg)	0.5	--	0.78	--	--	--	--
Copper (mg/kg)	2.5	--	--	--	--	--	--
TRPHs (mg/kg)	5	*200*	1,800	240	24	18	16
Methylene Chloride	1,008	1,300	1,500	1,400	1,600(B)	1,200(B)	1,200(B)
Trans-1,2-Dichloroethene	1,000	--	--	--	--	--	--
1,1,1-Trichloroethane	1,000	--	--	--	--	--	--
Total PAHs as Benzo-a-pyrene	1,000	--	--	--	--	--	1,800
Phenols as Trichlorophenol	2,000]	--	--	--	--	--	2,900

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[Bold items enclosed in brackets denote changes to the last version of document]

Table 3-3 (Cont.)

Parameter	[Detection Limit	Sample Number (Location and Depth Interval) P14S010D (B010D)	P14S010E (B010E)	P14S011A (B011A)	P14S011B (B011B)	P14S011C (B011C)	P14S011[(B011D]
Arsenic (mg/kg)	6.9	--	--	--	--	--	--
Chromium (mg/kg)	1	--	--	--	--	--	--
Zinc (mg/kg)	2	--	--	4.2	--	--	2.2
Lead (mg/kg)	4	--	--	--	--	--	--
Cadmium (mg/k[illegible]	[illegible]	--	--	--	--	--	--
Copper (mg/kg	2.5	--	--	--	--	--	--
TRPHs (mg/kg)	5	17	21	--	--	--	--
Methylene Chloride	1,000	1,100(B)	1,200(B)	--	--	--	--
Trans-1,2-Dichloroethene	1,000	--	--	--	--	--	--
1,1,1-Trichloroethane	1,000	--	--	2,500	2,300	1,900	1,800
Total PAHs as Benso-a-pyrene	1,000	--	--	--	--	--	--
Phenols as Trichlorophenol	2,000]	--	--	--	--	--	--

Key at end of table.

14[NASP]UH6037:T0232/280/5

[Bold items enclosed in brackets denote changes to the last version of document]

Table 3-3 (Cont.)

Parameter	[Detection Limit	Sample Number (Location and Depth Interval) P14S012A (B012A)	P14S012B (B012B)	P14S012C (B012C)	P14S012D (B012D)	P14S012DD[b] (B012D)	P14S012E (B012E)
Arsenic (mg/kg)	**6.9**	--	--	--	--	--	--
Chromium (mg/kg)	**1**	--	--	--	--	--	--
Zinc (mg/kg)	*2*	--	--	**3.1**	--	4.4	**2.4**
Lead (mg/kg)	4	--	--	--	--	10	--
Cadmium (mg/kg)	*0.5*	--	--	--	--	--	--
Copper (mg/kg)	*2.5*	--	--	--	--	--	--
TRPHs (mg/kg)	**5**	--	--	--	--	--	**14**
Methylene Chloride	1.000	--	--	--	--	--	--
Trans-1.2-Dichloroothono	1,000	--	--	--	--	--	--
1,1,1-Trichloroethane	1,000	**1,500**	**1,800**	**1,600**	**3,300**	--	--
Total **PAHs** as Benzo-a-pycone	**1,000**	--	--	--	--	--	--
Phenols as Trichlorophenol	**2,000]**	--	--	**(L)**	--	--	--

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Table 3-3 (Cont.)

Parameter	[Detection Limit	(Sample Number (Location and Depth Interval) P14S013A (B013A)	P14S013B (B013B)	P14S013C (B013C)	P14S013D (B013D)	P14S013E (B0131)	P14S014A (B014A)
Arsonic (mg/kg)	6.9	—	—	—	—	—	—
Chromium (mg/kg)	1	—	—	1.1	—	—	1.5
Zinc (mg/kg)	2	2.6	—	3.9	—	3.4	2.3
Lead (mg/kg)	4	—	—	—	—	—	—
Cadmium (mg/kg)	0.5	—	—	—	—	—	—
Copper (mg/kg)	2.5	—	—	—	—	—	—
TRPHs (mg/kg)	5		—	—	—	7.6	—
Methylene Chloride	1,000	—	—	—	—	—	—
Trans-1,2-Dichloroethene	1.000	—	—	—	—	—	—
1,1,1-Trichloroethane	1,000	—	—	—	—	—	—
total PAHs as Benzo-a-pyrene	1,000	—	—	—	—	—	—
Phenols as Trichlorophenol	2,000]	—	—	—	—	—	—

14[NASP]UH6037:T0232/280/5

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[Bold items enclosed in brackets denote changes to the last version of document]

Table 3-3 (Cont.)

Parameter	[Detection Limit	Sample Number (Location and Depth Interval) P14S014B (B014B)	P14S014C (B014C)	P14S014D (B014D)	P14S01SA (B015A)	P14S016A (B016A)	P14S016AD[c] (B016A)
Arsonic (mg/kg)	**6.9**	--	--	--	--	--	--
Chromium (mg/kg)	**1**	1.6	--	**1.0**	--	--	**1.5**
Zinc (mg/kg)	2	3.7	2.9	--	--	**2.3**	2.8
Load (mg/kg)	4	--	--	--	--	--	--
Cadmium (mg/kg)	**0.5**	--	--	--	--	--	--
Copper (mg/kg)	2.5	--	--	--	--	--	--
TRPHs (mg/kg)	5	16	6.5	6.0	--	--	9.3
Methylene Chloride	**1,000**	--	--	1,600	--	--	--
Trans-1,2-Dichloroethene	1,000	--	--	1,100	2,100	--	2,000
1,1,1-Trichloroethane	1,000	--	--	I,200	--	--	--
Total PAHs as Benzo-a-pyrene	1,000	--	--	--	--	--	--
Phenols AS Trichlorophenol	**2,000]**	--	--	--	--	--	--

14[NASP]UH6037:T0232/280/5

Note: These results were reported on a wet-weight basis.

Key:

[a]Duplicate of sample P14S005A.
[b]Duplicate of sample P14S012D.
[c]Duplicate of sample P14S016A.

Dash (--) indicates compound not detected.

Qualifiers:
(B) = Compound also present in method blank.
(L) = Present below stated detection limit.

Source: Ecology and Environment, Inc., 1991.

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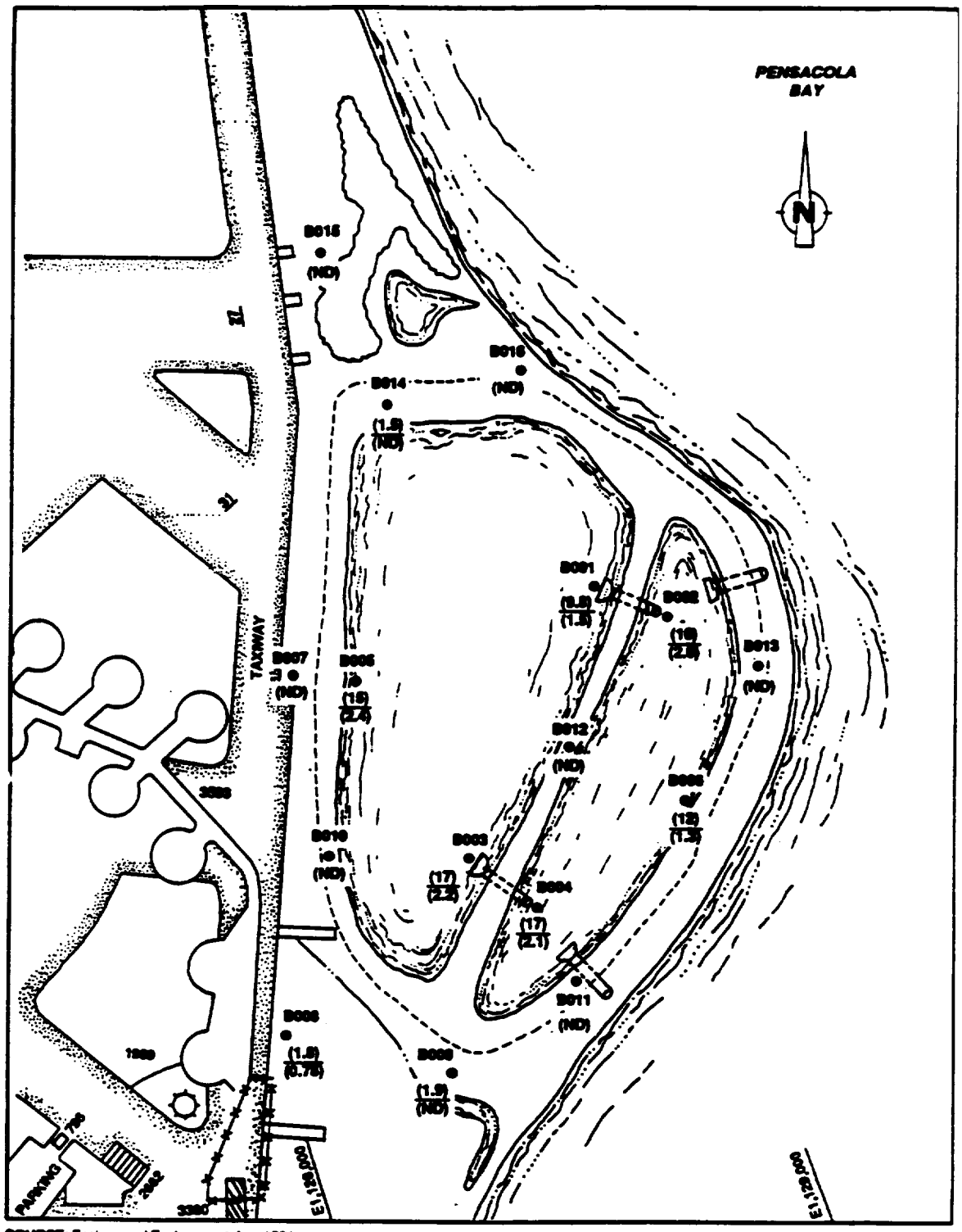

Figure 3-5 CHROMIUM AND **CADMIUM CONCENTRATIONS** IN **A-INTERVAL SOIL SAMPLES — NAS PENSACOLA SITE 14**

uniform among borings, with total metals concentrations ranging from 31.1 mg/kg to 56.2 mg/kg (see Figure 3-[6]). Chromium, zinc, cadmium, and copper were detected in all the settling basin soil borings (B001 through B006). Lead was detected in only one soil boring (B012), located in the middle of the central dividing berm in the D interval. Chromium and zinc were the only metals detected in the soil borings located on the berm surrounding both settling basins (B010 through B014), and both metals were detected in very low concentrations (1.0 mg/kg to 1.6 mg/kg and 2.2 mg/kg to 4.2 mg/kg, respectively). Arsenic, nickel, and silver were not detected in any soil samples at Site 14.

This distribution of metals concentrations in soil borings indicates that elevated levels of metals are confined to the fine-grained sediments in the two settling basins. No other sources or occurrences of metals contamination in soil are apparent at Site 14.

3.7.2.2 TRPHs

TRPEs were detected in all but three soil borings at Site 14 (see Figure 3-[6]). Elevated concentrations of TRPHs (200 mg/kg to 1,800 mg/kg) were detected in two soil borings adjacent to Chevalier Field (B007 and B008) and a third boring located near a drainage channel conducting runoff from the Field (B009), suggesting that Chevalier Field may be a source of TRPE contamination. TRPE concentrations in soil borings within the two settling basins ranged from undetectable (<5.0 mg/kg) at B001 to 300 mg/kg at B006. TRPEs also were detected in samples collected from three of the berm soil borings. Borings B012 and B013 exhibited TRPEs only in samples from the E interval, and boring B014 exhibited TRPEs in samples from the B, C, and D intervals. Concentrations of TRPEs in these soil samples varied from 6.0 mg/kg to 16 mg/kg.

3.7.2.3 VOCs

Hethylene chloride was detected in many of the soil samples at concentrations as high as 2,700 µg/kg. However, as in the case of the sediment samples, this common laboratory solvent was also detected at similar levels in several of the laboratory method blanks (see Section

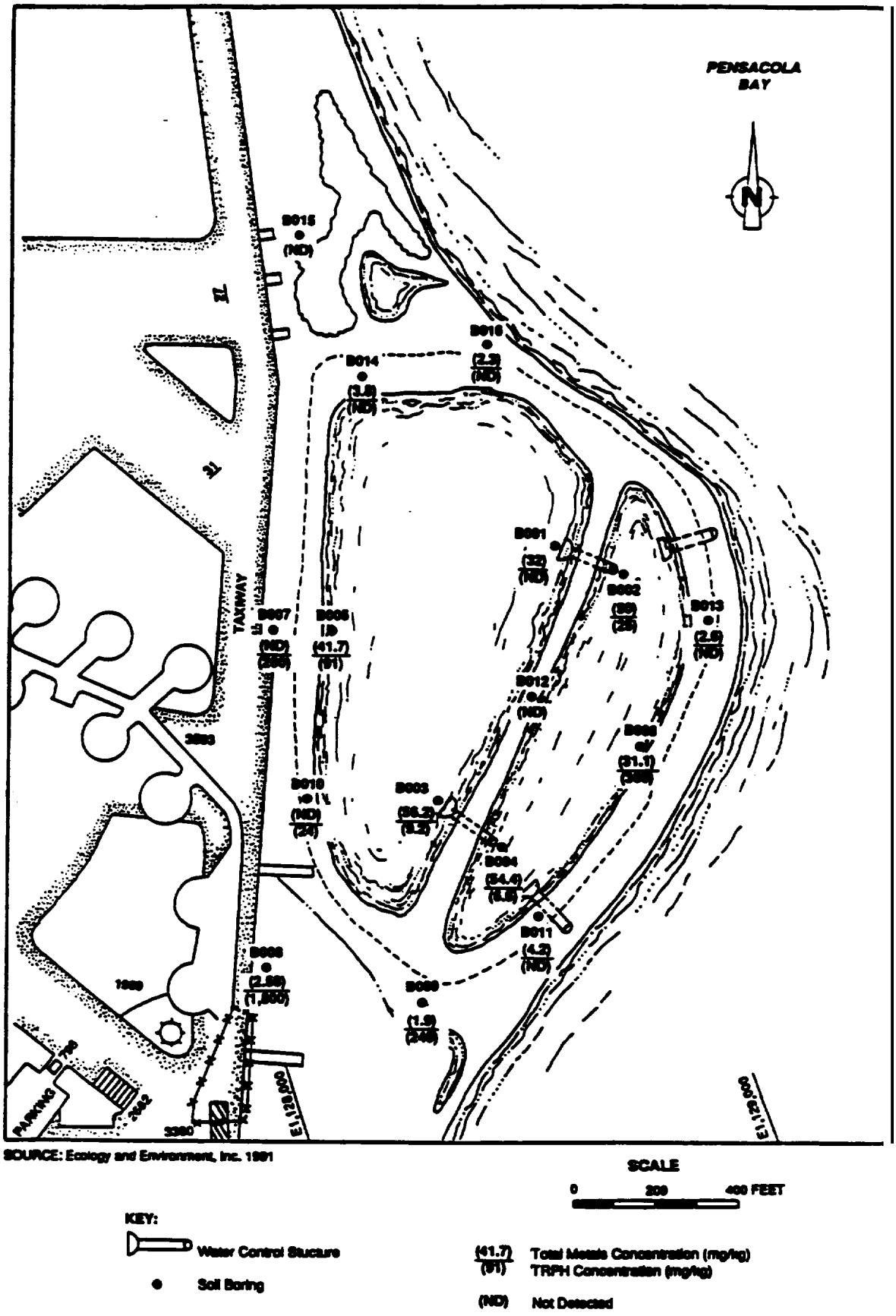

Figure 3-6 TOTAL METALS AND TRPH CONCENTRATIONS IN A-INTERVAL SOIL SAMPLES — NAS PENSACOLA SITE 14

3.10.2); therefore, the presence in the soil samples is attributable to laboratory-derived contamination.

Trans-1,2-dichloroethene and 1,1,l-trichloroethane were each detected in three soil borings. Trans-1,2-dichloroethene occurred in A interval samples from soil borings near the north end of the site (BO14 through BO16) at concentrations from 1,100 µg/kg to 2,100 µg/kg. 1,1,1-trichloroethane was present in samples collected from berm borings BO11 and BO12 in the A, B, C, and D intervals at concentrations ranging from 1,500 µg/kg to 3,300 µg/kg and BO14 in the D-interval at 1,200 µg/kg.

3.7.2.4 PAHs and Phenols

PAHs and phenols were detected in all the soil samples collected within the settling basins. PAHs occurred at concentrations ranging from below the detection limit (1,000 µg/kg) to 2,800 µg/kg; phenol levels varied from 3,300 µg/kg to 20,000 µg/kg. One of the berm soil borings (BO10) also exhibited slightly elevated levels of PAHs and phenols in the C interval. Phenols were also detected in the C interval at BO12, located on the central dividing berm. PAHS and phenols were not detected in any other soil borings. These results suggest that the dredge spoil is a source of PAHs and phenols.

3.7.2.5 Pesticides and PCBs

Pesticides and PCBs were not detected in any soil samples collected at Site 14.

3.7.3 Groundwater

3.7.3.1 Field Parameters

Table 3-4 lists the groundwater pH, temperature, and specific conductance values measured for the samples collected from the temporary monitoring wells. Specific conductance measurements for wells TWO11 through TWO16 exceeded the reported range of values for ambient groundwater in Escambia County (Clemens et al. 1989). This occurrence is probably due to saltwater intrusion from Pensacola 'Bay. All other field parameter measurements for Site 14 wells were within the reported range of values for ambient groundwater in Escambia County. [The range of pH values is 5.40 to 7.54.] No floating or [sinking] immiscible

Table 3-4

GROUNDWATER FIELD PARAMETERS
NAS PENSACOLA SITE 14

Well Number	Temperature (°C)	pH (units)	Specific Conductance (µmhos/cm)	Date Measured
TWO07	20.9	6.06	99	1/10/91
m 0 0	19.7	6.75	270	1/10/91
TW009	18.8	6.96	525	1/13/91
TW010	20.7	6.60	234	1/13/91
TW011	20.2	7.54	1,502	1/14/91
TW012	20.3	7.03	1,S30	1/13/91
TW013	23.1	6.73	1,516	1/13/91
TWO14	--	5.50	1,600	1/10/91
TW015	--	5.40	1,500	1/10/91
TW016	17.1	6.05	1,505	1/13/91

14[NASP]UN6037:T0232/241/26

Key:

Dash (--) indicates parameter not measured.

Source: Ecology and Environment, Inc., 1991.

hydrocarbons were observed in any of the wells. Appendix C presents the temporary monitoring well information including field parameter and groundwater elevation data.

3.7.3.2 Analytical Screening Parameters

Table 3-5 summarizes the analytical screening results for the groundwater samples collected from the 10 temporary monitoring wells installed on Site 14. Figure 2-1 shows the temporary monitoring well locations at Site 14. The complete analytical screening results for the groundwater samples are presented in Appendix F.

In general, about half of the groundwater samples collected at Site 14 exhibited elevated levels of metals. However, as will be discussed in Section 3.8, the elevated metals concentrations detected probably reflect leaching or dissolution of aquifer matrix sediments entrained in the unfiltered samples by the acid preservative rather than actual groundwater contamination. TRPHs, VOCs, pesticides, and PCBs were not detected in any of the groundwater samples. PAHs and phenols were detected only at trace levels in two samples.

Metals. Chromium was detected in nine of the 10 groundwater samples, three of which (GW011, GW012, and GW015) exhibited concentrations that exceed the Florida Primary Drinking Water Standard (FPDWS) of 50 micrograms per liter (µg/L; Chapter 17-550, Florida Administrative Code [FACJ). Concentrations of cadmium at 13 µg/L and 11 µg/L in samples GW011 and GW012, respectively, exceeded the FPDWS of 10 µg/L. Nickel was detected in only these two groundwater samples at Site 14. [Figure 3-7 illustrates the distribution of Chromium, lead, and cadmium concentrations detected in Site 14 groundvater samples.]

Zinc was detected in all the groundwater samples collected at Site 14, although none of the concentrations measured exceeded the Florida Secondary Drinking Water Standard of 5,000 µg/L. Groundwater samples collected from wells TW007 and TW008, located adjacent to Chevalier Field, exhibited the highest concentrations of zinc, as well as lead and copper. TW010, also located near Chevalier Field on the western berm,

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Table 3-5

SUMMARY ANALYTICAL SCREENING RESULTS FOR GROUNDWATER SAMPLES
(FROM TEMPORARY MONITORING WELLS)
NAS PENSACOLA SITE 14
(All results in µg/L, unless noted)

Parameter	[Detection Limit	Sample Number (Location) P14GW007 (TW007)	P14GW007D[a] (TW007)	P14GW008 (TW008)	P14GW009 (TW009)	P14GW010 (TW010)	P14GW011 (TW011)	[FFDMS/ FSDMS
Chromium	10	11	--	17	16	--	130	50
Zinc	20	200	160	170	36	40	140	5,000
Lead	40	130	130	*300*	--	120	--	50
Cadmium	5	--	--	--	--	--	13	10
Nickel	40		--	--	--	--	49	
Copper	25	58	42	55	--	--	29	1,000]
Total PAHs as Benzo-a-pyrene	100	--	--	--	--	--	--	
Phenols as Trichlorophenol	100]	--	--	(L)	--	--	--	

14[NASP]UH6037:T0232/279/10

Key at end of table.

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Table 3-5 (Cont.)

Parameter	[Detection Limit	Sample Number (Location) P14GW012 (TW012)	P14GW013 (TW013)	P14GW014 (TW014)	P14GW015 (TW015)	P14GW016 (TW016)	[FPDWS/ FSDWS
Chromium	10	110	46	27	69	35	SO
Zinc	20	120	57	64	83	49	5,000
Load	40	--	--	--	--	--	SO
Cadmium	5	11	5.5	--	--	--	10
Nickel	40	56	—	--	—	--	
Copper	2s	36	--	--	58	--	1,000]
Total PAHs as Benzo-a-pyrene	100	--	--	--	(L)	--	
Phenols as Trichlorophonol	100]	--	--	--	(L)	--	

14[NASP]UH6037:T0232/279/10

Key:

[FPDWS = Florida Primary Drinking Water Standard.
FSDWS = Florida Secondary Drinking Water Standard.]

[a]Duplicate of sample P14GW007.

Dash (--) indicates compound not detected.

Qualifier:

(L) = Present below stated detection limit.

Source: Ecology and Environment, Inc., 1991.

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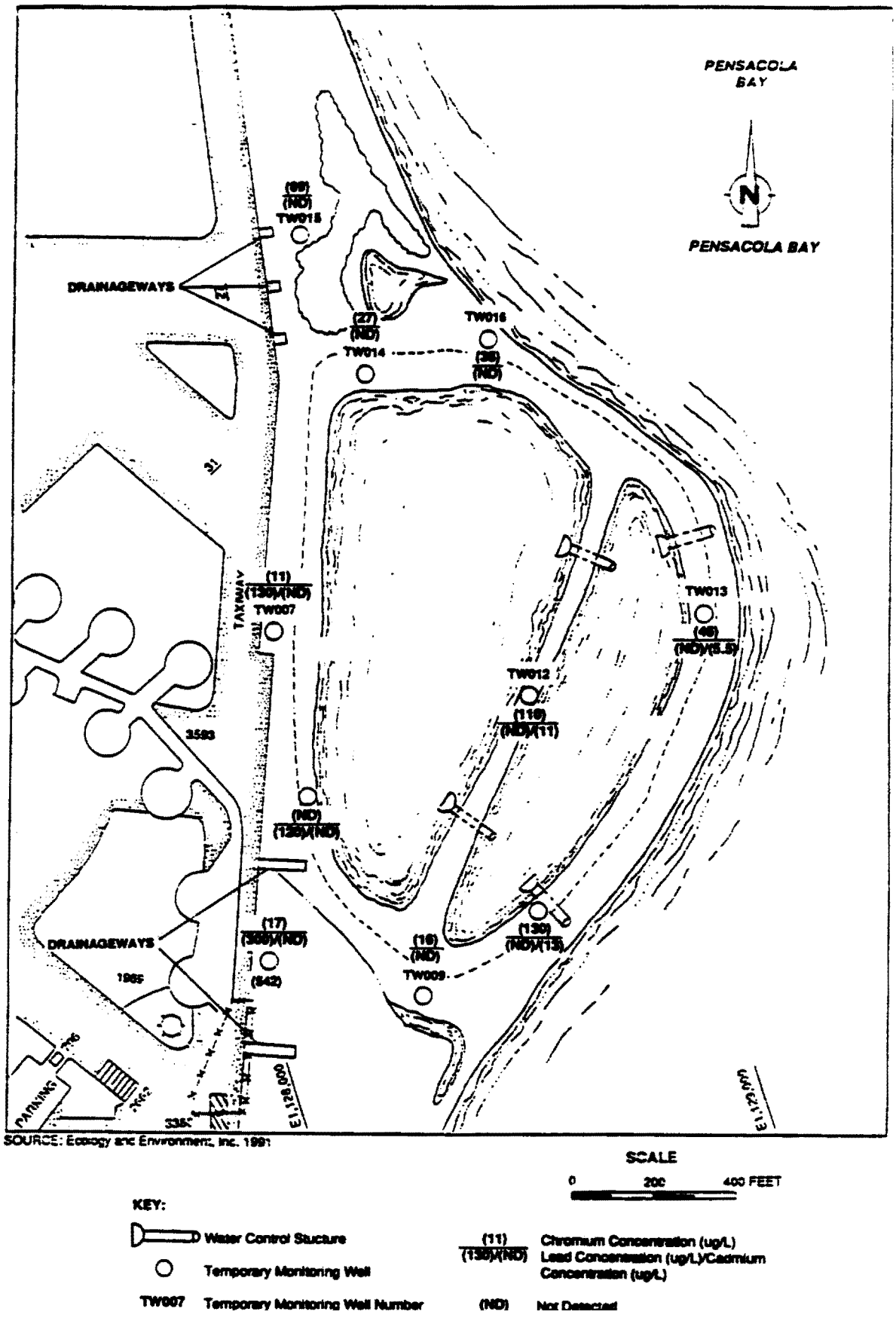

SOURCE: Ecology and Environment, Inc. 1991

Figure 3-7 CHROMIUM, LEAD, AND CADMIUM CONCENTRATIONS IN GROUNDWATER SAMPLES — NAS PENSACOLA SITE 14

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was the only other well that also contained lead. The lead concentrations detected in all three of these groundwater samples exceeded the FDPWS for lead (50 µg/L).

The distribution of total metals concentrations in groundwater at Site 14 (see Figure 3-[8]) shows that the highest levels of metals contamination occur along the western border of the site in wells TW007 and TW008, suggesting that Chevalier Field may be a greater source of metal contaminants than the dredge spoil. However, significantly elevated concentrations of metals are also present near the center (TW012) and southeastern portion (TW011) of the spoil fill area. Low concentrations of total metals near the bayshore perimeter of the fill area (TW009, TW013, TW014, and TW016) indicate that the level of metals contamination in the shallow aquifer on Site 14 may be diminished as groundwater migrates to Pensacola Bay.

3.8 CONTAMINATION DISTRIBUTION/SOURCE DISCUSSION

All three of the media (sediment, soil, and groundwater) sampled at Site 14 exhibit at least trace levels of metals contamination. Elevated concentrations of TRPHs and PAHs were detected in sediment samples, and evidence of TRPH, VOC, and phenol contamination was present in soil samples. Some of the detected contamination appears associated with the fine-grained dredge spoil; however, the Phase I results also appear to indicate the presence of another source of contamination impacting Site 14. In the following sections, each of the sampled media will be discussed separately regarding the nature, distribution, and potential source(s) of contamination.

3.8.1 Sediment

One or more of the sediment samples collected at Site 14 exhibited elevated levels of metals, TRPHs, and PAHs. Low levels of methylene chloride and phenols were detected in some sediment samples. Pesticides and PCBs were not detected in any of the sediment samples at Site 14.

Host of the elevated contaminant concentrations occurred in two sediment samples collected near shore in the vicinity of the northeastern water control structure and a third sample from a drainage

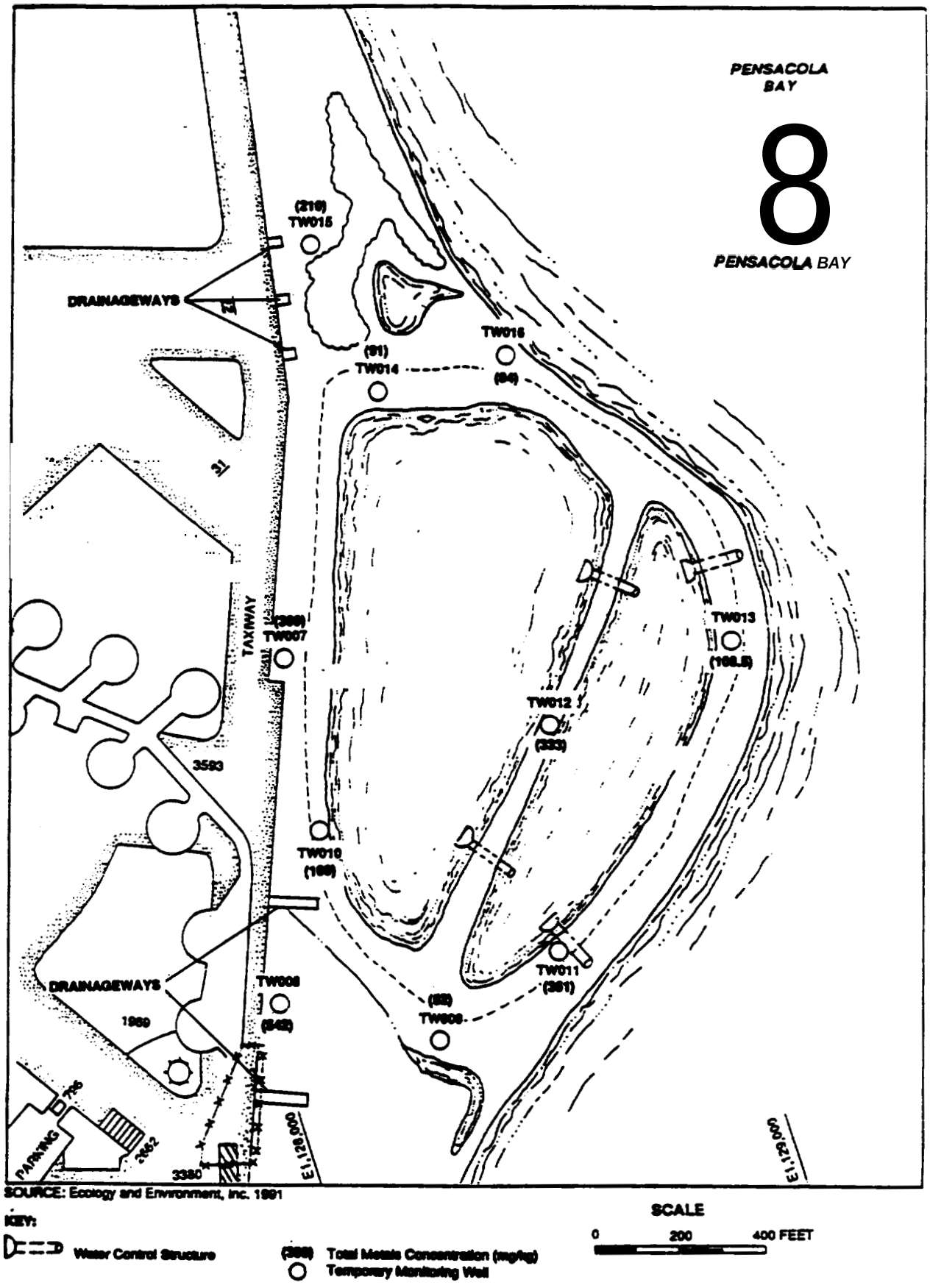

Figure 3-8 TOTAL METALS CONCENTRATIONS IN GROUNDWATER SAMPLES — NAS PENSACOLA SITE 14

channel near the southwestern corner of the site. The distance between these sample locations suggests that two sources of contamination may affect the sire.

Elevated concentrations of metals were limited to two samples collected from a nearshore clay layer, which either emanated from the spoil fill area or is naturally occurring. Based on a comparison with background sediment metals data, zinc and copper appear to be the primary metal contaminants in these samples. Chromium, for which no reliable background data is available, was also present in these samples at moderately elevated concentrations in comparison to chromium levels measured in adjacent sandy samples and in samples from Site 2 along the waterfront. These elevated concentrations of metals appear to be associated with the clay layer from which these samples were collected. This association suggests that metals contamination in the nearshore sediments is apparently restricted to the extent of the clay layer, which outcrops from the beach 15 feet south of the northeastern water control structure and continues for approximately 180 feet south.

Fuel spills from off-site activities appear to be the obvious source of significant TRPA and PAH contamination in the drainage channel near the southwestern corner of Site 2. The presence of a gasoline or diesel odor from the channel was confirmed during sampling. A concrete drainageway connecting this channel to the east side of Chevalier Field could conduct spills from adjacent runways and parking areas. Also, construction equipment used during trenching activities in this vicinity at the time of sampling could also have been a possible source of the fuel.

Phenol concentrations detected in sediment samples collected near the northeastern water control structure were similar to phenol levels measured in soil samples collected within the settling basins. This finding may indicate that fine-grained material found on the beach and nearshore area is contaminated dredge spoil that has escaped from the settling basins or that has been exposed by erosion of the berm.

3.8.2 Soil

Elevated levels of metals, TRPHs, VOCs, and phenols were detected in three or more soil samples collected at Site 14. The highest

contaminant concentrations were usually detected in the A intervals, except for those soil borings located on the berm. In these borings, the highest levels usually occurred in the deeper sampling intervals (C, D, or E interval). The E interval corresponds approximately to the same elevation relative to the water table as the A interval in the settling basins. Pesticides and PCBs were not detected in any of the soil samples. Low levels of PAHs were measured in about half of the soil samples at Site 14.

Chromium, zinc, cadmium, and copper were the primary metal contaminants detected. All of these metals occurred in all of the soil samples collected within the settling basins. Concentrations of each metal were uniform among these samples. This distribution of contamination within the settling basins provides evidence that these bay bottom sediments were contaminated with metals prior to dredging and settled out of the liquefied dredge spoil evenly throughout the basins. However, soil samples from the interior of the settling basins are necessary to substantiate this conclusion.

Elevated levels of metals, PAHs, and phenols were not detected in the berm or in locations outside the berm, indicating that the berm has been effective in restricting these contaminants to the settling basins. TRPH contamination [was detected in] the settling basins [and] at several locations west and south of the berm. [The highly elevated TRPH concentrations detected in the locations west and south of the berm were] probably caused by fuel spills and/or contaminated runoff from the adjacent runways at Chevalier Field.

VOCs were detected in three of the berm soil borings and at two borings north of the spoil fill area. Because VOCs were detected in soil samples from disparate locations and were not detected in the groundwater samples, VOC contamination probably did not originate from point sources, such as buried drums. Rather, the distribution of VOCs detected may not be indicative of the actual occurrence because, relative to the detection limits, the VOCs were detected at low concentrations, and, therefore, may also be present below the detection limits elsewhere on the site. A widespread occurrence of VOCs would indicate the presence of an ambient source, such as solvents used on the base or aircraft fuel from aircraft overflights.

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3.8.3 Groundwater

Metals were the only significant groundwater contaminant at Site 14. PAHs [were present below detection limits in one sample,] and phenols were present below the detection limits in two samples adjacent to Chevalier Field. TRPHs, VOCs, pesticides, and PCBs were not detected in any of the groundwater samples at Site *14.*

Six of the 10 groundwater samples exceeded the FPDWS for at least one metal. Chromium, lead, and cadmium were the primary metal contaminants. However, given that these samples were very turbid and not subjected to filtration, these elevated concentrations probably reflect leaching/dissolution of aquifer matrix sediments entrained in the unfiltered groundwater samples by the acid used as a preservative, rather than actual groundwater contamination. Evidence that this type of contamination occurs has been provided by the analytical results for metals samples collected from the existing permanent monitoring wells on sites 1, 11, and 15 during the corresponding Phase I investigations. Groundwater samples from these wells are much less turbid, exhibit much lower total metals concentrations than nearby Phase I temporary monitoring well samples, and exhibit even lower dissolved (millipore-filtered) metals concentrations.

Thus, groundwater metals contamination is possibly not as serious or widespread on Site 14 as suggested by the Phase I analytical results. However, two groundwater samples from temporary monitoring wells (TW007 and TW008) adjacent to Chevalier Field had the highest concentrations of zinc, lead, and copper. Lead levels in these two samples were 3 to 6 times greater than the FPDWS. Although these metals Concentrations might have been elevated by leaching or dissolution of aquifer matrix sediments, in conjunction with the sediment and soil analytical results, the concentrations appear to substantiate the conclusion that the western side of Site 14 has been impacted by activities at Chevalier Field.

3.9 QA/QC

3.9.1 Field QA/QC Samples

Three field duplicate samples were collected for the Site *14* soil screening samples; one field duplicate sample was collected for the

groundwater screening samples. The analytical results for the duplicate samples are presented in the summary tables for the respective media (see tables 3-3 and 3-5). No duplicate sample vas collected for the sediment screening samples, because this medium vas added as part of an amended scope of vork for Site 14. A duplicate sample vas not included in the amended plan. The soil and groundvater duplicate samples vere in agreement, within acceptable limits, vith the results for the original samples.

3.9.2 Laboratory QA/QC Samples

Methylene chloride is a common laboratory-derived contaminant (EPA 1988) and vas present in several of the sediment and soil method blanks analyzed at E & E's ASC. Methylene chloride vas not detected in any of the groundvater method blanks, nor vas it detected in any of the groundvater samples. The concentrations of methylene chloride were vithin the range of those concentrations present in the method blanks; therefore, the presence detected in the sediment and soil samples can be attributed to laboratory-derived contamination.

4. CONCLUSIONS

Sediment, soil, and groundwater contamination are all present on Site 14. Metals, TRPHs, VOCs, PAHs, and phenols are the primary contaminants. Some of the detected contamination is clearly associated with the dredged material contained in the fill area. However, contaminant sources from Chevalier Field, adjacent to the western boundary of the site, also are apparently impacting Site 14.

Two areas of sediment contamination appear to be present in water bodies surrounding the spoil fill area. Contamination of nearshore sediments appears to be restricted to an outcropping of cohesive, fine-grained sediments. This material exhibited similar levels of metals, TRPHs, PAHs, and phenols as found in soil samples collected from the settling basins. Sediment samples collected from the drainage channel at the southwestern corner of the site exhibited elevated levels of TRPHs and PAHs. Fuel spills and contaminated runoff from Chevalier Field are the likely sources of this contamination.

Soil contamination appears to be confined primarily to the spoil fill areas. Elevated levels of metals, TRPHs, PAHs, and phenols were present in soil samples collected from the perimeter of the settling basins, although the interior of the basins were not sampled due to the unstable and unsupportive nature of the spoil material. Soil samples collected from the berms generally exhibited lower concentrations of these contaminants and relatively low levels of VOCs. The source of these VOCs is unknown. Significant levels of soil contamination were also detected in samples collected along the western edge of the site, where highly elevated TRPA concentrations were detected in samples from two soil borings (TW007 and TW008). Fuel spills from Chevalier Field are the suspected source of this contamination.

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Metals vere the only significant groundvater contaminant detected at Site 14. Hetals concentrations that exceed Florida standards occurred in six of the 10 groundwater samples, but these occurrences could reflect the fact that the turbid groundwater samples vere not filtered prior to acid preservation. Based on the predicted direction of groundwater flow, most of the groundwater contamination appears to be associated vith runoff from Chevalier Field. However, elevated concentrations of several metals detected in samples collected from monitoring wells on the central and southeastern berm indicate that the dredge spoil material may also contribute to groundvatcr contamination.

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[Bold **items** enclosed **in brackets denote changes** to the **last version** of **document]**

6. FLORIDA PROFESSIONAL GEOLOGIST SEAL

I hereby affix my seal to the Interim Data Report for the Dredge Spoil Fill Area (Site 14), located at the Naval Air Station in Pensacola, Escambia County, Florida, in accordance with Chapter 492 of the Florida Statutes and applicable rules and regulations developed pursuant thereto:

Name:	Richard J. Rudy
License Number:	P.G. No. 97
State:	Florida
Expiration Date:	July 31, 1992

Richard J. Rudy

10-10-91
Date

[Bold items enclosed in brackets denote changes to the last version of document]

APPENDIX A

BIRDS OBSERVED DURING HABITATIBIOTA SURVEY

Table A-1

BIRDS OBSERVED DURING HABITAT/BIOTA SURVEY
OCTOBER 1990

Mature pine forest, including grassy margins along dirt roads and thickets bordering forests.

Gray Catbird	Dumetella carolinensis
Rufous-sided Towhee	Pipilo erythrophthalmus
Yellow-throated Vireo	Vireo flavifrons
House Wren	Troglodytes aedon
Bluejay	Cyanocitta cristata
Eastern Phoebe	Sayornis phoebe
Mourning Dove	Zenaida macroura
Common Grackle	Quiscalus quiscula
White-eyed Vireo	Vireo griseus
Northern Mockingbird	Mimus polyglottos
Cardinal	Cardinalis cardinalis
Carolina Wren	Thryothorus ludovicianus
Boat-tailed Grackle	Quiscalus major
Brown Thrasher	Toxostoma rufum

Upland mature hardvood forest with some mix of pines.

Prairie Warbler	Dendroica discolor
Northern Mockingbird	Mimus polyglottos
Mississippi Kite	Ictinia mississippiensis
Red-tailed Hawk	Buteo jamaicensis
Mourning Dove	Zenaida macroura
Ovenbird	Seiurus aurocapillus
Tufted Titmouse	Parus bicolor
Carolina Chickadee	Parus carolinensis
Golden Crowned Kinglet	Regulus satrapa
Ruby Crowned Kinglet	Regulus calendula
Nashville Warbler	Vermivora ruficapilla
Bluejay	Cyanocitta cristata

Beachfront, including shoreline along waterfront apron; Pensacola Bay open vater; Bayou Grande open vater; shoreline along dredge spoil fill area; interior mudflats of dredge spoil fill area; and primary dune/scrubby areas of beach.

Forester's Tern	Sterna porsteri
Herring Gull	Larus argentatus
Semi-palmated Plover	Charsdrius semipalmatus
Great Blue Heron	Ardea herodias
Semi-palmated Sandpiper	Calidris pusilla
Willet	Catoptrophorus semipalmatus
Ruddy Turnstone	Arenaria interpres
Royal Tern	Sterna maxima
Sandwich Tern	Sterna sandircensis
Roseate Tern	Sterna dougallii
Common Tern	Sterna hirundo
Brown Pelican	Pelecanus occidentalis
Killdeer	Charadrius vociferus
Chipping Sparrow	Spizella passerina
Eastern Vood Pewee	Contopus borealis
Bluejay	Cyanocitta cristata
Osprey	Pandion haliaetus
Belted Kingfisher	Ceryle alcyon
Fish Crow	Corvus ossifragus
Mourning Dove	Zenaida macroura
Double Crested Cormorant	[illegible] auritus
Northern Mockingbird	Mimus polyglottos
Sanderling	Calidris [illegible]
Least Sandpiper	Calidris minutilla
Little Blue Heron	Egretta caerulea
Short-billed Dowitcher	[illegible]
Laughing Gull	Larus atricilla
Black-bellied Plover	Pluvialis squatarola
Tree Svallow	Tachycineta bicolor
Acadian Flycatcher	Empidonax virescens
House Wren	Troglodytes aedon

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Uarshland, including emergent vegetation found along Bayou Grande, Pensacola Bay, and brackish-water ponds.

Pied-billed Grebe	Podilymbus podiceps
Great Blue Heron	Ardea herodias
Great Egret	Casmerodius albus
Snowy Egret	Egretta thula
Little Blue Heron	Egretta caerulea
Tricolored Heron	Egretta tricolor
Green-winged Teal	Anas crecea
Mottled Duck	Anas fulvigula
Blue-winged Teal	Anas discors
Northern Shoveler	Anas clypeata
Lesser Scaup	Aythya affinis
American Coot	Fulica americana
Mourning Dove	Zenaida macroura
Northern Flicker	Colaptes auratus
Bluejay	Cyanocitta cristata
Red-winged Blackbird	Agelaius phoeniceus
Belted Kingfisher	Ceryle alcyon
Rufous-sided Towhee	Pipilo erythrophthal'mus
Cardinal	Cardinalis cardinalis
Yellowthroat	Geothlypis trichas
Forester' s Tern	Sterna forsteri
Osprey	Pandion haliaetus
House Wren	Troglodytes aedon
Yellow-rumped Warbler	Dendroica coronata
'Northern Mockingbird	Mimus polyglottos

Forested wetland area, including mature hardwoods and thick undergrowth mixed with emergent vegetation such as cattails.

Yellov-bellied Sapsucker	Sphyrapicus varius
Brown Thrasher	Toxostoma rufum
Harsh Wren	Cistothorus palustris
American Goldfinch	Carduelis tristis
Prairie Uarbler	Dendroica discolor
Northern Flicker	Colaptes auratus
Cardinal	Cardinalis cardinalis
Bluejay	Cyanocitta cristata
Northern Mockingbird	Mimus polyglottos
Wood Thrush	Hylocichla mustelina

14[NASP]UH6037:T0230/tab-A1/303

0000411

APPENDIX B

SURFACE EMISSIONS AND RADIATION SURVEY DATA

SITE 14

GRID COORDINATES	OVA READINGS* (ppm)	RADIATION READINGS* (uR/h)
0.3, 4.6	0	0
0.3, 5.2	0	0
0.3, 6.0	0	0
0.3, 6.8	0	0
0.3, 7.6	0	0
0.4, 8.2	0	0
0.4, 9.0	0	0
0.4, 10.6	0	0
0.5, 3.9	0	0
0.5. 4.7	0	0
0.5, 5.5	0	0
0.5, 6.1	0	0
0.5, 6.9	0	0
0.5, 7.7	0	0
0.5, 9.8	0	0
0.5, 11.3	0	0
0.6, 12.0	0	0
0.6. 3.05	0	0
0.7. 8.5	0	0
0.7, 9.2	0	0
0.7, 9.9	0	0
0.7. 3.95	0	0
0.8, 3.1	0	0
0.8. 5.7	0	0
0.8, 6.5	0	0
0.8, 10.7	0	0
0.9, 2.4	0	0
0.9, 4.2	0	0
0.9, 5.0	0	0
1.0. 3.5	0	0
1.0. 7.2	0	0
1.0. 8.7	0	0
1.0. 9.3	0	0
1.0, 10.1	0	0
1.0, 11.4	0	0
1.0, 7.95	0	0
1.1. 12.0	0	0
1.1, 12.5	0	0
1.l. 10.95	0	0
1.2. 2.5	0	0
1.2. 11.5	0	0
1.3. 1.9	0	0
1.3, 2.7	0	0
1.6, 1.95	0	0
1.7, 2.2	0	0
1.8, 1.3	0	0
2.0, 11.6	0	0
2.0, 12.0	0	0
2.0, 12.5	0	0

SITE 14

GRID COORDINATES	OVA READING? (ppm)	RADIATION READING; (uR/h)
2.1, 1.5	0	0
2.2, 1.9	0	0
2.4, 0.9	0	0
2.8, 1.6	0	0
2.8, 2.3	0	0
2.8. 11.6	0	0
2.8, 12.5	0	0
2.9, 12.0	0	0
3.0, 0.4	0	0
3.0, 1.95	0	0
3.0, 2.95	0	0
3.2, 2.6	0	0
3.3. 0.9	0	0
3.3, 1.8	0	0
3.3, 3.5	0	0
3.4, 11.6	0	0
3.4, 12.5	0	0
3.5, 1.1	0	0
3.5, 2.4	0	0
3.5, 3.3	0	0
3.5. 12.0	0	0
3.6, 4.2	0	0
3.7, 3.0	0	0
3.8, 0.5	0	0
3.8. 3.95	0	0
3.9, 3.8	0	0
3.9, 4.9	0	0
4.0, 4.7	0	0
4.0. 5.5	0	0
4.0, 11.7	0	0
4.1. 12.3	0	0
4.2, 1.1	0	0
1.2, 1.1	0	0
4.2, 4.4	0	0
4.2. 5.3	0	0
4.2, 12.0	0	0
4.4, 0.9	0	0
4.5, 5.0	0	0
4.3, 6.1	0	0
4.6. 6.0	0	0
4.7, 6.8	0	0
4.8. 1.6	0	0
4.8. 1.S	0	0
4.8, 5.7	0	0
4.8. 7.3	0	0
4.8, 11.4	0	0
4.9, 6.8	0	0
4.9, 12.0	0	0
5.0, 1.3	0	0

00004114

SITE 14

GRID COORDINATES	OVA READIKGS (ppm)	RADIATION READINGS (uR/h)
5.0, 6.2	0	0
5.0, 7.3	0	0
5.0, 11.6	0	0
5.2, 11.0	0	0
5.3, 2.1	0	0
5.3, 2.4	0	0
5.3, 11.6	0	0
5.5, 1.9	0	0
5.5, 7.0	0	0
5.5, 8.3	0	0
5.3, 9.0	0	0
5.5, 11.1	0	0
5.6. 7.8	0	0
5.6, 8.2	0	0
5.6, 9.7	0	0
5.8, 10.4	0	0
5.8, 2.95	0	0
5.9, 2.6	0	0
5.9, 8.9	0	0
6.0, 2.5	0	0
6.0, 3.4	0	0
6.0, 8.3	0	0
6.0, 11.2	0	0
6.1, 9.5	0	0
6.1. 10.9	0	0
6.2, 3.2	0	0
6.3, 9.2	0	0
6.3, 10.2	0	0
6.1. 3.0	0	0
6.3, 9.95	0	0
6.5, 4.1	0	0
6.6, 10.3	0	0
6.6. 10.9	0	0
6.6, 3.95	0	0
6.8, 3.5	0	0
6.8, 4.9	0	0
6.9, 4.5	0	0
7.0, 4.0	0	0
7.0, 5.3	0	0
7.1, 5.2	0	0
7.1, 9.5	0	0
7.2, 1.8	0	0
7.2, 10.0	0	0
7.2, 10.4	0	0
7.3, 6.0	0	0
7.3, 8.9	0	0
7.5, 5.4	0	0
7.5, 6.8	0	0
7.5, 7.5	0	0

SITE 14

GRID COORDINATES	OVA READINGS* (ppm)	RADIATION READINGS* (uR/h)
7.5, 8.2	0	0
7.5, 9.3	0	0
7.5, 10.0	0	0
7.6, 6.5	0	0
7.7, 6.0	0	0
7.7, 7.3	0	0
7.7, 7.95	0	0
7.8, 6.0	0	0
7.8, 8.8	0	0
7.9, 8.8	0	0
8.0, 6.8	0	0
8.0, 7.4	0	0
8.0, 8.1	0	0
8.0, 9.4	0	0

* Above background.

0000415

APPENDIX C

TEMPORARY MONITORING WELL, SOIL BORING, AND LITHOLOGIC INFORMATION

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no,: P14B001
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/03/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 5.5
8) Depth to water in borehole (BLS): 5.5
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2.5	Sand, white, medium grained in upper 6 inches, then clayey silt with sand, dark blue-black, very fine grained dredge material.
2.5-5.5	Sand, white to tan, fine to medium grained with shell fragments to 5.5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B002
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/03/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 5.5
8) Depth to water in borehole (BLS): 5.5
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Vater level elevation: NA
17) Date groundwater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method:
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2	Sand, white, medium to coarse grained.
2-3.8	Silty clay, dark blue to black, very fine silt.
3.8-5.5	Sand, white, fine to medium grained. Vatar at 5 to 5.5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

0000418

SOIL BORING/TEMPORARY MONITORING WELL INFORHATION

1) Site no,: 14
2) Boring no./Well no.: P14B003
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/03/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 4.0
8) Depth to water in borehole (BLS): 4.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method:
22) Comments:

BOREEOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2	Sandy, white fine to medium grained.
2-3.5	Silty clay, black to blue.
3.5-4	Sand, white, fine to medium grained. Water at 4 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: *14*
2) Boring no./Well no.: P14B004
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/03/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 4.0
8) Depth to water in borehole (BLS): *4.0*
9) Highest open-borehole OVA/HnU reading (ppm): *0*
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth *to* water in well (BTOC): NA
15) Elevation of TOC: NA
16) Vater level elevation: NA
17) Date groundwater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method:
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-4	Sand, white, fine to medium grained to 0.1 ft., becomes silty clay, black to dark blue very cohesive. Water at 4 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes ate .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

0000413

SOIL BORING/TEMPORARY HONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B005
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/04/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 5.5
8) Depth to water in borehole (BLS): 5.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method:
22) Comments:

BOREHOLE LITROLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2.5	Silty clay, dark brown to black, very cohesive to 2.5 ft.
2.5-5.5	Sand, white to tan, medium grained. Water at 5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B006
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/04/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 5.5
8) Depth to vater in borehole (BLS): 5.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of vell (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in vell (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundvater sampled: / /
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method:
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-1.8	Silty clay, dark brown/black and blue, very cohesive, some shell fragments.
1.8-5.5	Sand, white to tan, medium grained. Water at 5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All vell casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) vas used in vell installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = belov land surface
TOC = top of casing
BTOC = below top of casing

0000420

SOIL BORING/TEMPORARY HONITORING WELL INFORMATION

1) Site no.: 14·
2) Boring no./Well no. : P14B007/P14TW007
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/09/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 10.0
8) Depth to water in borehole (BLS): 5.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): 7.87
11) Length of well screen: 5
12) Length of casing (BLS): 2.87
13) Aprox. height of casing above land surface: 2.13
14) Depth to water in well (BTOC): 5.60
15) Elevation of TOC: 8.05
16) Vater level elevation: 2.45
17) Date groundwater sampled: 01/10/91
18) pH (units): 6.06
19) Temperature (degrees C): 20.9
20) Specific conductance (umhos/cm): 99
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: No sheen on water.

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2	Sandy clay, red, medium grained.
2-4	Sand, white to light brown, fine to medium grained. Water at 4 ft.
4-9	Sand, white, fine to coarse grained.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, a11 sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B008/P14TW008
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/09/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 10.0
8) Depth to water in borehole (BLS): *4.0*
9) Highest open-borehole OVA/HnU reading (ppm): *0*
10) Depth of well (BLS): *6.84*
11) Length of vell screen: 5
12) Length of casing (BLS): 1.84
13) Aprox. height of casing above land surface: 3.16
14) Depth *to* water in well (BTOC): *5.92*
15) Elevation of TOC: 7.50
16) Water level elevation: 1.58
17) Date groundwater sampled: 01/10/91
18) pH (units): 6.75
19) Temperature (degrees C): 19.7
20) Specific conductance (umhos/cm): 278
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: No sheen on water sample.

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-2	Sandy clay, red, medium to coarse grained.
2-4	Sand vhite to gray, medium to coarse grained. Water at 2.5 ft.
4-9	Same, wet.

Notes: All depths, lengths, heights, and elevati ns are measured in feet. All boreholes are *4* inches in diameter. All vell casings and screens *are* 2-inch-diameter; vell screen slot sizes *are* .010 inches. No annular material (i.e. filter pack, seal or grout) was used in vell installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = band auger
BLS = belov land surface
TOC = top of casing
BTOC = belov top of casing

0000421

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B009/P14TW009
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/09/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 10.0
8) Depth to water in borehole (BLS): 3.5
9) Highest open-borehole OVA/HnU reading (ppm): NA
10) Depth of well (BLS): 7.99
11) Length of well screen: 5
12) Length of casing (BLS): 2.99
13) Aprox. height of casing above land surface: 2.01
14) Depth to water in well (BTOC): 5.30
15) Elevation of TOC: 6.28
16) Water level elevation: 0.98
17) Date groundwater sampled: 01/13/91
18) pH (units): 6.96
19) Temperature (degrees C): 18.8
20) Specific conductance (umhos/cm): 525
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: OVA not working while drilling.

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, white to gray, medium to coarse grained. Water at 3.5 ft.
5-10	Same, wet.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA =hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY HONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no. : P14B010/P14TW010
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/07/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 25.0
8) Depth to water in borehole (BLS): 22.5
9) Highest open-borehole OVA/HnU reading (ppm): 2
10) Depth of well (BLS): 26.7
11) Length of well screen: 5
12) Length of casing (BLS): 21.70
13) Aprox. height of casing above land surface: 3.30
14) Depth to water in well (BTOC): 26.32
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled: 01/13/91
18) pH (units): 6.60
19) Temperature (degrees C): 20.7
20) Specific conductance (umhos/cm): 234
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, vhite, fine to medium grained, shell fragments.
5-10	Same.
10-15	Same.
15-20	Sand, white to tan, fine to medium grained with shell fragments.
20-25	Same.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) vas used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = belov land surface
TOC = top of casing
BTOC = below top of casing

0000422

SOIL BORING/TEMPORARY MONITORING YELL INFORHATION

1) Site no.: 14
2) Boring no./Well no. : P14B011/P14TW011
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/08/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 23.0
8) Depth to water in borehole (BLS): 19.0
9) Highest open-borehole OVA/HnU reading (ppm): 4
10) Depth of well (BLS): 25.51
11) Length of well screen: 5
12) Length of casing (BLS): 20.00
13) Aprox. height of casing above land surface: -0.51
14) Depth to water in well (BTOC): 23.27
15) Elevation of TOC: 23.40
16) Water level elevation: 0.13
17) Date groundwater sampled: 01/14/91
18) pH (units): 7.54
19) Temperature (degrees C): 20.2
20) Specific conductance (umhos/cm): 1502
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITEOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, white to gray, medium to fine grained with shell fragments.
5-10	Sand, gray to tan, fine to medium grained with shell fragments.
10-15	Same.
15-19	Same, water at 19 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B012/P14TW012
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/08/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 26.5
8) Depth to water in borehole (BLS): 23.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): 27.19
11) Length of well screen: 5
12) Length of casing (BLS): 22.19
13) Aprox. height of casing above land surface: 2.81
14) Depth to vater in well (BTOC): 26.50
15) Elevation of TOC: 27.57
16) Water level elevation: 1.07
17) Date groundwater sampled: 01/13/91
18) pH (units): 7.03
19) Temperature (degrees C): 20.3
20) Specific conductance (umhos/cm): 1530
21) Borehole/Well abandonment method: Backfilled vith cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, white to tan, medium grained vith shell fragments.
5-10	Same.
10-15	Sand, white, medium grained with shell fragments.
15-20	Same.
20-23	Same, water at 23 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

0000433

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B013/P14TW013
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/08/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 26.5
8) Depth to water in borehole (BLS): 22.5
9) Highest open-borehole OVA/HnU reading (ppm): 9
10) Depth of well (BLS): 27.36
11) Length of well screen: 5
12) Length of casing (BLS): 22.36
13) Aprox. height of casing above land surface: 2.64
14) Depth to water in well (BTOC): 27.31
15) Elevation of TOC: 27.23
16) Water level elevation: -0.08
17) Date groundvater sampled: 01/13/91
18) pH (units): 6.73
19) Temperature (degrees C): 23.1
20) Specific conductance (umhos/cm): 1516
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, white to light gray, medium to coarse to fine grained with shell fragments.
5-10	Same.
10-15	Same.
15-20	Same, white sand.
20-23.5	Same, water at 22.5 ft., some organics.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14B014/P14TW014
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/08/91
6) Geologist: J. Strickland
7) Depth of boring (BLS): 26.0
8) Depth to water in borehole (BLS): 23.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): 26.0
11) Length of well screen: 5
12) Length of casing (BLS): 21.00
13) Aprox. height of casing above land surface: 4.00
14) Depth to water in well (BTOC): 26.52
15) Elevation of TOC: 28.52
16) Water level elevation: 2.00
17) Date groundvater sampled: 01/10/91
18) pH (units): 5.50
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): 1600
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-5	Sand, white to gray, medium, coarse, and fine grained with shell fragments.
5-10	Sand, light brown, fine to coarse grained with shell fragments.
10-15	Sand, white, fine to coarse grained with shell fragmants.
15-20	Same.
20-23	Same, water at 23 ft.

Notes: All depths, lengths, heights, and elevations arc measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, real or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
EA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

0000424

SOIL BORING/TEMPORARY MONITORING WELL INFORHATION

1) Site no.: 14
2) Boring no./Well no.: P14B015/P14TW015
3) Drilling firm: Thomason Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 01/08/91
6) Geologist: M. Grecu
7) Depth of boring (BLS): 2.0
8) Depth to water in borehole (BLS): 2.0
9) Highest open-borehole OVA/HnU reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: 5
12) Length of casing (BLS): NA
13) Aprox. height of casing above land surface: NA
14) Depth to water in well (BTOC): *4.00*
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled: 01/10/91
18) pH (units): 5.40
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): 1500
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: Slight hydrogen sulfide odor in water.

BOREHOLE LITHOLOGIC LOG

Sam le Depth (BLS)	Sample Description
0-0.5	Sand, light tan to dark, possible organic decay, coarse grained.
0.5-1	Sand, light tan, coarse grained, large amounts of roots and organic material.
1-2	Sand, light gray to white, coarse grained, minor organics. Water at 2 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
EA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 14
2) Boring no./Well no.: P14BO16/P14TWO16
3) Drilling firm: Thomason Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 01/08/91
6) Geologist: M. Grecu
7) Depth of boring (BLS): 3.0
8) Depth to water in borehole (BLS): *3.0*
9) Highest open-borehole OVA/HnU reading (ppm): *0*
10) Depth of well (BLS): *7.46*
11) Length of well screen: 5
12) Length of casing (BLS): *2.46*
13) Aprox. height of casing above land surface: *2.54*
14) Depth to water in well (BTOC): 5.16
15) Elevation of TOC: 5.14
16) Water level elevation: -0.02
17) Date groundwater sampled: 01/13/91
18) pH (units): 6.85
19) Temperature (degrees C) : 17.1
20) Specific conductance (umhos/cm): 1505
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments :

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0-3	Sand, dark gray, possible organic decay, coarse grained with shell fragments. Water at 3 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) vas used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = belov land surface
TOC = top of casing
BTOC = below top of casing

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APPENDIX D

SEDIMENT *SAMPLING* ANALYTICAL SCREENING RESULTS

ecology *urd* environment, inc.

QUALITY ASSURANCE PROTOCOL REVIEW

Job No.: 91CC.290 Date: 2/27/91

Report Title: _____

Client: Texaco

Laboratory Data Review	Supervisor	Date
Metals		
Gen. Chem.		
GC		
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:		2/27/91
1st Draft ~~Reviewed by:~~ circulated		2/27/91
2nd Draft Reviewed by: (If needed)		
Final Review by Author:		2/28/91
ASC Manager:		2 28 91
QA Officer:		
Corp. Project Manager: J Barksdale review, (Internal Job) sign, return to ASC		
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
1 Copies of Report Sent to: Client via J Barksdale		2/28/91
1 Invoices Sent to Accounting		2/28/91

Comments/Notes: _____

Copy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File. 407064

MEMORANDUM

TO: John Barksdale

FROM: Gary Hahn

DATE: February 27, 1991

SUBJECT: UH-6000 Pensacola Report

REF: 9100.290

CC: Lab File

Attached is the laboratory report of the analysis conducted on six samples received at the Analytical Services Center on February 12, 1991. Analysis was performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

All samples on which this report is based will be retained by B & B for a period of 30 days from the date of this report, dear otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with *such* charges accruing until destruction of the samples is authorized by the client.

GH:tms
enclosure

Job # 9100.290
SAMPLE RANGE 2452 — 2457

Analyze all parameters according to Site-Specific QAP for this ID. (See Jack Miller)

ecology and environment, inc.
International Specialists in the Environment
339 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

CHAIN-OF-CUSTODY RECORD

Project No.:	Project Name:	Project Manager:
UH6030	NASP Phase I A-E	J. Barksdale

Samplers: (Signature)	Field Team Leader:
B. Caldwell	B. Caldwell

	STATION NUMBER	DATE 1991	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening VOCs	Screening PAHs	Screening Phenols	Screening Pesticides + PCBs	Screening metals	Tibet	REMARKS
P14	SD001	2/11	0815	X			Low level	Sed 001 / Site 14	3	X	X	X	X	X	X	
P14	SD002	2/11	0845	X			" "	Sed 002 / Site 14	3	X	X	X	X	X	X	
P14	SD003	2/11	0915	X			" "	Sed 003 / Site 14	3	X	X	X	X	X	X	
P14	SD004	2/11	0920	X			" "	Sed 004 / Site 14	3	X	X	X	X	X	X	
P14	SD005	2/11	0945	X			" "	Sed 005 / Site 14	3	X	X	X	X	X	X	
P14	SD006	2/11	1050	X			" "	Sed 006 / Site 14	3	X	X	X	X	X	X	

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
B Caldwell	2/11/91 1900	Fed Ex			
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)
Fed Ex	1030 2-12-91				

Ship Via: Federal Express

BL/Airbill Number: 956460290 2

Date: 2/11/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234058

JOB NUMBER : 9100.290

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
2452.01	P14-SD001	SPNPRG1	02/11/91		02/12/91
2452.02	P14-SD001	SPNTPH1	02/11/91		02/12/91
2452.03	P14-SD001	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91
2453.01	P14-SD002	SPNPRG1	02/11/91		02/13/91
2453.02	P14-SD002	SPNTPH1	02/11/91		02/12/91
2453.03	P14-SD002	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91
2454.01	P14-SD003	SPNPRG1	02/11/91		02/12/91
2454.02	P14-SD003	SPNTPH1	02/11/91		02/12/91
2454.03	P14-SD003	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91
2455.01	P14-SD004	SPNPRG1	02/11/91		02/12/91
2455.02	P14-SD004	SPNTPH1	02/11/91		02/12/91
2455.03	P14-SD004	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91
2456.01	P14-SD005	SPNPRG1	02/11/91		02/12/91
2456.02	P14-SD005	SPNTPH1	02/11/91		02/12/91
2456.03	P14-SD005	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91
2457.01	P14-SD006	SPNPRG1	02/11/91		02/12/91
2457.02	P14-SD006	SPNTPH1	02/11/91		02/12/91
2457.03	P14-SD006	SPNMET1	02/11/91		02/14/91
		SPNP&P1	02/11/91		02/14/91
		SPNPAH1	02/11/91		02/22/91
		SPNPHL1	02/11/91		02/21/91

TEST CODE :SPNTPH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPE

SAMPLE ID	RESULTS	Q	DET. LIMIT
BB-91-02452 P14-SD001	22		5.0
EE-91-02453 P14-SD002	ND		5.0
EE-91-02454 P14-SD003	5.4		5.0
EE-91-02455 P14-SD004	7.4		5.0
EE-91-02456 P14-SD005	ND		5.0
EE-91-02457 P14-SD006	2500		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9100.290

(mg/kg)

Parameter	E & E Laboratory No. 91-02454	Original Value	Amount Added	Amount Determined	Percent Recovery
T. Petroleum Hydrocarbons		5.4	230	220	93

METALS SECTION JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-02452 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD001

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.5		1.0	MG/KG
Zinc	6.5		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

METALS SECTION JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-02453 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD002

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.4		1.0	MG/KG
Zinc	3.8		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-02454 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD003

PARAMETER	RESULTS	Q	DBT. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	27		1.0	MG/KG
Zinc	37		2.0	MG/KG
Lead	*4.1*		*4.0*	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	9.2		*40*	MG/KG
Copper	8.3		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.290

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-02455 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD004

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	31		1.0	MG/KG
Zinc	45		2.0	MG/KG
Lead	6.6		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	13		4-0	MG/KG
Copper	10		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000432

METALS SECTION JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAMPLE ID *LAB* : EE-91-02456 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD005

PARAMETER	RESULTS	Q	DET. LIHIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.6		1.0	MG/KG
Zinc	2.7		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		*0.50*	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

METALS SECTION JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAMPLE ID LAB : RE-91-02457 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SD006

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.5		1.0	MG/KG
Zinc	9.8		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOLID SAMPLES

9100.290

(mg/kg)

Parameter	E & E Laboratory No. 91-02456	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	NC
Chromium		1.6	ND	NC
Zinc		2.7	2.2	20
Lead		ND	ND	NC
Cadmium		ND	ND	NC
Nickel		ND	ND	NC
Copper		ND	ND	NC
Silver		ND	ND	NC

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOLID SAMPLES

9100.290

(mg/kg)

Parameter	E & E Laboratory No. 91-02456	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	200	200	100
Chromium		1.6	20	22	102
Zinc		2.7	50	50	95
Lead		ND	50	49	98
Cadmium		ND	5.0	4.9	90
Nickel		ND	50	46	92
Copper		ND	25	23	92
Silver		ND	5.0	5.1	102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WBT WEIGHT
SAMPLE ID LAB : METHOD BLANK MATRIX: SOLID

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BE-91-02452 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD001

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-02453 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD002

PARAMETER	RESULTS	Q	DET. UHIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-02454 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD003

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000430

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-02455 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD004

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : RE-91-02456 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD005

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN-VET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-02457 MATRIX : SOLID
SAHPLB ID CLIENT: P14-SD006

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / *4,4* - DDE	ND		1000
Bndrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY OF SOIL MATRIX SPIKE (MS)
(Sample # 2452)

9100.290

Compound	Original Result	Amount Added	Amount Determined	Percent Recovery
Lindane	ND	400	430	108
Heptachlor	ND	400	420	105
Aldrin	ND	400	390	90
Dieldrin	ND	1000	1100	110
Endrin	ND	1000	1100	110
4,4'-DDT	ND	1000	980	90

TEST CODE :SPNP&P1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN-WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Bndrfn	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology urd Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASB I GROUPS A-B
RESULTS IN VET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02452 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD001

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	PRESENT	L	1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAR - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02453 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD002

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1100		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-E
RESULTS IN WET UBI
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02454 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD003

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1700		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000410

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02455 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD004

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1900		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02456 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD005

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	PRESENT	L	1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02457 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD006

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	4700		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9100.290

(ug)

Parameter	E & E Laboratory NO. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(A)pyrene	*2456*	ND	50	41	82

TEST CODE : SPNPAH1 JOB NUMBER : 9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN- WET WEIGHT
TEST NAME : PNC PAH - LC WITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : HE-91-02152 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD001

PARAMETER	RESULTS	Q	DET. LIMIT	
Total as Trichlorophenol	2200		2000	

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-02453 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD002

PARAMETER	RESULTS	Q	DET. LIXIT
Total as Trichlorophenol	*4300*		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER r9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02454 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD003

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	PRESENT	L	2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000444

TEST CODE : SPNPHL1 JOB NUMBER : 9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02455 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD004

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	3200		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-B
RBSULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02456 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD005

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000415

TEST CODE : SPNPHL1 JOB NUMBER : 9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02457 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD006

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9100.290

		(ug)			
Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Trichlorophenol	Blank	ND	50	54	108

TEST CODE :SPNPHL1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : 118-6000 NASP PEASE I *GROUPS* A–B
RESULTS IN WET UBI ——
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02452 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD001

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	*8300*	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02453 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD002

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	*3400*	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Bcology and Environment, Iac.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS a UG/KG
SAMPLE ID LAB : EE-91-02454 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD003

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	7100	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02455 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD004

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	6200	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichlorocthene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology *rad* Environment, Inc.
Analytical Services Curter

CLIENT : UH-6000 NASP PEASE I GROUPS A-X
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02456 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD005

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	5600	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000449

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RSSULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-02457 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SD006

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	*5500*	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology and Environment, fnc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I *GROUPS* A–B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 1 MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	2400		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.290

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 2 MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbcnzcnc	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dfchlorobcnzenc	ND		1000
1,4 - Dlchlorobanzcne	ND		1000
1,1 - dfchloroethene	ND		1000
Methylene Chloride	5300		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dlchloroethane	ND		1000
1,1,1 - Trichlororthane	ND		1000
1,2 - Dichloroethane	ND		1000
Trlchloroethenr	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00968 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW012

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	110		10	UG/L
Zinc	120		20	UG/L
Lead	ND		40	UG/L
Cadmium	11		5.0	UG/L
Nickel	56		40	UG/L
Copper	36		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00969 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW013

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	*46*		10	UG/L
Zinc	57		20	UG/L
Lead	ND		40	UG/L
Cadmium	5.5		*5.0*	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00970 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW016

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	35		10	UG/L
Zinc	49		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASB I GROUPS A-E
SAMPLE ID-LAB :METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	No		69	UG/L
Chromium	ND		10	UG/L
Zinc	ND		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000454

TEST CODE :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME - : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00965 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW009

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

TEST CODB :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00966 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW010

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		*5.0*
Lindane	ND		*5.0*
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / *4,4* - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00967 MATRIX : WATER
SAMPLE ID CLIENT: P14-GW011

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : WPNP&P1 JOB NUMBER : 9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : BE-91-00968 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW012

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		*5.0*
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		*5.0*
Dieldrin / 4,4 - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAHE : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EB-91-00969 MATRIX : WATER
SAMPLE ID CLIENT: P14-GW013

PARAMETER	RESULTS	Q	DET, LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDE	ND		5.0
Bndrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-B
TSST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00970 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW016

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		*5.0*
Lindane	ND		*5.0*
Aldrin	ND		*5.0*
4,4 - DDT	ND		*5.0*
Dieldrin / 4,4 - DDB	ND		5.0
Endrin	ND		*5.0*
Chlordane	ND		*5.0*
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY *AND* RELATIVE PERCENT DIFFERENCE (RPD)
OF WATER MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00965)

9100.102

(ug/L)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Arochlor 1254	ND	5000	*4100*	82

TEST CODE :WPNP&P1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMIT
Reptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDB	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EB-91-00965 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW009

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : BE-91-00966 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW010

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00967 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW011

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
TEST NAME : PNC PAR - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00968 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW012

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00969 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW013

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED *VALUE* B = *ALSO* PRESENT IN BLANK
L = PRBSENT BELOV STATED DBTECTION LIMIT

TEST CODB :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00970 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW016

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED WATER SAMPLES

9100.102

(ug/L)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(A)pyrene	965	ND	50	42	84
	966	ND	50	41	82

TEST CODE :WPNPAH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : BE-91-00966 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW010

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00967 MATRIX: UATER
SAMPLE ID CLIENT: P14-GW011

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :WPNPHL1 JOB NUMBER :9100.102

Ecology urd Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00968 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW012

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000464

TEST CODE :WPNPHLI JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAHPLE ID LAB : EE-91-00969 MATRIX: WATER
SAHPLE ID CLIENT: P14-GW013

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : HE-91-00970 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW016

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED WATER SAMPLES

9100.102

(ug/L)

Parameter	E 6 E Laboratory No. 91- Blank	Original Value	Amount Added	Amount Determined	Percent Recovery
Trlchlorophenol		ND	SO	35	70

TEST CODE :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-B
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAHPLE ID LAB : EE-91-00965 MATRIX: WATER
SAHPLE ID CLIENT: P14-GW009

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00966 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW010

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethane	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethcnc	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichlorocthane	ND		10
Trichlorocthene	ND		10
Tetrachloroethane	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE : WPNPRG1 JOB NUMBER : 9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAHPLE ID LAB : BE-91-00967 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW011

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Bthylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00968 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW012

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbcnzenc	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichlorocthcne	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichlorocthene	ND		10
1,1 - Dichlorocthanc	ND		10
1,1,1 - Trichloroethanc	ND		10
1,2 - Dichloroethanc	ND		10
Trichloroethenc	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TBST CODB :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00969 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW013

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000469

TEST CODE :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PRASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00970 MATRIX: VATER
SAMPLE ID CLIENT: P14-GW016

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethane	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9100.102

Compound	E & E Laboratory No. 91-	Percent Recovery
TFT	965	85
	967	87
	968	82
	969	80
	970	77
	Method Blank	100

TEST CODE :WPNPRG1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK MATRIX : WATER

PARAMETER	RESULTS	Q	DET. LIHIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichlorotthene	ND		10
1,1 - Dichloroethant	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichlorocthene	ND		10
Tctrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

ecology and environment, inc.

QUALITY ASSURANCE PROTOCOL REVIEW

Job No.: 9100.092 Date: 1/31/91

Report Title:

Client: Pensacola

Laboratory Data Review	Supervisor	Date
Metals	[signature]	2-1-91
Gen. Chem.	[signature]	2-1-91
GC	[signature]	2-1-91
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:	[signature]	1/31/91
1st Draft Reviewed by:		
2nd Draft Reviewed by: (If needed)		
Final Review by Author:	[signature]	2/2/91
ASC Manager:	[signature]	2/2/91
QA Officer:		
Corp. Project Manager: (Internal Job)	Barksdale review, sign, return to ASC	
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
1 Copies of Report Sent to:	Client via Barksdale [signature]	2/2/91
1 Invoices Sent to Accounting	[signature]	2/2/91

Comments/Notes:

Copy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File.

407064

0000470

M E M O R A N D U M

TO: John Barksdale

FROM: Gary Hahn

DATE: February 1, 1991

SUBJECT: UH-6000 Pensacola Report

REP: 9100.092

CC: Lab File

Attached is the laboratory report of the analysis conducted on five samples received at the Analytical Services Center on January 14, 1991. Analysis was performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH:tms
enclosure

Job # 9100.092 Sample Range 847 → 853

Analyzed as per Site Specific QAPP, see Barb Karajewski

ecology and environment, inc.

270 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
International Specialists in the Environment

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
UH6030	WASP Phase I A-E Screening	John Barksdale

Samplers: (Signature) Keith Delhomme, Mike Gerard, Walter Mesa, Alan Canada

Field Team Leader: Mike Grecu

STATION NUMBER	DATE (1991)	TIME	SAMPLE TYPE: COMP	GRAB	AIR	SAMPLE INFORMATION: EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	#Preservatives: HA	Screening PAHs (Phenols) (TCL)	Screening PAHs (TCL)	Screening Pesticides (TCL)	Screening PCBs (TCL)	418.1 (Hexane)	Screening PAHs (Hexane)	Screening VOAs (Acetone)	REMARKS
P14GW007	1-10	1109		X		Low Levels	P14, Temp. Well #7	5	X	X	X	X	X	X	X	X	For Samples From P14
P14GW007D	1-10	1109		X		" "	P14, Temp. Well #7	5	X	X	X	X	X	X	X	X	GW007, GW007-D, & GW008
P14GW008	1-10	1155		X		" "	P14, Temp. Well #8	5	X	X	X	X	X	X	X	X	VOC: Lot # B925 1043
P14GW014	1-10	1153		X		" "	Site 14, Temp. Well #14	5	X	X	X	X	X	X	X	X	QC # B886C
P14GW015	1-10	1055		X		" "	Site 14, Temp. Well #15	5	X	X	X	X	X	X	X	X	½ gal Ambers: Lot # X0218013
	1-10																QC # X0711C
	1-10																1 L Ambers: Lot # 9223013
	1-																QC # 3282C
																	1 L poly: Lot # 0304013
																	QC # 0889C
																	* For Samples From P14GW014, P14GW015, ½ gal amber Lot # is X0304013, QC # is X0647C, all others as above
																	VOAs preserved w/ HCL, TRPHs preserved w/ H_2SO_4, Metals preserved w/ HNO_3

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Ship Via:
						Federal Express
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	BL/Airbill Number: 954874552 2
Keith Delhomme	1-10-90	Fed Ex	Fed Ex	1-14-91		Date: 1-10-91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234068

UH6030

JOB NUMBER : 9100.092

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
849.01	P14-GW007	WPNPRGl	01/lo/91		01/18/91
849.03	P14-GW007	WPNP&P1	01/10/91		01/16/91
		WPNPAH1	01/10/91		01/28/91
		WPNPHL1	01/10/91		01/21/91
849.04	P14-GW007	WPNTPH1	01/10/91		01/15/91
849.05	P14-GW007	WPNMET1	01/10/91		01/16/91
850.01	P14-GW007D	WPNPRGl	01/10/91		01/18/91
850.03	P14-GW007D	WPNP&P1	01/10/91		01/16/91
		WPNPAH1	01/10/91		01/28/91
		WPNPHL1	01/10/91		01/21/91
850.04	P14-GW007D	WPNTPH1	01/10/91		01/16/91
850.05	P14-GW007D	WPNMET1	01/10/91		01/16/91
851.01	P14-GW008	WPNPRG1	01/10/91		01/18/91
851.03	P14-GW008	WPNP&P1	01/10/91		01/16/91
		WPNPAH1	01/10/91		01/28/91
		WPNPHL1	01/10/91		01/21/91
851.04	P14-GW008	WPNTPH1	01/10/91		01/16/91
851.05	P14-GW008	WPNMET1	01/10/91		01/16/91
852.01	P14-GW014	WPNPRGl	01/10/91		01/18/91
852.03	P14-GW014	WPNP&P1	01/10/91		01/16/91
		WPNPAH1	01/10/91		01/28/91
		WPNPHL1	01/10/91		01/21/91
852.04	P14-GW014	WPNTPH1	01/10/91		01/16/91
852.0S	P14-GW014	WPNMET1	01/10/91		01/16/91
853.01	P14-GW015	WPNPRGl	01/10/91		01/18/91
853.03	P14-GW015	WPNP&P1	01/10/91		01/16/91
		WPNPAH1	01/10/91		01/28/91
		WPNPHL1	01/10/91		01/21/91
853.04	P14-GW015	WPNTPH1	01/10/91		01/16/91
853.05	P14-GW015	WPNMET1	01/10/91		01/16/91

TEST CODE :WPNTPH1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC TRPE UNITS : MG/L
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
RE-91-00849 P14-GW007	ND		1.0
EE-91-00850 P14-GW007D	ND		1.0
EE-91-00851 P14-GW008	ND		1.0
EE-91-00852 P14-GW014	ND		1.0
EE-91-00853 P14-GW015	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

TEST CODE :WPNTPH1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC TRPB UNITS : MG/L
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
METHOD BLANK	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
SWPLE ID LAB :EE-91-00849 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW007

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	11		10	UG/L
Zinc	200		20	UG/L
Lead	130		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	50		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.092

Ecology and Environment,. Inc.
Analytical Services Center

CLIENT : **UH-6000** NASP PHASE **I** GROUPS A-E
SAMPLE ID **LAB** :EE-91-00850 **MATRIX:** WATER
SAMPLE ID CLIENT: P14-GW007D

PARAMETER	RESULTS	Q	DET. LIMIT	**UNITS**
Arsenic	**ND**		69	UG/L
Chromium	**ND**		10	UG/L
Zinc	**160**		20	UG/L
Lead	**130**		40	UG/L
Cadmium	**ND**		5.0	UG/L
Nickel	**ND**		40	UG/L
Copper	42		25	UG/L
Silver	**ND**		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
SAMPLE ID LAB :EE-91-00851 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW008

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	17		10	UG/L
Zinc	170		20	UG/L
Lead	300		40	UG/L
cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	55		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00852 MATRIX : WATER
SAMPLE ID CLIENT: P14-GW014

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	27		10	UG/L
Zinc	64		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00853 MATRIX: WATER
SMPLE ID CLIENT: P14-GW015

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	69		10	UG/L
Zinc	83		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	58		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000475

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF VATER SAMPLES

9100.092

(ug/L)

Parametcr	E & B Laboratory No. 91-00852	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	--
Chromium		27	29	7.1
Zinc		64	60	6.4
Lead		ND	ND	--
Cadmium		ND	ND	--
Nickel		ND	ND	--
Copper		ND	ND	--
Silver		ND	ND	--

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED WATER SAMPLES

9100.092

(ug/L)

Parameter	E & E Laboratory No. 91-00852	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	2000	2100	105
Chromium		27	200	220	96
Zinc		64	500	550	97
Lead		ND	500	490	90
Cadmium		ND	30	43	86
Nickel		ND	500	460	92
Copper		ND	250	240	96
Silver		ND	50	46	92

0000476

JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
SAMPLE ID LAB :METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	ND		10	UG/L
Zinc	ND		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : BE-91-00849 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW007

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDB	ND		5.0
Bndrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00850 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW007D

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :WPNP&P1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT - : UR-6000 NASP PHASE I *GROUPS* A-B
TEST NME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : BE-91-00851 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW008

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDB	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0090478

TEST CODE : WPNP&P1 JOB NUMBER : 9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-00852 MATRIX : WATER
SAMPLE ID CLIENT: P14-GW014

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDE	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : HE-91-00853 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW015

PARAMETER	RESULTS	Q	DET. LIMIT
Haptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin / 4,4 - DDB	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATBD DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF WATER MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # *00849)*

9100.092

(ug/L)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Lindane	ND	2.0	1.2	60
Heptachlor	ND	2.0	1.2	60
Aldrin	ND	2.0	1.2	60
Dieldrin	ND	5.0	2.7	*54*
Endrin	ND	5.0	3.2	*64*
4,4'-DDT	ND	5.0	2.6	52

TEST CODE :WPNP&P1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMT
Haptachlor	ND		*5.0*
Lindane	ND		5.0
Aldrin	ND		*5.0*
4,4 - DDT	ND		*5.0*
Dieldrin / 4,4 - DDE	ND		*5.0*
Endrin	ND		*5.0*
Chlordane	ND		5.0
Total PCBS	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME. : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00851 MATRIX : WATER
SAMPLE ID CLIENT: P14-GW008

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = BSTIHATED *VALUE* B = ALSO PRESENT IN BLANK
L = PRESENT BELOU STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-H
TEST NAME : PNC PAR - LC UNITS : UG/L
SAMPLE ID LAB : BB-91-00852 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW014

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000481

TEST CODE :WPNPAH1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAXE : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00853 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW015

PARAMETER	RESULTS	Q	DET. LIHIT
Total as Benzo-a-pyrene	PRESENT	L	100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A–B
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAHPLE ID LAB : EE-91-00849 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW007

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00850 HATRIX : WATER
SAMPLE ID CLIENT: P14-GW007D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00851 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW008

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	PRESENT	L	100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC PEENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00852 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW014

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :WPNPHL1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-00853 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW015

PARAMETER	RESULTS	Q	DBT. LIMIT
Total as Trichlorophenol	PRESENT	L	100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT **RECOVERY**
FOR SPIKED WATER SAMPLES

9100.092

(ug)

Parameter	E & E Laboratory No. 91- BLANK	Original Value	Amount Added	Amount Determined	Percent Recovery
Trichlorophenol		ND	50	35	70

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00849 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW007

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		10
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00850 MATRIX: WATER
SAHPLE ID CLIENT: P14-GW007D

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		10
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethenc	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethane	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-00851 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW008

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		10
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethenc	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAHPLE ID LAB : EE-91-00852 MATRIX : WATER
SAHPLE ID CLIENT: P14-GW014

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachlorocthene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT . : UH-6000 NASP PHASE I *GROUPS* A-B
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : BE-91-00853 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW015

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9100.092

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dfchlorobenzena	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dlchloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00819 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		*5000*

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NMB : PNC PEST./PCB UNITS : UG/KG
SAHPLE ID LAB : EE-91-00820 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016AD

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / *4,4* - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000488

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00809)

9100.090

(ug/kg)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Lindane	ND	400	400	100
Heptachlor	ND	400	420	105
Aldrin	ND	400	400	100
Dieldrin	ND	1000	1100	110
Endrin	ND	1000	1100	110
4,4'-DDT	ND	1000	1100	110

QUALITY CONTROL FOR ACCURACY *AND* PRECISION:
PERCENT RECOVERY *AND* RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00810)

9100.090

(ug/kg)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Aroclor 1254	ND	5000	*4500*	90

TEST CODE : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00799 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

000491

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00800 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BBLOW STATED DBTECTION LIMIT

TEST CODB :SPNPAH1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 UASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00801 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = ⓒ ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00802 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAE - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00803 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00804 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00805 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012C

PARAMETER	RESULTS	Q	DBT. LIHIT
Total as Benzo-a-pyrme	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000434

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00806 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012D

PARAMETER	RESULTS	Q	DET. LIHIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BBLOV STATED DETECTION LIHIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00807 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012DD

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00808 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : BB-91-00809 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00810 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S013B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAR - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00811 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00812 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology. and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAHPLE ID LAB : BE-91-00813 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00814 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services *Center*

CLIENT : UH-6000 NASP PHASB I GROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-0081s MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASB I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAE - LC UNITS : UG/KG
SAHPLE ID LAB : BE-91-00816 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPAH1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00817 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00818 HATRIX : SOLID
SAMPLE ID CLIENT: P14-S015A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00819 MATRIX :SOLID
SAMPLE ID CLIENT: P14-S016A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000501

TEST CODE : SPNPAH1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAR - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00820 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016AD

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9100.090

		(ug)			
Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(A)pyrene	818	ND	50	*46.2*	*92*

TEST CODE :SPNPAH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I CROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : HE-91-00799 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00800 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : RE-91-00801 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATBD DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00802 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOU STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00803 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00804 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S012B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00805 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	PRESENT	L	2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00806 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PEASE I *GROUPS* A-B
RESULTS IN WET UBIGET
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00807 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012DD

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00808 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RBSULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00809 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00810 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPHL1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00811 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PHENOL - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00812 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S013D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUB B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00813 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PEENOL - LC UNITS : UG/KG
SAHPLE ID LAB : BE-91-00814 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S014A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
3 = ESTIMATED *VALUE* B = ALSO PRESENT IN BLANK
L = PRESENT BBLOU STATED DETECTION LIMIT

TEST CODB :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A–E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : HE-91-00815 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00816 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DBTECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00817 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014D

PARAMETER	RESULTS	Q	DBT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00818 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S015A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00819 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00820 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S016AD

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: **PERCENT RECOVERY**
FOR **SPIKED SOIL SAMPLES**

9100.090

(ug)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Trichlorophenol	BLANK	ND	*50*	28	57

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00799 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	2500		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00800 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011B

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzene	ND		1000
Total Xylenes	ND		1000
l,Z - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	2300		1000
l,Z - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000515

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WBT WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00801 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011C

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Hethylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	1900		1000
1,2 - Dichlorocthane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00802 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S011D

PARAMETER	RBSULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	1800		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrrchlorwthme	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00803 MATRIX : SOLID
SAHPLE ID. CLIENT: P14-S012A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzane	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethana	1500		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00804 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012B

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	1800		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00805 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012C

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichlorocthene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	1600		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TBST CODE : SPNPRG1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00806 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012D

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Bthylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	3300		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 UASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00807 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012DD

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00808 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012E

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPRG1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00809 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00810 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013B

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00811 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013C

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbcnzena	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST COOB :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00812 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013D

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00813 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013E

PARAMETER	RESULTS	Q	DET. LIHIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethane	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00814 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00815 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014B

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00816 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014C

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichlorwthene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000523

TEST CODE :SPNPKGI JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00817 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014D

PARAMETER	RESULTS	Q	DBT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1600		1000
Trans-1,2, - Dichloroethene	1100		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	1200		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00818 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S015A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	2100		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0005524

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : BE-91-00819 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethme	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichlorocthane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00820 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S016AD

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND.		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	2000		1000
1.1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1.2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethane	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

APPENDIX F

GROUNDWATER SAMPLING ANALYTICAL SCREENING RESULTS

ecology and environment, inc.

QUALITY ASSURANCE PROTOCOL REVIEW

Job No.: 9100.102 Date: 1/29/91

Report Title:

Client: Pensacola

Laboratory Data Review	Supervisor	Date
Metals	RDW	1-31-91
Gen. Chem.	[illegible]	1-31-91
GC	[illegible]	1-31-91
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:	[signature]	1/29/91
1st Draft Reviewed by:		
2nd Draft Reviewed by: (If needed)		
Final Review by Author:	[signature]	2/1/91
ASC Manager:	[signature]	1.31.91
QA Officer:		
Corp. Project Manager: (Internal Job)	Baikdale reviewed Sign, Return to ASC	
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
Copies of Report Sent to Client Via	Baikdale [signature]	2/1/91
Invoices Sent to Accounting	[signature]	2/1/91

Comments/Notes:

bpy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File.

407064

MEMORANDUM

TO: John Barksdale

FROM: Gary Hahn

DATE: January 30, 1991

SUBJECT: UH-6000 Pensacola Report

REF: 9100.102

CC: Lab Pile

Attached is the laboratory report of the analysis conducted on six samples received at the Analytical Services Center on January 15, 1991. Analysis was performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

All samples on which this report is based will be retained by B 6 B for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH:tas
enclosure

0000520

Job # 9100.102

Sample Range — 965 → 970

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International Specialists in the Environment
[illegible] PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

CHAIN-OF-CUSTODY RECORD

Page ___ of ___

Project No.	Project Name	Project Manager
1H6034	NAS Pensacola Phase I A-E	John Barksdale

Samplers: (Signatures) Dan Carsalia, Mike Clarke

Field Team Leader: Brian Caldwell

STATION NUMBER	DATE	TIME	SAMPLE TYPE: COMP	SAMPLE TYPE: GRAB	SAMPLE TYPE: AIR	SAMPLE INFORMATION — EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening metals	Screening TRPHs	REMARKS
W009	1-13	1530		X		Low Level	Temporary Well 9	2	X	X	1 liter Amber: Lot#9223013 QC# 0889C 3282C
W010	1-14	1030		X		" "	Temporary Well 10	2	X	X	
W011	1-14	1330		X		" "	Temporary Well 11	2	X	X	
W012	1-13	1145		X		" "	Temporary Well 12	2	X	X	1 liter Poly: Lot # 0303013 QC# 0889C
W013	1-13	1435		X		" "	Temporary Well 13	2	X	X	
W016	1-13	1005		X		" "	Temporary Well 16	2	X	X	
											1 litre Amber: preserved H_2SO_4
											1 litre Poly: preserved HNO_3

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Ship Via:
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	
Relinquished By: (Signature) Daniel Carsalia	Date/Time: 01-14-91	Received For Laboratory By (Signature): Fed Ex	Relinquished By: (Signature) Fed Ex	Date/Time: 0700 1-15-91	Received For Laboratory By: (Signature) Brian Jensen	BL/Airbill Number: Federal Express; Date: 01-14-91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234068

Job # 9100.102
Sample Range 95 → 900

Analyze all parameters according to site specific QAPP - See Barb Krajewski

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[illegible] PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684 8060

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
UH6034	NAS Pensacola FL Phase I A+E	John Barksdale
Samplers: (Signature)		Field Team Leader:
Dan Cassala Mike Cantu		Brian Caldwell

STATION NUMBER	DATE	TIME	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE TYPE AIR	SAMPLE INFORMATION / EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening PAH's	Screening Phenols	Screening Pesticides*	Screening PCB's	Screening VOC's	REMARKS
14	GW009	1-13	1530		X	Low Level	Temporary Well 9	3	X	X	X	X	X	½ gal Amber: Lot # X0794023
14	GW010	1-14	1030		X	" "	Temporary Well 10	3	X	X	X	X	X	QC # X07626
14	GW012	1-13	1330		X	" "	Temporary Well 12	3	X	X	X	X	X	
14	GW013	1-13	1145		X	" "	Temporary Well 13	3	X	X	X	X	X	VOA : Lot # B016 2043
14	GW016	1-13	1435		X	" "	Temporary Well 16	3	X	X	X	X	X	QC # B1134C
4	GW011	1-14	1085		X	" "	Temporary Well 11	3	X	X	X	X	X	
														VOAS : preserved with HCl

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Ship Via:
						Federal Express
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	
						BL/Airbill Number:
Relinquished By: (Signature) Daniel Cassala	Date/Time: 01-14-91	Received For Laboratory By: (Signature) Ed E.	Relinquished By: (Signature) Ed E.	Date/Time: 0900 1-15-91	Received For Laboratory By: (Signature) Brian Bennett	Date: 01-14-91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

334068

0530

JOB NUMBER : 9100.102

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
965.01	P14-GW009	WPNPRGl	01/13/91		01/18/91
965.03	P14-GW009	WPNP&P1	01/13/91		01/16/91
		WPNPAHl	01/13/91		01/22/91
		WPNPELl	01/13/91		01/21/91
965.04	P14-GW009	WPNTPEl	01/13/91		01/16/91
965.05	P14-GW009	WPNMET1	01/13/91		01/16/91
966.01	P14-GW010	WPNPRGl	01/14/91		01/18/91
966.03	P14-GW010	WPNP&P1	01/14/91		01/16/91
		WPNPAHl	01/14/91		01/22/91
		WPNPELl	01/14/91		01/21/91
966.04	P14-GW010	WPNTPEl	01/14/91		01/17/91
966.05	P14-GW010	WPNMET1	01/14/91		01/16/91
967.01	P14-GW011	WPNPRG1	01/14/91		01/18/91
967.03	P14-GW011	WPNP&P1	01/14/91		01/16/91
		WPNPAHl	01/14/91		01/22/91
		WPNPHL1	01/14/91		01/21/91
967.04	P14-GW011	WPNTPH1	01/14/91		01/17/91
967.05	P14-GW011	WPNMET1	01/14/91		01/16/91
968.01	P14-GW012	WPNPRGl	01/13/91		01/18/91
968.03	P14-GW012	WPNP&P1	01/13/91		01/16/91
		WPNPAH1	01/13/91		01/22/91
		WPNPHL1	01/13/91		01/21/91
968.04	P14-GW012	WPNTPEl	01/13/91		01/16/91
968.05	P14-GW012	WPNMET1	01/13/91		01/16/91
969.01	P14-GW013	WPNPRGl	01/13/91		01/18/91
969.03	P14-GW013	WPNP&P1	01/13/91		01/16/91
		WPNPAH1	01/13/91		01/22/91
		WPNPELl	01/13/91		01/21/91
969.04	P14-GW013	WPNTPEl	01/13/91		01/16/91
969.05	P14-GW013	WPNMET1	01/13/91		01/16/91
970.01	P14-GW016	WPNPRGl	01/13/91		01/18/91
970.03	P14-GW016	WPNP&P1	01/13/91		01/16/91
		WPNPAH1	01/13/91		01/22/91
		WPNPELl	01/13/91		01/21/91
970.04	P14-GW016	WPNTPEl	01/13/91		01/16/91
970.05	P14-GW016	WPNMET1	01/13/91		01/16/91

TEST CODE :WPNTPH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC TRPH UNITS : MG/L
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00965 P14-GW009	ND		1.0
EE-91-00966 P14-GW010	ND		1.0
EE-91-00967 P14-GW011	ND		1.0
EE-91-00968 P14-GW012	ND		1.0
EE-91-00969 P14-GW013	ND		1.0
BE-91-00970 P14-GW016	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

TEST CODE :WPNTPH1 JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
TEST NAME : PNC TRPE UNITS : MG/L
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
METHOD BLANK	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DBTECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-B
SAMPLE ID LAB :EE-91-00965 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW009

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	16		10	UG/L
Zinc	36		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		*5.0*	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
SAMPLE ID LAB :EE-91-00966 MATRIX: WATER
SAMPLE ID CLIENT: P14-GW010

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	ND		10	UG/L
Zinc	40		20	UG/L
Lead	120		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9100.102

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
SAHPLE ID LAB :EE-91-00967 MATRIX: WATER
SAHPLE ID CLIENT: P14-GW011

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		69	UG/L
Chromium	130		10	UG/L
Zinc	140		20	UG/L
Lead	ND		40	UG/L
Cadmium	13		5.0	UG/L
Nickel	49		40	UG/L
Copper	29		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00815 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S014B

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.6		1.0	MG/KG
Zinc	3.7		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : BE-91-00816 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S014C

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.9		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.s	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000534

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00813 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S013E

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	3.4		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT - : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00814 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SO14A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.5		1.0	MG/KG
Zinc	2.3		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000535

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00811 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S013C

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.1		1.0	MG/KG
Zinc	3.9		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WBIGET
SAMPLE ID LAB : BE-91-00812 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S013D

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00809 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S013A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.6		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
cadmium	ND		*0.50*	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00810 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S013B

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		*2.0*	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED *VALUE* B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATBD DETECTION LIMIT

HETALS SECTION JOB NUMBER :9100.090

Ecology **and** Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN **WET** WEIGHT
SAMPLE ID LAB : EE-91-00807 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S01200

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	4.4		2.0	MG/KG
Lead	10		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT - : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00808 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S012E

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.4		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

HETALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00805 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S012C

PARAMETER	RESULTS	Q	DBT. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	3.1		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00806 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S012D

PARAMETER	RESULTS	Q	DBT. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		25	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRBSBNT BBLOV STATED DETECTION LIMIT

0000539

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP.PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00803 MATRIX: SOLID
SAHPLE ID CLIENT: P14-S012A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00804 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S012B

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.s	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DBTBCTBD
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DBTBCTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00801 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S011C

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT - : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WBIGET
SAMPLE ID LAB : BE-91-00802 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S011D

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.2		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		*0.50*	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN VET WEIGHT
SAMPLE ID LAB : EE-91-00799 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S011A

PARAMETER	RESULTS	Q	DET. LIHIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	*4.2*		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00800 MATRIX: SOLID
SAHPLE ID CLIENT: P14-S011B

PARAMETER	RESULTS	Q	DET. LIMIT	WITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOIL SAMPLES

9100.090

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
T. Petroleum Eydrocarbons	00802	ND	ND	--
	00818	ND	ND	--

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9100.090

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
T.Petroleum Hydrocarbons	00810	ND	810	620	76

TEST CODE :SPNTPH1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
TEST NAME : PNC TRPH UNITS : MG/KG
PARAHETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
BX-91-00799 P14-S011A	ND		5.0
EE-91-00800 P14-S011B	ND		5.0
EE-91-00801 P14-S011C	ND		5.0
EE-91-00802 P14-S011D	ND		5.0
EE-91-00803 P14-S012A	ND		5.0
EE-91-00804 P14-S012B	ND		5.0
EE-91-00805 P14-S012C	ND		5.0
313-91-00806 P14-S012D	ND		5.0
EE-91-00807 P14-S012DD	ND		5.0
EE-91-00808 P14-S012E	14		5.0
EE-91-00809 P14-S013A	ND		5.0
EE-91-00810 P14-S013B	ND		5.0
BE-91-00811 P14-s013C	ND		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

TEST CODE :SPNTPH1 JOB NUMBER r9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-B
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00812 P14-S013D	ND		5.0
EE-91-00813 P14-S013E	7.6		5.0
EE-91-00814 P14-S014A	ND		5.0
EE-91-00815 P14-S014B	16		5.0
EE-91-00816 P14-S014C	6.5		5.0
EE-91-00817 P14-S014D	6.0		5.0
EE-91-00818 P14-S015A	ND		5.0
EE-91-00819 P14-S016A	ND		5.0
EE-91-00820 P14-S016AD	9.3		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER : 9100.090

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
806.03	P14-S012D	SPNPHL1	01/08/91		01/21/91
807.01	P14-S012DD	SPNPRG1	01/08/91		01/14/91
807.02	P14-S012DD	SPNTPH1	01/08/91		01/14/91
807.03	P14-S012DD	SPNMET1	01/08/91		01/15/91
		SPNPCP1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
808.01	P14-S012E	SPNPRG1	01/08/91		01/14/91
808.02	P14-S012E	SPNTPH1	01/08/91		01/14/91
808.03	P14-S012E	SPNMET1	01/08/91		01/15/91
		SPNPCP1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
809.01	P14-S013A	SPNPRG1	01/08/91		01/14/91
809.02	P14-S013A	SPNTPH1	01/08/91		01/14/91
'809.03	P14-S013A	SPNMET1	01/08/91		01/15/91
		SPNPCP1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
810.01	P14-S0138	SPNPRG1	01/08/91		01/14/91
810.02	P14-S0138	SPNTPH1	01/08/91		01/14/91
810.03	P14-S013B	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
811.01	P14-S013C	SPNPRG1	01/08/91		01/14/91
811.02	P14-S013C	SPNTPH1	01/08/91		01/14/91
811.03	P14-S013C	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
812.01	P14-S013D	SPNPRG1	01/08/91		01/14/91
812.02	P14-S013D	SPNTPH1	01/08/91		01/14/91
812.03	P14-S013D	SPNMET1	01/08/91		01/15/91
		SPNPCP1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
813.01	P14-S013E	SPNPRG1	01/08/91		01/14/91
813.02	P14-S013E	SPNTPH1	01/08/91		01/14/91
813.03	P14-S013E	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
814.01	P14-S014A	SPNPRG1	01/08/91		01/14/91
814.02	P14-S014A	SPNTPH1	01/08/91		01/14/91
814.03	P14-S014A	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91

JOB NUMBER : 9100.090

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
814.03	P14-SO14A	SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
815.01	P14-SO14B	SPNPRG1	01/08/91		01/14/91
815.02	P14-SO14B	SPNTPH1	01/08/91		01/14/91
815.03	P14-SO14B	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
816.01	P14-SO14C	SPNPRG1	01/08/91		01/14/91
816.02	P14-SO14C	SPNTPH1	01/08/91		01/14/91
816.03	P14-SO14C	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
817.01	P14-SO14D	SPNPRG1	01/08/91		01/14/91
817.02	P14-SO14D	SPNTPH1	01/08/91		01/14/91
817.03	P14-SO14D	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
818.01	P14-SO15A	SPNPRG1	01/08/91		01/14/91
818.02	P14-SO15A	SPNTPH1	01/08/91		01/14/91
818.03	P14-SO15A	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
819.01	P14-SO16A	SPNPRG1	01/08/91		01/14/91
819.02	P14-SO16A	SPNTPH1	01/08/91		01/14/91
819.03	P14-SO16A	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
820.01	P14-SO16AD	SPNPRG1	01/08/91		01/14/91
820.02	P14-SO16AD	SPNTPH1	01/08/91		01/14/91
820.03	P14-SO16AD	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91

ecology and environment, inc.

International Specialists in the Environment

A-16

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
UH6030	NASP Phase 2 A-E Screening	John Barksdale
Samplers: (Signature)		Field Team Leader:
J. Strickland / Andrew Rank		Justin Strickland

STATION NUMBER	DATE (1991)	TIME	SAMPLE TYPE: COMP	GRAB	AIR	SAMPLE INFORMATION: EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening VOA's	Screening Phenols	Screening Pesticides	Screening Total PCBs	Screening Metals	Screening TPH	Screening VOC's	REMARKS
SO11A	1-8	0915	X			✓ Low levels	Boring 11, Sik 14	3	X	X	X	X	X	X	X	Bag sail Jane:
SO11B	1-8	0920	X			✓	Boring 11	3	X	X	X	X	X	X	X	Lot # X0298023
SO11C	1-8	0932	X			✓	Boring 11	3	X	X	X	X	X	X	X	QC # X0879C
SO11D	1-8	0942	X			✓	Boring 11	3	X	X	X	X	X	X	X	
SO12A	1-8	1045	X			✓	Boring 12	3	X	X	X	X	X	X	X	VOA's:
SO12B	1-8	1050	X			✓	Boring 12	3	X	X	X	X	X	X	X	Lot # 09251043
SO12C	1-8	1055	X			✓	Boring 12	3	X	X	X	X	X	X	X	QC # B886C
SO12D	1-8	1105	X			✓	Boring 12	3	X	X	X	X	X	X	X	
SO12DD	1-8	1145	X			✓	Boring 12	3	X	X	X	X	X	X	X	Duplicate
SO12E	1-8	1145	X			✓	Boring 12	3	X	X	X	X	X	X	X	
SO13A	1-8	1501	X			✓	Boring 13	3	X	X	X	X	X	X	X	
SO13B	1-8	1505	X			✓	Boring 13	3	X	X	X	X	X	X	X	
SO13C	1-8	1515	X			✓	Boring 13	3	X	X	X	X	X	X	X	
SO13D	1-8	1520	X			✓	Boring 13	3	X	X	X	X	X	X	X	

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Ship Via:
[signature]	1-10-91/1515					Federal Express
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	BL/Airbill Number: 954874555 22 / Date: 1-8-91
Relinquished By: (Signature) Fed. Express	Date/Time: 1-12-91/1026	Received For Laboratory By: (Signature) [signature]	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

* CONCENTRATION RANGE on back of form.

234068

JOB NUMBER : 9100.090

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
799.01	P14-S011A	SPNPRG1	01/08/91		01/14/91
799.02	P14-S011A	SPNTPH1	01/08/91		01/14/91
799.03	P14-S011A	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
800.01	P14-S011B	SPNPRG1	01/08/91		01/14/91
800.02	P14-S011B	SPNTPH1	01/08/91		01/14/91
800.03	P14-S011B	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
801.01	P14-S011C	SPNPRG1	01/08/91		01/14/91
801.02	P14-S011C	SPNTPH1	01/08/91		01/14/91
801.03	P14-S011C	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
802.01	P14-S011D	SPNPRG1	01/08/91		01/14/91
802.02	P14-S011D	SPNTPH1	01/08/91		01/14/91
802.03	P14-S011D	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
803.01	P14-S012A	SPNPRG1	01/08/91		01/14/91
803.02	P14-S012A	SPNTPH1	01/08/91		01/14/91
803.03	P14-S012A	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
804.01	P14-S012B	SPNPRG1	01/08/91		01/14/91
804.02	P14-S012B	SPNTPH1	01/08/91		01/14/91
804.03	P14-S012B	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
805.01	P14-S012C	SPNPRG1	01/08/91		01/14/91
805.02	P14-S012C	SPNTPH1	01/08/91		01/14/91
805.03	P14-S012C	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91
		SPNPHL1	01/08/91		01/21/91
806.01	P14-S012D	SPNPRG1	01/08/91		01/14/91
806.02	P14-S012D	SPNTPH1	01/08/91		01/14/91
806.03	P14-S012D	SPNMET1	01/08/91		01/15/91
		SPNP&P1	01/08/91		01/15/91
		SPNPAH1	01/08/91		01/28/91

TEST CODE : SPNPRG1 JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00366 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S0102

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1200	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9100.039

Compound	E & E Laboratory No. 91-	Percent Recovery
TFT	362	72
	363	64
	364	7s
	365	78
	366	63

TEST CODE :SPNPRG1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC FURCABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	2000		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroechenc	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

ecology and environment, inc.

QUALITY ASSURANCE PROTOCOL **REVIEW**

Job No.: 9100.090 Date: 1/29/91

Report Title:

Client: Pensacola

Laboratory Data Review	Supervisor	Date
Metals	CAW	1-31-91
Gen. Chem.	[illegible]	1-31-91
GC	[illegible]	1-31-91
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:	[illegible]	1/29/91
1st Draft Reviewed by:		
2nd Draft Reviewed by: (If needed)		
Final Review by Author:	GK	2/2/91
ASC Manager:	[illegible]	2.1.91
QA Officer:		
Corp. Project Manager: (Internal Job)	J Barksdale review, sign, return to ASC	
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
/ Copies of Report Sent to	Client via J Barksdale GK	2/2/91
/ Invoices Sent to Accounting	GK	2/2/91

Comments/Notes: JFT [illegible] required / GK

Copy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File. 407064

0000518

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WBT WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00799 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST. CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I CROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00800 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011B

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Bndrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00801 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011C

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / *4p4* - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BB-91-00802 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S011D

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00803 MATRIX : SOLID
SAUPLE ID CLIENT: P14-S012A

PARAMETER	RESULTS	Q	DET. LIHIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		*5000*

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Bcology and Environment, Inc.
Analytical Services Center

CLIENT . : UH-6000 NASP PHASE I *CROUPS* A–B
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00804 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012B

PARAMETER	RESULTS	Q	DET. LIMIT
Hcptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATBD DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00805 MATRIX : SOLID
SWPLE ID CLIENT: P14-S012C

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT - : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BE-91-00806 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012D

PARAMETER	RESULTS	Q	DET. LIMIT
Haptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Bndrln	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUB B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000552

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00807 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012DD

PARAMETER	RESULTS	Q	DET. LIHIT
Haptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DUT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Badrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *CROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BE-91-00808 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S012E

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT - : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00809 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013A

PARAMETER	RESULTS	Q	DET. LIMIT
Reptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, fnc.
Analytical Services Center

CLIENT . : UH-6000 NASP PHASE I *GROUPS* A-B
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00810 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013B

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / *4,4* - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00811 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013C

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BBLOV STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAHPLE ID LAB : BE-91-00812 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013D

PARAMETER	RESULTS	Q	DBT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00813 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S013E

PARAMETER	RESULTS	Q	DET. LIMIT
Haptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00814 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014A

PARAMETER	RESULTS	Q	DBT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BE-91-00815 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014B

PARAMETER	RESULTS	Q	DET. LIMIT
Haptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-6000 NASP PHASE I CROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : BE-91-00816 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S014C

PARAMETER	RESULTS	Q	DET. LIMIT
Haptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Canter

CLIENT : UR-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00817 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SO14D

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASB I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00818 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S015A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DUT	ND		1000
Dieldrin / 4,4 - DDB	ND		1000
Bndrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPRG1 JOB NUMBER. :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET VEIGHT
TEST NAHE : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00138 MATRIX : SOLID
SAHPLE ID CLIENT: P14S001A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	2700		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroe thane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN-VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00140 MATRIX : SOLID
SAMPLE ID CLIENT: P14S003A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	NO		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1900		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethanc	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	No		1000
Trichloroethene	No		1000
Tetrachloroethenc	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000559

ecology and environment, inc.

QUALITY ASSURANCE PROTOCOL REVIEW

Job No.: 9100.026 Date: 1/17/91

Report Title:

Client: Tonawanda

Laboratory Data Review	Supervisor	Date
Metals	KW	1-18-91
Gen. Chem.	DA	1-19-91
GC	DA	1-19-91
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:		1/17/91
1st Draft Reviewed by:		
2nd Draft Reviewed by: (If needed)		
Final Review by Author:		1/22/91
ASC Manager:		1/23/91
QA Officer:	Backdate review	
Corp. Project Manager: (Internal Job)	Original to PC	
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
1 Copies of Report Sent to:	Client via Mark Dale	1/22/91
1 Invoices Sent to Accounting		1/22/91

Comments/Notes: GC + Summ. HCC + GC QC

+ Rec'd 1/7 / FIV DK 1/22/91

Copy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File.

407064

Analyses will [illegible]
to site specific QAP for this
Project (see B. Krajewski)

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International Specialists in the Environment
[illegible] PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

CHAIN-OF-CUSTODY RECORD

Project No.: UH6030
Project Name: NASP Phase I M-I= Screening
Project Manager: John Burkstale
Samplers: (Signatures) J. Strickland / Arnold C. Lent
Field Team Leader: Justin Strickland

STATION NUMBER	DATE (1991)	TIME	SAMPLE COMP.	SAMPLE GRAB	SAMPLE INFORMATION — EXPECTED COMPOUNDS (Concentration)*		STATION LOCATION	NUMBER OF CONTAINERS	Screening PAHs	Screening Phenols	Screening Pesticides	Screening Total PCBs	Screening Metals	TAL Screening VOCs	REMARKS
P14S001A	01/03	1030	X		Low Level	138 ★	P14B001	2	X	X	X	X	X	X	X
P14S002A	01/03	1050	X		" "	139 ★	P14B002	2	X	X	X	X	X	X	X
P14S003A	01/03	1140	X		" "	140 ★	P14B003	2	X	X	X	X	X	X	X
P14S004A	01/03	1150	X		" "	141 ★	P14B004	2	X	X	X	X	X	X	X
P14S005A	01/04	0850	X		" "	128	P14B005	3	X	X	X	X	X	X	X
P14S005AD	01/04	0850	X		" "	129	P14B005	3	X	X	X	X	X	X	X
P14S006A	01/04	0925	X		" "	130	P14B006	3	X	X	X	X	X	X	X
P14S007A	01/04	1025	X		" "	131	P14B007	3	X	X	X	X	X	X	X
P14S008A	01/04	1105	X		" "	132	P14B008	3	X	X	X	X	X	X	X
P14S009A	01/04	1345	X		" "	133	P14B009	3	X	X	X	X	X	X	X

Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	Ship Via
[signature]	1490/1900	FED. EXP.				Federal Express
Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	BL/Airbill Number: 754718022
Relinquished By (Signature): FED. EXP.	Date/Time: 1-6-91 #20	Received For Laboratory By (Signature): [signature]	Relinquished By (Signature)	Date/Time	Received For Laboratory By (Signature)	Date: 1-4-91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files
*See CONCENTRATION RANGE on back of form.

234055

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QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9100.026

Compound	E & E Laboratory No. 91-	Percent Recovery
TFT	115	90
	116	91
	117	101
	118	89
	119	98
	120	96
	121	81
	122	88
	123	79
	124	81
	125	78
	126	68
	127	82
	128	81
	129	68
	130	68
	131	80
	132	88
	133	90
	134	104
	135	88
	136	99
	137	07
	138	89
	139	04
	140	91
	141	85
	Method Blank	100

TEST CODE : SPNPRG1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UM-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 1 MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichlorocthcnc	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethcne	ND		1000
Tetrachlorocthene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000561

CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROWS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC WITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 2 MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4- Dichlorobenzene	ND		1000
1,1 - dichloroethene	NO		1000
Methylene Chloride	12000		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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QUALITY ASSURANCE PROTOCOL REVIEW

Job No.: 9100.039 Date: 1/18/91

Report Title:

Client: Pensacola

Laboratory Data Review	Supervisor	Date
Metals	[signature]	1-18-91
Gen. Chem.	[signature]	1-18-91
GC	[signature]	1-18-91
GC/MS		
Micro, Asbestos		
Other		

	Signature	Date
Report Written by:	[signature]	1/18/91
1st Draft Reviewed by:		
2nd Draft Reviewed by: (If needed)		
Final Review by Author:	[signature]	1/23/91
ASC Manager:	[signature]	1-18-91
QA Officer:		
Corp. Project Manager: (Internal Job)	Oakdale review. sign. return to ASC	
All QA Protocol Review Forms Signed and in File (to be signed by report writer)		
1 Copies of Report Sent to Client via Oakdale	[signature]	1/23/91
1 Invoices Sent to Accounting	[signature]	1/23/91

Comments/Notes:

Copy Distribution: White - Report to Project File; Canary - Project Manager; Pink - Project File. 407064

0000562

M E H O R A N D U H

TO: John Barksdale

FROM: Gary Hahn

DATE: January 18, 1991

SUBJECT: UH-6000 Pensacola Report

REF: 9100.039

CC: Lab File

Attached is the laboratory report of the analysis conducted on five samples received at the Analytical Services Center on January 9, 1991. Analysis vas performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

All samples on vhich this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH: tms
enclosure

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368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

CHAIN-OF-CUSTODY RECORD

Page 1 of ____

Project No.	Project Name	Project Manager
2116030	NASP Phase I Group A-E Survey	John Berkdale

Samplers: (Signature) D. Strickland / Carlos C. Lamb

Field Team Leader: Justin Strickland

STATION NUMBER	DATE (1991)	TIME	SAMPLE TYPE: COMP	SAMPLE TYPE: GRAB	SAMPLE TYPE: AIR	SAMPLE INFORMATION: EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening PAHs	Screening Phenols	Screening Pesticides	Screening Total PCBs	Screening Metals	40 mL Screening VOCs	REMARKS
PHS 010A	1-7	1150	X			Low Levels	P14B010	3	X	X	X	X	X	X	X
PHS 010B	1-7	1210	X			" "	P14B010	3	X	X	X	X	X	X	X
PHS 010C	1-7	1220	X			" "	P14B010	3	X	X	X	X	X	X	X
DHS 010D	1-7	1226	X			" "	P14B010	3	X	X	X	X	X	X	X
PHS 010E	1-7	1240	X			" "	P14B010	3	X	X	X	X	X	X	X

Bag Seal Nos.
Lot # ~~X028~~X028023
QC # X037SC

VOA:
Lot # B925104 3
QC # BBB6 SC

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[signature]	1/8/91 1730	Fed Ex			
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time: 5:30	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time	Received For Laboratory By: (Signature)
Fed Ex	1-8-91	[signature]			

Ship Via: Federal Express

BL/Airbill Number: 7501718044

Date: 1/8/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234066

J06 NUMBER : 9100.039

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAHPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAHPLED	DATE EXTRACTED	DATE ANALYZED
362.01	P14-S010A	SPNPRGl	01/07/91		01/10/91
362.02	P14-S010A	SPNTPHl	01/07/91		01/10/91
362.03	P14-S010A	SPNMETl	01/07/91		01/10/91
		SPNP&P1	01/07/91		01/10/91
		SPNPAH1	01/07/91		01/17/91
		SPNPHL1	01/07/91		01/17/91
363.01	P14-S010B	SPNPRGl	01/07/91		01/10/91
363.02	P14-S010B	SPNTPH1	01/07/91		01/10/91
363.03	P14-S010B	SPNMET1	01/07/91		01/10/91
		SPNP&P1	01/07/91		01/10/91
		SPNPAHl	01/07/91		01/17/91
		SPNPHL1	01/07/91		01/17/91
364.01	P14-S010C	SPNPRGl	01/07/91		01/10/91
364.02	P14-S010C	SPNTPHl	01/07/91		01/10/91
364.03	P14-S010C	SPNMET1	01/07/91		01/10/91
		SPNP&P1	01/07/91		01/10/91
		SPNPAHl	01/07/91		01/17/91
		SPNPHL1	01/07/91		01/17/91
365.01	P14-S010D	SPNPRGl	01/07/91		01/10/91
365.02	P14-S010D	SPNTPHl	01/07/91		01/10/91
365.03	P14-S010D	SPNHETl	01/07/91		01/10/91
		SPNP&P1	01/07/91		01/10/91
		SPNPAH1	01/07/91		01/17/91
		SPNPHL1	01/07/91		01/17/91
366.01	P14-S010E	SPNPRGl	01/07/92		01/10/91
366.02	P14-S010E	SPNTPHl	01/07/91		01/10/91
366.03	P14-S010E	SPNHETl	01/07/91		01/10/91
		SPNP&P1	01/07/91		01/10/91
		SPNPAH1	01/07/91		01/17/91
		SPNPHL1	01/07/91		01/17/91

TEST CODE :SPNTPH1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PRASE I GROUPS A-E
TEST NAHE : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00362			
P14-SO10A	24		5.0
EE-91-00363			
P14-SO10B	18		5.0
EE-91-00364			
P14-SO10C	16		5.0
E&-91-00365			
P14-SO10D	17		5.0
EE-91-00366			
P14-SO10E	21		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9100.039

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
T.Petroleum Hydrocarbons	00363	18	830	760	89

METALS SECTION JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-6000 NASP PRASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00362 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S010A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-VET WEIGHT
SAMPLE ID LAB : EE-91-00363 MATRIX: SOLID
SAMPLE ID CLIENT: P14-SO10B

PARAMETER	RESULTS	Q	DET	LIMIT	UNITS
Arsenic	ND			6.9	MG/KG
Chromium	ND			1.0	MG/KG
Zinc	ND			2.0	MG/KG
Lead	ND			4.0	MG/KG
Cadmium	ND			0.50	MG/KG
Nickel	ND			4.0	MG/KG
Copper	ND			2.5	MG/KG
Silver	ND			1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

HETALS SECTION JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
SAHPLE ID LAB : EE-91-00364 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S010C

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT EN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

...LS SECTION JOB' NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
SAMPLE ID LAB : EE-91-00365 HATRIX: SOLID
SAMPLE ID CLIENT: P14-S010D

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

METALS SECTION JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00366 MATRIX: SOLID
SAHPLE ID CLIENT: P14-S010E

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
SAMPLE ID LAB : METHOD BLANK MATRIX: SOLID

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOE NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical *Services* Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00362 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		*5000*

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET VEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00363 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010B

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE: SPNP&P1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *CROUPS* A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00364 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010C

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE 6 = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00365 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010D

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000,
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00366 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010E

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00362).

9106.039

(ug/kg)

Compound	Original Result	Amount Added MS	Amount Determincd MS	Percent Recovery MS
Lindane	ND	2000	2300	115
Heptachlor	ND	2000	2200	110
Aldrin	ND	2000	2300	115
Dicldrin	ND	5000	6200	124
Endrin	ND	5000	6200	*124*
4,4'-DDT	ND	*5000*	*5600*	112

TEST CODE :SPNP&P1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I *GROUPS* A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	OR. LIMIT
Eeptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN- WET WEIGHT
TEST NAME : PNC PAR - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00362 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN-WET VEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00363 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UM-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : *EE-91-00364* MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1800		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAUE : PNC PAH - LC UNITS : UG/KG
SAUPLE ID LAB : EE-91-00365 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S010D

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-VET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00366 MATRIX : SOLID
SAHPLE ID CLIENT: P14-S010E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.039

Ecology and Environment, Xnc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGET
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : *38-91-00362* MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT NU = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I CROUPS A-E
RESULTS IN·VET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00363 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010B

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00364 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010C

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	2900		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.0393

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00365 MATRIX : SOLID
SAMPLE ID CLIENT: P14-SO100

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PRASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00366 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010E

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

ENERGY JOB NUMBER : 9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00362 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1600	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachlorocthene	ND		1000

QUALIFIERS: C = COHMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00363 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010B

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	NO		1000
Toluene	NO		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichlorocthene	ND		1000
Methylene Chloride	1200	0	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	NO		1000
1,1,1 - Trichlorocthanc	NO		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	NO		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-6000 NASP PBASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00364 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010C

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	NO		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1200	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichlgroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tecrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.039

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I CROUPS A-E
RESULTS Id WET WEIGHT
TEST NAME : PNC PURGABLES- GC WITS : UG/KG
SAMPLE ID LAB : EE-91-00365 MATRIX : SOLID
SAMPLE ID CLIENT: P14-S010D

PARAMETER	RESULTS	Q	DET. LIHIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethcne	ND		1000
Methylene Chloride	1100	B	1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	QD		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOLID WATER SAMPLES

9100.090

(ug)

Parameter	E & & Laboratory No. 90-	Original Value	Amount Added	Amount Determined	Percent Recovery
Trichlorophenol	600	ND	50	3s	70
	BLANK	ND	50	28	57

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : METHOD BLANK MATRIX: SOLID

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		*0.50*	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOIL SAMPLES

9100.090

(mg/kg)

Parameter	E & E Laboratory No. 91-00812	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	--
Chromium		ND	ND	--
Zinc		ND	2.6	--
Lead		ND	ND	--
Cadmium		ND	ND	--
Nickel		ND	ND	--
Copper		ND	ND	--
Silver		ND	ND	--

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9100.090

(mg/kg)

Parameter	E & E Laboratory No. 91-00812	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	2000	1900	95
Chromium		ND	200	200	100
Zinc		ND	500	500	100
Lead		ND	500	460	92
Cadmium		ND	50	43	86
Nickel		ND	500	460	92
Copper		ND	250	220	80
Silver		ND	50	38	76

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT

SAMPLE ID LAB : BE-91-00819 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S016A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	23		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		10	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00820 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S016AD

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.5		1.0	MG/KG
Zinc	2.8		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-B
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00817 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S014D

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	1.0		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		25	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
3 = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.090

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00818 MATRIX: SOLID
SAMPLE ID CLIENT: P14-S015A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

APPENDIX E

SOIL SAMPLING ANALYTICAL SCREENING RESULTS

M E M O R A N D U M

TO: John Barksdale

FROM: Gary Hahn GHahn/GK

DATE: January 17, 1991

SUBJECT: UH-6000 Pensacola Report

REF: 9100.026

CC: Lab File

Attached is the laboratory report of the analysis conducted on tventy-seven samples received at the Analytical Services Center on January 5, 1991. Analysis vas performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless othervise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH: tms
enclosure

JOB **NUMBER** : 9100.026

Ecology and Environment, Inc.
SAHPLE TRACKING **REPORT**

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
115.01	P13S001A	SPNPRGl	01/04/91		01/08/91
115.02	P13S001A	SPNTPHl	01/04/91		01/07/91
115.03	P13S001A	SPNMET1	01/04/91		01/08/91
		SPNPSP1	01/04/91		01/09/91
		SPNPAHl	01/04/91		01/10/91
		SPNPHLl	01/04/91		01/10/91
116.01	P13S003A	SPNPRGl	01/04/91		01/08/91
116.02	P13S003A	SPNTPHl	01/04/91		01/07/91
116.03	P13S003A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/10/91
		SPNPHLl	01/04/91		01/10/91
117.01	P13S006A	SPNPRGl	01/04/91		01/08/91
117.02	P13S006A	SPNTPH1	01/04/91		01/07/91
117.03	P13S006A	SPNMET1	01/04/91		01/08/91
		SPNPdPl	01/04/91		01/09/91
		SPNPAHl	01/04/91		01/10/91
		SPNPHL1	01/04/91		01/10/91
118.01	P13S006B	SPNPRGl	01/04/91		01/08/91
118.02	P13S006B	SPNTPHl	01/04/91		01/07/91
118.03	P13S006B	SPNMET1	01/04/91		01/08/91
		SPNPdPl	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/10/91
		SPNPHL1	01/04/91		01/10/91
119.01	P13S007A	SPNPRGl	01/04/91		01/08/91
119.02	P13S007A	SPNTPH1	01/04/91		01/07/91
119.03	P13S007A	SPNMET1	01/04/91		01/08/91
		SPNPdPl	01/94/91		01/09/91
		SPNPAHl	01/04/91		01/10/91
		SPNPHL1	01/04/91		01/10/91
120.01	P13S007B	SPNPRGl	01/04/91		01/08/91
120.02	P13S007B	SPNTPHl	01/04/91		01/07/91
120.03	P13S007B	SPNMET1	01/04/91		01/08/91
		SPNPdPl	01/04/91		01/09/91
		SPNPAHl	01/04/91		01/10/91
		SPNPHLl	01/04/91		01/10/91
121.01	P13S008A	SPNPRGl	01/04/91		01/08/91
121.02	P13S008A	SPNTPH1	01/06/91		01/07/91
121.03	P13S008A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAHl	01/04/91		01/10/91
		SPNPHLl	01/04/91		01/10/91
122.01	P13S009A	SPNPRG1	01/04/91		01/08/91
122.02	P13S009A	SPNTPH1	01/04/91		01/07/91
122.03	P13S009A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAHl	01/04/91		01/10/91

JOB NUMBER : 9100.026

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
122.03	P13S009A	SPNPHL1	01/04/91		01/10/91
123.01	P13S010A	SPNPRG1	01/04/91		01/08/91
123.02	P13S010A	SPNTPH1	01/04/91		01/07/91
123.03	P13S010A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
124.01	P13S012A	SPNPRG1	01/04/91		01/08/91
124.02	P13S012A	SPNTPH1	01/04/91		01/07/91
124.03	P13S012A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
125.01	P13S012B	SPNPRG1	01/04/91		01/08/91
125.02	P13S012B	SPNTPH1	01/04/91		01/07/91
125.03	P13S012B	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
126.01	P13S013A	SPNPRG1	01/04/91		01/08/91
126.02	P13S013A	SPNTPH1	01/04/91		01/07/91
126.03	P13S013A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
127.01	P13S013B	SPNPRG1	01/04/91		01/08/91
127.02	P13S013B	SPNTPH1	01/04/91		01/07/91
127.03	P13S013B	SPMMET1	01/04/91		01/08/31
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
128.01	P14S005A	SPNPRG1	01/04/91		01/08/91
128.02	P14S005A	SPNTPH1	01/04/91		01/07/91
128.03	P14S005A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
129.01	P14S005AD	SPNPRG1	01/04/91		01/08/91
129.02	P14S005AD	SPNTPH1	01/04/91		01/07/91
129.03	P14S005AD	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
130.01	P14S006A	SPNPRG1	01/04/91		01/08/91
130.02	P14S006A	SPNTPH1	01/04/91		01/07/91
130.03	P14S006A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91

JOB NUMBER : 9100.026

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
130.03	P14S006A	SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
131.01	P14S007A	SPNPRG1	01/04/91		01/08/91
131.02	P14S007A	SPNTPH1	01/04/91		01/97/91
131.03	P14S007A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
132.01	P14S008A	SPNPRG1	01/04/91		01/08/91
132.02	P14S008A	SPNTPH1	01/04/91		91/07/91
132.03	P14S008A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/10/91
133.01	P14S009A	SPNPRG1	01/04/91		01/08/91
133.02	P14S009A	SPNTPH1	01/04/91		01/08/91
133.03	P14S009A	SPNMET1	01/04/91		01/08/91
		SPNP&P1	01/04/91		01/09/91
		SPNPAH1	01/04/91		01/11/91
		SPNPHL1	01/04/91		01/11/91
134.01	P13S004A	SPNPRG1	01/03/91		01/08/91
134.02	P13S004A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
135.01	P13S004B	SPNPRG1	01/03/91		01/08/91
135.02	P13S004B	SPNMET1	01/03/91		01/08/91
		SPNP6P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
136.01	P13S005A	SPNPRG1	01/03/91		01/08/91
136.02	P13S005A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
137.01	P13S005B	SPNPRG1	01/03/91		01/08/91
137.02	P13S005B	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
138.01	P14S001A	SPNPRG1	01/03/91		01/08/91
138.02	P14S001A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91

JOB NUMBER : 9100.026

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
138.02	P14S001A	SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
139.01	P14S002A	SPNPRG1	01/03/91		01/08/91
139.02	P14S002A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
140.01	P14S003A	SPNPRG1	01/03/91		01/08/91
140.02	P14S003A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91
141.01	P14S004A	SPNPRG1	01/03/91		01/08/91
141.02	P14S004A	SPNMET1	01/03/91		01/08/91
		SPNP&P1	01/03/91		01/09/91
		SPNPAH1	01/03/91		01/11/91
		SPNPHL1	01/03/91		01/11/91
		SPNTPH1	01/03/91		01/08/91

TEST CODE : SPNTPH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : OH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00115 P13S001A	22		5.0
EE-91-00116 P13S003A	20		5.0
EE-91-00117 P13S006A	480		5.0
EE-91-00118 P13S006B	92		5.0
EE-91-00119 P13S007A	8.1		5.0
EE-91-00120 P13S007B	13		5.0
EE-91-00121 P13S008A	12		5.0
EE-91-00122 P13S009A	7.7		5.0
EE-91-00123 P13S010A	8.4		5.0
EE-91-00124 P13S012A	13		5.0
EE-91-00125 P13S012B	14		5.0
EE-91-00126 P13S013A	13		5.0
EE-91-00127 P13S013B	8.0		5.0

QUALIFIERS: C = COMMENT NO = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIHIT
NA = NOT APPLICABLE

0000586

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH 6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00128 P14S005A	91		5.0
EE-91-00129 P14S005AD	81		5.0
EE-91-00130 P14S006A	300		5.0
EE-91-00131 P14S007A	200		5.0
EE-91-00132 P14S008A	1800		5.0
EE-91-00133 P14S009A	240		5.0
EE-91-00134 P13S004A	570		5.0
EE-91-00135 P13S004B	61		5.0
EE-91-00136 P13S005A	2800		5.0
EE-91-00137 P13S005B	210		5.0
EE-91-00138 P14S001A	ND		5.0
EE-91-00139 P14S002A	25		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

TEST CODE : SPNTPH1 JOB NUHBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	DET. LIMIT
EE-91-00140			
P14S003A	9.2		5.0
EE-91-00141			
P14S004A	6.6		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOIL SAMPLES

9100.026

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
T. Petroleum Hydrocarbons	00126	13	13	0
	00141	6.6	ND	--

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAUPLES

9100.026

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
T. Petroleum Hydrocarbons	00133	*240*	780	720	62

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00128 MATRIX: SOLID
SAMPLE ID CLIENT: P14S005A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	15		1.0	MG/KG
Zinc	21		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	2.4		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	3.3		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

HETALS SECTION JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : €E-91-00129 HATRIX: SOLID
SAMPLE ID CLIENT: P14S005AD

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	11		1.0	MG/KG
Zinc	15		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	1.7		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00130 MATRIX: SOLID
SAMPLE ID CLIENT: P14S006A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	12		1.0	MG/KG
Zinc	15		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	1.3		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	**2.8**		**2.5**	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = **NOT** DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUHBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAHPLE ID LAB : EE-91-00131 **MATRIX:** SOLID
SAHPLE ID **CLIENT:** P14S007A

PARAMETER	RESULTS	Q	DET. LIHIT	UNITS
Arsenic	ND		***6.9***	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		**2.0**	MG/KG
Lead	ND		***4.0***	MG/KG
Cadmium	**ND**		***0.50***	MG/KG
Nickel	ND		***4.0***	MG/KG
Copper	ND		**2.5**	MG/KG
Silver	ND		1.0	**MG/KG**

QUALIFIERS: C = COMMENT **ND** = NOT DETECTED
J = ESTIMATED VALUE B = ALSO **PRESENT** IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-6000** NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
SAMPLE ID LAB : EE-91-00132 MATRIX: SOLID
SAHPLE ID CLIENT: P14S008A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	*7.4*		*6.9*	MG/KG
Chromium	**1.8**		**1.0**	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	**0.78**		**0.50**	MG/KG
Nickel	**ND**		*4.0*	MG/KG
Copper	**ND**		**2.5**	MG/KG
Silver	ND		**1.0**	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = **ESTIMATED** VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION **JOB** NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services **Center**

CLIENT : UH-6000 NASP PHASE **I** GROUPS A-E
RESULTS IN **WET** UEIGHT
SAMPLE ID LAB : EE-91-00133 HATRXX: SOLID
SAMPLE ID CLIENT: P14S009A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		**6.9**	MG/KG
Chromium	1.9		1.0	MG/KG
Zinc	ND		**2.0**	MG/KG
Lead	ND		***4.0***	MG/KG
Cadmium	**ND**		***0.50***	MG/KG
Nickel	**ND**		**4.0**	MG/KG
Copper	**ND**		**2.5**	MG/KG
Silver	**ND**		**1.0**	MG/KG

QUALIFIERS: **C** = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE **B** = ALSO PRESENT IN **BLANK**
L = PRESENT BELOW STATED DETECTION LIHIT

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JOB NUMBER :9100.026

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Analytical Serv

,000 NASP PHASE I GROUPS A-E

...HT
RESULTS IN WE...E-91-00138 MATRIX: SOLID
SAMPLE ID LAB P14S001A
SAMPLE ID CLI

PARAMET	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromi	9.8		1.0	MG/KG
Zinc	18		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmi	1.5		0.50	MG/KG
Nicke	ND		4.0	MG/KG
Copper	2.7		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-00139 MATRIX: SOLID
SAHPLE ID CLIENT: P14S002A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	16		1.0	MG/KG
Zinc	28		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	2.0		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	4.0		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UA-6000** NASP PHASE I GROUPS A-E
RESULTS IN- WET WEIGHT
SAMPLE ID LAB : EE-91-00140 MATRIX: SOLID
SAMPLE ID CLIENT: P14S003A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	17		1.0	MG/KG
Zinc	33		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	2.2		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	4.0		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER :9100.026

Ecology, and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS Id WET WEIGHT
SAHPLE ID LAB : EE-91-00141 MATRIX: SOLID
SAHPLE ID CLIENT: P14S004A

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		6.9	MG/KG
Chromium	17		1.0	MG/KG
Zinc	31		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	2.1		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	4.3		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

0000503

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOIL SAMPLES

9100.026

(mg/kg)

Parameter	E & E Laboratory No. 91-00125	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	--
Chromium		ND	ND	--
Zinc		ND	ND	--
Lead		ND	ND	--
Cadmium		ND	ND	--
Nickel		ND	ND	--
Copper		ND	ND	--
Silver		ND	ND	--

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9100.026

(mg/kg)

Parameter	E & E Laboratory No. 91-00125	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	200	140	70
Chromium		ND	20	20	100
Zinc		ND	50	38	76
Lead		ND	50	50	100
Cadmium		ND	5.0	4.2	84
Nickel		ND	50	35	70
Copper		ND	25	22	88
Silver		ND	5.0	4.5	90

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
SAMPLE ID LAB : METHOD BLANK MATRIX: SOLID

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Arsenic	ND		***6.9***	MG/KG
Chromium	ND		**1.0**	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		***4.0***	MG/KG
Cadmium	ND		**0.50**	MG/KG
Nickel	ND		**6.0**	MG/KG
Copper	ND		**2.5**	MG/KG
Silver	ND		**1.0**	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00128 MATRIX : SOLID
SAMPLE ID CLIENT: P14S005A

PARAMETER	RESULTS	Q	DET. LIMIT
Reptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE :SNAPI JOB NUMBER :9100.020

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAME : PNC PEST./PCB **UNITS** : UG/KG
SAHPLE ID LAB : EE-91-00129 MATRIX : SOLID
SAMPLE ID CLIENT: P14S005AD

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		**1000**
Total PCBS	ND		**5000**

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE **B** = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET VEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00130 UATRIX : SOLID
SAMPLE ID CLIENT: P14S006A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00131 MATRIX : SOLID
SAMPLE ID CLIENT: P14S007A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4- DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UB-6000 NASP PHASE I GROUPS A-E
RESULTS IN: VET VEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00132 MATRIX : SOLID
SAMPLE ID CLIENT: P14S008A

PARAHETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT NO = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00132 MATRIX : SOLID
SAMPLE ID CLIENT: P14S008A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1500		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology'and Environment, Inc.
Analytical Services Center

CLIENT : UA-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET VEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00133 MATRIX : SOLID
SAMPLE ID CLIENT: P14S009A

PARAMETER	RESULTS	Q	DET. LIHIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Hethylene Chloride	1400		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE : SPNPRG1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00130 MATRIX : SOLID
SAMPLE ID CLIENT: P14S006A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1300		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichlotoethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : €E-91-00131 HATRIX : SOLID
SAMPLE ID CLIENT: P14S007A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroe thene	ND		1000
Methylene Chloride	1300		1000
Trans-1,2, - Dichloroethenc	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethanc	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT NO = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00128 MATRIX : SOLID
SAMPLE ID CLIENT: P14S005A

PARAMETER	RESULTS	Q	DET. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1100		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00129 MATRIX : SOLID
SAMPLE ID CLIENT: P14S005AD

PARAMETER	RESULTS	Q	DET. LIHIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	1200		1000
Trans-1,2, - Dichlaroethenc	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachlorocthene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9100.026

(ug)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Trichlorophenol					
	Blank Spike #1	ND	50	*43.6*	87
	Blank Spike #2	ND	50	*45.0*	*90*
	Blank Spike #3	ND	50	37.0	73

TEST CODE : SPNPHL1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS ,IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00140 MATRIX : SOLID
SAMPLE ID CLIENT: P14S003A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	3300		2000

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QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOE NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN-VET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00141 MATRIX : SOLID
SAMPLE ID CLIENT: P14S004A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	16000		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services **Center**

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00138 MATRIX : SOLID
SAMPLE ID CLIENT: P14S001A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	13000		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN- WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00139 MATRIX : SOLID
SAMPLE ID CLIENT: P14S002A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	5000		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN- WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00132 MATRIX : SOLID
SAMPLE ID CLIENT: P14S008A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT'BELOV STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00133 MATRIX : SOLID
SAHPLE ID CLIENT: P14S009A

PARAHETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN: WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00130 MATRIX : SOLID
SAMPLE ID CLIENT: P14S006A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	*4300*		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PEASE I GROUPS A-E
RESULTS IN WET UEIGHT
TEST NAHE : PNC PHENOL - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-00131 MATRIX : SOLID
SAHPLE ID CLIENT: P14S007A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : OH-6000 NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LA0 : EE-91-00128 MATRIX : SOLID
SAHPLE ID CLIENT: P14S005A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	20000		2000

QUALIFIERS: C = COMHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UA-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : E€-91-00129 MATRIX : SOLID
SAHPLE ID CLIENT: P14S005AD

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Trichlorophenol	7500		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

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QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR **SPIKED SOIL SAMPLES**

9100.026

(ug)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(a)pyrene					
	Method Blank	ND	50	*39.7*	*79*

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAB - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB **NUMBER** : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-6000** NASP PHASE **I CROUPS** A-E
RESULTS IN-VET UEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE I D LAB : EE-91-00141 MATRIX : SOLID
SAMPLE I D CLIENT: P14S004A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	*2400*		**1000**

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT I N BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9100.026

		(ug)			
Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(a)pyrene					
	132.03	ND	SO	45	90

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-6000** NASP PHASE I GROUPS A-E
RESULTS IN **WET** WEIGHT
TEST NAME : PNC PAH - LC **UNITS** : UG/KG
SAMPLE ID LAB : EE-91-00139 MATRIX : SOLID
SAMPLE ID CLIENT: P14S002A

PARAMETER	RESULTS	Q	DET. LIMIT
Total **as** Benzo-a-pyrene	1700		1000

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PRASE I GROUPS A-E
RESULTS IN VET WEIGHT
TEST NAME : PNC PAB - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00140 MATRIX : SOLID
SAHPLE ID CLIENT: P14S003A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	2800		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN- WET UEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE I D LAB : EE-91-00133 HATRIX : SOLID
SAMPLE I D CLIENT: P14S009A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT I N BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00138 MATRIX : SOLID
SAMPLE ID CLIENT: P14S001A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1800		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT

TEST CODE : SPNPAH1 **JOB NUMBER** : 9100.026

Ecology and Environment, Inc.
.Analytical Services Center

CLIENT : **UH-6000** NASP PHASE I GROUPS A-E
RESULTS **IN** WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00131 MATRIX : SOLID
SAMPLE ID CLIENT: P14S007A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED **VALUE** B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

TEST CODE : SPNPAH1 **JOB** NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UM-6000 NASP PEASE I **GROUPS A-E**
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE I D LAB : E&-91-00132 MATRIX : SOLID
SAMPLE I D CLIENT: P14S008A

PARAMETER	**RESULTS**	Q	DET. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE **B** = ALSO **PRESENT** IN **BLANK**
L = **PRESENT BELOV** STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services **Center**

CLIENT : **UH-6000** NASP PHASE I GROUPS A-E
RESULTS IN-WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00129 MATRIX : SOLID
SAMPLE ID **CLIENT:** P14S005AD

PARAMETER	RESULTS	**Q**	DET. LIMIT
Total as Benzo-a-pyrene	1500		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE **B** = ALSO PRESENT IN BLANK
L = PRESENT **BELOV** STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN VET VEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-00130 MATRIX : SOLID
SAMPLE ID CLIENT: P14S006A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	1200		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical- Services Center

CLIENT : **UH-6000** NASP PHASE **I GROUPS** A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		**1000**
Lindane	ND		**1000**
Aldrin	ND		**1000**
4,4 - DDT	ND		**1000**
Dieldrin / 4,4 - DDE	ND		**1000**
Endrin	ND		**1000**
Chlordane	ND		**1000**
Total PCBS	ND		**5000**

QUALIFIERS: C = COMMENT NO = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN **BLANK**
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical **Services** Center

CLIENT : **UH-6000** NASP PRASE I GROUPS A-E
RESULTS **IN** WET WEIGHT
TEST NAME : **PNC** PAH - LC UNITS : UG/KG
SAMPLE ID **LAB** : EE-91-00128 HATRIX : SOLID
SAMPLE ID CLIENT: P14S005A

PARAMETER	RESULTS	Q	DET. LIMIT
Total as Benzo-a-pyrene	PRESENT	L	1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO **PRESENT** IN **BLANK**
L = PRESENT BELOW STATED DETECTION LIMIT

0000013

QUALITY CONTROL FOR ACCURACY AND PRECTSION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00125)

9100.026

(ug/kg)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Lindane	ND	2000	2100	105
Heptachlor	ND	2000	2000	100
Aldrin	ND	2000	2100	105
Dieldrin	ND	5000	*5400*	108
Endrin	ND	5000	5100	102
4,4'-DDT	ND	5000	5000	100

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00141)

9100.026

(ug/kg)

Compound	Original Result	Amount Added MS	Amount Determined MS	Percent Recovery MS
Lindane	ND	2000	3000	150*
Reptachlor	ND	2000	1800	90
Aldrin	ND	2000	1900	95
Dieldrin	ND	5000	5300	106
Endrin	ND	5000	5700	114
4,4'-DDT	ND	5000	3800	76

* Coelution vith sulfur.

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PEST./PCB UNITS : UG/KG
SAHPLE ID LAB : EE-91-00141 MATRIX : SOLID
SAHPLE ID CLIENT: P14S004A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY *AND* RELATIVE PERCENT DIFFERENCE (RPD)
OF SOIL MATRIX SPIKE (MS) FOR PENSACOLA SCREENING
(Sample # 00115)

9100.026

(ug/kg)

Compound	Original Result	Amount Added US	Amount Deternincd MS	Percent Recovery MS
Lindane	ND	2000	2100	105
Heptachlor	ND	2000	2000	100
Aldrin	ND	2000	2100	105
Dieldrin	ND	5000	*5400*	108
Endrin	ND	5000	5200	104
4,4'-DDT	ND	5000	5000	100

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : OH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00139 MATRIX : SOLID
SAMPLE ID CLIENT: P14S002A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAHE : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00140 MATRIX : SOLID
SAMPLE ID CLIENT: P14S003A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&PI JOB NUMBER :9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-6000** NASP PHASE I GROUPS A-E
RESULTS IN- WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00133 MATRIX : SOLID
SAMPLE ID CLIENT: P14S009A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9100.026

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-6000 NASP PHASE I GROUPS A-E
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-00138 MATRIX : SOLID
SAHPLE ID CLIENT: P14S001A

PARAMETER	RESULTS	Q	DET. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin / 4,4 - DDE	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
Total PCBS	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

DUPLICATE