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Mound Summary Report

for

Old Fire Fighting Training Area
Naval Station Newport
Newport, Rhode Island

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888
Contract Task Order 0833

January 2004

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MOUND SUMMARY REPORT

FOR

OLD FIRE FIGHTING TRAINING AREA
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION - NAVY (CLEAN) CONTRACT

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TABLE OF CONTENTS

SECTION		PAGE
1.0	INTRODUCTION	1-1
1.1	SPECIFIC INVESTIGATION OBJECTIVES	1-1
1.2	PROJECT DELIVERABLES	1-2
1.3	WORK PLAN ORGANIZATION	1-3
1.4	CHANGES TO THE WORK PLAN	1-4
2.0	BACKGROUND INFORMATION	2-1
2.1	SITE LOCATION AND DESCRIPTION	2-1
2.1.1	Site Conditions	2-1
2.1.2	Geology and Hydrogeology	2-1
2.2	SITE HISTORY	2-2
2.3	PREVIOUS STUDIES RESULTS	2-4
3.0	MOUND PRE-DESIGN INVESTIGATION ACTIVITIES	3-1
3.1	MOUND FIELD INVESTIGATIONS	3-1
3.1.1	Mobilization/Demobilization	3-1
3.1.2	Mound Soil Boring Advancement and Soil Sampling	3-1
3.1.3	Surveying	3-3
3.2	SAMPLE ANALYSIS AND DATA REVIEW	3-3
3.3	FIELD DATA REDUCTION	3-4
4.0	INVESTIGATION FINDINGS	4-1
4.1	MOUND No. 1 FINDINGS	4-1
4.2	MOUND No. 2 FINDINGS	4-2
4.3	CENTRAL MOUND FINDINGS	4-3

TABLES

NUMBER	
4-1	Mound Soil Sample Analysis
4-2	Mound No. 1 Soil Sample Summary
4-3	Mound No. 1 Soil Concentrations Exceeding PRGs
4-4	Mound No. 2 Soil Sample Summary
4-5	Mound No. 2 Soil Concentrations Exceeding PRGs
4-6	Central Mound Soil Sample Summary
4-7	Central Mound Soil Concentrations Exceeding PRGs

FIGURES

NUMBER	
2-1	OFFTA Location Map
4-1	Soil Boring Locations, Pre-Design Investigation, Soil Removal
4-2	Geological Cross Sections A-A', B-B', C-C', Old Fire Fighting Training Area
4-3	Geological Cross Sections D-d', E-E', F-F', Old Fire Fighting Training Area

REFERENCES

TABLE OF CONTENTS (cont.)

APPENDICES

A Site Photographs
B Soil Boring Logs
C Survey Data
D Analytical Results
E Calculations

1.0 INTRODUCTION

This report presents the results of the pre-design investigation (PDI) for three soil/debris mounds at the Old Firefighting Training Area (OFFTA Site or Site) conducted under Contract Task Order (CTO) 833, under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62467-94-D-0888. Pursuant to the CTO, Tetra Tech NUS, Inc. carried out a soil pre-design investigation at the OFFTA Site, at Naval Station Newport (NAVSTA Newport), in Newport, Rhode Island. The objective of the PDI included acquiring data to assess the horizontal and vertical extent of construction debris, and the extent of soil contamination to determine the volume of debris and soil that will be removed in each of two planned actions. The first action will remove debris and soil contained in the mounds, above the base grade elevation of the Site. The contaminated soil and debris located below the base grade of the site (subsurface material) will be addressed by a separate, future removal action. This report provides an evaluation of the data specific to the removal of the mounds in the first action.

Preliminary remediation goals (PRGs) were identified for the soil at the Site in the FS. Soil PRGs are concentrations of chemicals that, if allowed to remain in the soil, are not anticipated to pose an increased risk of adverse effects to human health or the environment. Soil that contains contaminant concentrations exceeding PRGs were identified and used to delineate the areas that may require removal. The estimated the volume of soil and construction debris in the mounds is approximately 11,100 cubic yards (compacted in-place). The FS estimated the volume of contaminated soil and debris below the base grade at the site under the mounds at approximately 37,600 cubic yards (TtNUS, September 2002). Contaminant levels in soil samples collected from the mounds are generally lower than the levels found in the subsurface soil samples.

Not needed, somewhat confusing.

within the mounds.

This pre-design investigation included advancing soil borings and collecting soil samples across the site to further define the extent of debris and soil contamination. This data was used to refine estimates of the mound soil and debris volumes that will be removed under ~~a separate action prior to the removal of contaminated subsurface soil and debris below the base grade elevation.~~ the initial action.

This report includes four sections and six appendices:

Section 1.0 – Introduction (this section);

Section 2.0 – Background Information provides an expanded site background discussion and a summary of previous studies and findings;

Section 3.0 – Site investigation Activities describes the PDI activities; and

Section 4.0 – Investigation Findings presents the results of the RI and PDI specific to the mounds.

2.0 BACKGROUND INFORMATION

This section presents background information for the OFFTA Site, including its location and description, its history, and a brief summary of previous investigations results.

2.1 SITE LOCATION AND DESCRIPTION

NAVSTA Newport is located approximately 60 miles southwest of Boston, Massachusetts, and 25 miles south of Providence, Rhode Island. It occupies approximately 1,063 acres, with portions of the facility located in the City of Newport and Towns of Middletown and Portsmouth, Rhode Island. The facility layout is long and narrow, following the western shoreline of Aquidneck Island for approximately 6 miles facing the east passage of Narragansett Bay.

2.1.1 Site Conditions

The OFFTA Site is located at the northern end of Coasters Harbor Island (see Figure 2-1). Site photographs are presented in Appendix A. The Site occupies approximately 5.5 acres and is bordered by Taylor Drive to the south and is surrounded by Coasters Harbor (part of Narragansett Bay) to the east, north, and west. With the exception of the three mounds, which are the main Site topographic features, the OFFTA Site is generally flat, with base grade surface elevations ranging from 8 to 12 feet above MLW. The Central Mound, rising approximately 20 feet above the base grade, is the largest mound and is located in the center of the Site. The other two mounds are referred to as Mound No. 1 and Mound No. 2, are smaller, and located in the west area of the Site with Mound No. 1 being the furthest west.

Mounds 1 and 2 abut the shoreline and have been partially eroded by wave action. Tide change over a six month period ranges between 2.6 and 4.5 vertical feet (Newport).

The Site is entirely vegetated with grass except for the temporary parking lot located in the center portion of the site formerly occupied by a baseball field. A one-story concrete block building (Building 144), used for recruiting offices, is located along the southern side of the Site. Recreational equipment has been removed. Access to the Site is restricted by a chain link fence along its eastern, southern, and western sides.

2.1.2 Geology and Hydrogeology

The geology and hydrogeologic conditions at the OFFTA Site are summarized in the RI Report (TtNUS, 2001). The following paragraphs summarize the conclusions from the RI Report.

Geologic cross sections from the RI Report indicate the Site is underlain by sand and gravel fill containing construction debris; sand and gravel containing variable amounts of silt; peat; dense silt with fine to medium sand, gravel and rock fragments (glacial till); and bedrock. Construction debris consisted generally of rock fragments, asphalt, concrete, metal, wood and glass. The thickness of the overburden ranges from approximately 6 to 27 feet excluding the thickness of the three mounds, which reportedly consist of construction debris and other materials. Two borings advanced through the largest mound, located north of Building 144, indicated it is directly underlain by bedrock. Materials underlying the two remaining mounds, located west of the former baseball field, consist of glacial till or silty sand and gravel.

Bedrock encountered beneath the Site consists of conglomerate with quartz pebbles. The Rhode Island Formation has been mapped in the area and consists of metaconglomerates, metasandstones, schist, graphite, and carbonaceous schist. In the central portion of the Site, bedrock was blasted during Site development. Bedrock surface elevation contours indicate a bedrock "high" in the southeastern portion of the Site (east of Building 144) that drops about 5 feet and extends as a "peninsula" northwest to beneath a mound located north of Building 144. From beneath this mound, the bedrock surface slopes north toward Coasters Harbor and west toward Narragansett Bay.

2.2 SITE HISTORY

The NAVSTA Newport facility has been in use by the Navy since the era of the Civil War. During World Wars I and II, military activities at the facility increased significantly and the base provided housing for many servicemen. In subsequent peacetime years, use of on-Site facilities was slowly phased out until Newport became the headquarters of the Commander Cruiser-Destroyer Force Atlantic in 1962. In April 1973, the Shore Establishment Realignment Program (SER) resulted in the reorganization of naval forces, and activity at the base again declined. This reorganization resulted in the Navy excessing some 1,629 acres of its 2,420 acres. Portions of the facility are currently leased by the Navy to the State of Rhode Island Port Authority and Economic Development Corporation. Some of these areas are, in turn, subleased to private enterprises.

The entire NAVSTA Newport was listed on the U.S. Environmental Protection Agency (EPA) National Priorities List (NPL) of abandoned or uncontrolled hazardous waste Sites in November 1989. The NPL identifies those Sites that pose a significant threat to the public health and environment. The OFFTA Site was listed as one of the Sites requiring RI/FS activities. It is currently being studied by the Navy under the Department of Defense Installation Restoration Program (IRP). This program is similar to the EPA's Superfund Program authorized under CERCLA in 1980, as amended by SARA in 1986.

A Federal Facilities Interagency Agreement (FFA) for NAVSTA Newport (then NETC) was signed by the Navy, the State of Rhode Island, and the EPA on March 23, 1992. The FFA outlines response action requirements under the Department of Defense IRP at NAVSTA Newport. The FFA was developed, in part, to provide a framework to address environmental impacts associated with past and present activities at NAVSTA Newport. As part of the FFA, regulatory agencies must review all documents pertaining to cleanup of the OFFTA site.

The OFFTA Site was home to a Navy fire fighting training facility from World War II until 1972. During the training operations, fuel oils were ignited in various structures at the Site including burn pits, so-called Christmas Tree above-ground nozzle array, and small buildings that simulated shipboard compartments. Ignited fires were then extinguished by sailors. It was reported that the two "Carrier Compartment" buildings were injected with a water/oil mixture which was subsequently set on fire for fire fighting practice. Underground piping reportedly carried the water/oil mixture to the buildings and from the buildings to an oil-water separator. Drainage piping from historic photos and maps provided in the FS report (TtNUS September 2002) show pipes from the separator discharged to Coasters Harbor to the north.

The fire fighting training facility was closed in 1972. Upon closure, the training structures were reportedly demolished and buried and compacted into mounds on the Site, and then the entire area was covered with topsoil. The Site was then converted to a recreational area with a playground, a baseball field, and a picnic area with an open pavilion and barbecue grills. The field was dedicated on July 4, 1976, and used as a recreational area until its closure in October 1998.

In its 22 years as a recreational area, the Site was used for organized activities including youth day camps, picnic functions, and little league baseball (1 year only), as well as for general recreation. A child day care center operated out of Building 144 on the Site from approximately 1983 through January 1994 when it was relocated off-site to a larger facility on base.

Aerial photos and facility maps for the period from 1939 through 1988 were reviewed to better evaluate the Site history. Activity on the Site appears to date back to approximately 1943. A 1953 facility design map indicates the locations of structures and Site features associated with fire fighting training exercises. An aerial photo taken in May 1944 depicts the Site with structures in a similar layout to that shown on the 1953 facility design map. Based on the design map and subsequent facility condition maps, on-site structures included an administration building, hose house, two carrier compartments, smothering pit, separator pit, foam pit, simulated ship structures, suction pumps, and oil tanks.

The indexes that accompanied some of the facility conditions maps indicate that the on-Site structure that was used in recent years as a day care center was once used as "wash and dressing rooms." No significant visible Site changes are noted from 1944 until a 1975 aerial photo of the Site, when the structures and facilities associated with the fire fighting training area are no longer evident, with exception of the "hose house" and Building 144. As of 1987, the Site appears similar to its current condition, with soil mounds visible in the central and western portions of the Site and a pavilion in the east-central portion of the Site.

2.3 PREVIOUS STUDIES RESULTS

This pre-design investigation is preceded by a Remedial Investigation and a Feasibility Study completed in 2001 and 2002, respectively. Data from all prior investigations conducted by TtNUS and TRC Environmental Corporation (TRC) were assimilated into these reports, including three phases of the RI, a source removal investigation, risk assessment reports, etc. The overall findings reported in these studies are summarized below:

- Semivolatile organic compounds (SVOCs) were detected in all media across the Site. The most prevalent SVOCs detected were polynuclear aromatic hydrocarbons (PAHs) with the highest concentrations detected in surface and subsurface soil and groundwater sampling locations near Coasters Harbor. PAH concentrations in surface soils, subsurface soils, groundwater and storm water exceed RIDEM Residential Direct Exposure Criteria for soils.

- Pesticides were detected at low concentrations in surface soils and subsurface soils across the Site, and in storm water, marine sediments, and biota samples. Only one pesticide, endrin was detected in groundwater. All pesticide concentrations were low.

- Polychlorinated biphenyls (PCBs) were detected infrequently in surface and subsurface soils at concentrations below RIDEM Residential Direct Exposure Criteria for soils.

- Metals were detected throughout the Site. Metals concentrations were generally higher in site soil and groundwater relative to the same metals in background soil and upgradient groundwater locations. Metals concentrations in both surface soils and subsurface soils exceeding RIDEM Residential Direct Exposure Criteria for soils were arsenic, beryllium, lead, and manganese.

- Total petroleum hydrocarbons (TPHs) were detected in the subsurface throughout the Site exceeding RIDEM Residential Direct Exposure Criteria at depths ranging from 3 to 11 feet bgs.

Petroleum contamination was observed visually in the central portion of the Site in soils sampled immediately above the water table.

3.0 MOUND PRE-DESIGN INVESTIGATION ACTIVITIES

This section discusses the procedures and methodologies employed during the implementation of the mound-related Pre-Design Investigation (PDI) activities, including the field investigation activities, sample analysis and data review, and data evaluation and reduction.

The objective of the OFFTA Site PDI is to provide data to assess the horizontal and vertical extent of construction debris, and the extent of contamination in soil across the site. The resulting data will be evaluated to determine the volume of the debris and soil within the mounds and in the subsurface below the base grade that will be considered for removal. This section presents a summary of the mound investigation activities, which were conducted as part of the OFFTA Site PDI. The resulting data is presented in this report and will support the development of the mound removal remedial action plans.

The PDI included advancing 30 soil borings across the site, including the mounds, to characterize the subsurface conditions and to collect ~~of~~ soil samples; advancing an additional 5 soil borings along the shoreline to evaluate design parameters for shoreline erosion protection measures; and, surveying to locate the soil borings, map the shoreline topography, and to locate the high tide line, which will be the horizontal extent of the removal action in the planned soil removal action.

3.1 MOUND FIELD INVESTIGATIONS

Mound field investigation tasks included: mobilization/demobilization, soil boring advancement and soil sample collection; and surveying. The Work Plan for Soil Pre-Design Investigation (TtNUS, November 2003) describes the objectives and tasks for the PDI.

3.1.1 Mobilization/Demobilization

As part of mobilization activities, technical specifications for drilling, surveying, and analysis subcontracts were prepared and issued. Required field equipment and supplies were ordered and mobilized to the site. Field team members reviewed the work plan, and health and safety (provided under separate cover), applicable standard operating procedures (SOPs) and applicable subcontract specifications. A field team orientation meeting was conducted prior to initiating the fieldwork to familiarize the field team and subcontractor personnel with site health and safety requirements and the scope of the field activities. The mobilization date was coordinated with the Navy project representatives.

3.1.2 Mound Soil Boring Advancement and Soil Sampling

Soil borings were advanced to evaluate the existing subsurface conditions and to collect soil samples to further characterize the mound contents. A total of eight soil borings were advanced within the mounds:

Central Mound

SB411 located at the center
SB412 located in the eastern section

Mound No. 1

SB415 located in the western section
SB416 located in the eastern section

Mound No. 2

SB406 located in the northern section
SB407 located in the northeastern section
SB418 located in the southeastern section
SB433 located at the center

Continuous samples were collected from each of the eight borings from 2-feet intervals above the base grade elevation. Representative samples were selected for laboratory analysis of volatile organic compounds (VOCs), SVOCs, pesticides/PCBs and (Target Analyte List) TAL metals. Soils more than two feet below the base grade elevation were presumed to be below the extent of the mounds, and are not described in this Mound Summary Report.

All soil samples were collected using a conventional hollow-stem auger rig equipped with a split-spoon sampler by TtNUS's drilling subcontractor, Geosearch Inc., under the supervision of a TtNUS geologist. Upon sampler retrieval, soil samples were collected for volatile organic vapor jar headspace screening, using a flame ionization detector (FID) and a photoionization detector (PID). The sample was then inspected by the TtNUS geologist for visual evidence of construction debris and potential contamination and visually classified in accordance with TtNUS SOPs. A log of each boring was maintained by the field geologist (Appendix B). Any foreign materials (brick, asphalt, concrete, glass etc.) present was described and noted in the geologic log.

Soil not containing debris, as described above, was collected and placed in a decontaminated stainless steel bowl, homogenized after gravel removal, and placed in appropriate sample containers. If insufficient sample was obtained from the soil core, the next interval was sampled in this same manner. If two consecutive intervals provide no recovery in the split barrel sampler, a second boring was advanced to acquire samples at the missed interval(s). All samples were labeled and placed on ice immediately after collection and shipped with a chain-of-custody to the analytical laboratory.

The drill rig was also decontaminated by stream cleaning before starting the drilling program, and after completion of each boring. All non-disposable sampling equipment was decontaminated in accordance with the procedures identified in work plan.

3.1.3 Surveying

The horizontal location and vertical elevation of each new boring was surveyed to the RI State Plane Coordinate system NAD 1927 and NAVSTA Mean Low Water datum, respectively by TtNUS's surveying subcontractor, Louis Federici and Associates. Additional topographic survey along the shoreline between the top of slope to mean low water was also performed by the land surveyor. The survey data was used to update the site base map. The soil boring location survey data is presented in Appendix C.

3.2 SAMPLE ANALYSIS AND DATA REVIEW

A subcontracted laboratory (Mitkem Corp.) analyzed field samples and associated quality control samples using the analytical methods listed below:

Analytes	Method
VOCs	USEPA SW-846 Method 8260B
SVOCs	USEPA SW-846 Method 8270C
PAHs	USEPA SW-846 GCMS Selected Ion Monitoring (SIM)
Pesticides/PCBs	USEPA SW-846 Method 8081A/8082
TAL Metals	USEPA SW-846 Method 6010B Trace
TPH	USEPA SW-846 Method 8015 Modified for C9-C36 Hydrocarbons
GRO	USEPA SW-846 Method 8015 Modified for C9-C36 Hydrocarbons

The analytical data was validated using a Tier 1 validation effort, which is limited to review of sample results and QC results for completeness of the analytical packages.

3.3 FIELD DATA REDUCTION

Field data reduction activities consisted of the following activities:

- Preparation of final soil boring logs (transcribing field logs)
- Updating the site base map by incorporating soil boring locations and shoreline topography
- Comparison of analytical data with PRGs to determine exceedances
- Preparation of mound cross sections
- Calculation of mound volumes above the base grade

4.0 INVESTIGATION FINDINGS

Section 4.0 presents a summary of the findings of the OFFTA mound investigations. The following subsections summarize the physical, geological, and analytical results from testing conducted at the mounds. Table 4-1 provides a list of the soil samples collected during these efforts and the analyses conducted on these samples. Complete RI and PDI analytical results from mound samples are provided in Appendix D.

Figure 4-1 through 4-3 present site topography, boring locations, and cross sections of the mounds described in this summary report.

4.1 MOUND NO. 1 FINDINGS

Mound No. 1, smallest of the three mounds, is located in the far west portion of the Site. It is a low, rounded, grass-covered feature approximately 4 to 6 feet higher that the surrounding base grade (8 to 10 feet above MLW), with a maximum elevation of 13.7 feet above MLW. The mound's volume is approximately 600 cubic yards (See Appendix E), and it covers an area of approximately 6,000 square feet with side slopes at approximately 15 percent. The western edge of the mound has been eroded by wave action, as it is in contact with Narragansett Bay.

Mound No. 1 is characterized from evaluation of three soil borings, consisting of one boring advanced during the 1993 RI (B-10) and two borings advanced during the PDI (SB415 and SB416). Mound No. 1 boring and sample details, along with jar headspace screening results, are provided in Table 4-2. Borings SB415 and B-10 are located on the western side and the eastern side of the mound center, respectively. SB416 is located on the eastern slope near the perimeter. The borings show that the material encountered in these borings above the base grade elevation consists of fill. The fill material consists of fine to coarse sand, silt and gravel mixed with construction debris (asphalt, concrete fragments, and brick pieces), with organic material encountered in the surface sample.

A total of six samples were collected in the three borings from intervals above and just below the base grade elevation at Mound No. 1. A list of contaminants in each sample that exceed the PRGS is presented in Table 4-3. No analytes were detected above the PRGs in the sample from B-10 sample (0.0 to 1.0 feet bgs). The table below provides a summary of the analyte detections exceeding PRGs.

Mound No. 1 PRG Exceedance Summary

Parameter	No. Samples above PRG/No. Samples	Range of PRG Exceedance	Soil PRG
Benzo(a)pyrene	4/6	440 – 820 µg/kg	400 µg/kg
Benzo(b)flouranthene	2/6	1,100 - 1,100 µg/kg	900 µg/kg
Chrysene	4/6	450 – 890 µg/kg	400 µg/kg
Arsenic	5/6	10.7 – 23.6 mg/kg	6.2 mg/kg
Beryllium	4/6	0.42 – 0.63 mg/kg	0.4 mg/kg
Lead	2/6	168 – 182 mg/kg	150 mg/kg
Manganese	1/6	570 mg/kg	390 mg/kg

4.3 MOUND NO. 2 FINDINGS

Mound No. 2 is located in the west portion of the Site. The second largest mound of the three, it is bordered on the north by the shoreline for approximately 350 feet. This northern edge has been eroded by wave action from contact with Narragansett Bay. Mound No. 2 is a rounded, grass-covered feature approximately 9 feet higher than the surrounding base grade, with a maximum elevation of 17.7 feet above MLW. The volume of Mound No. 2 above the base grade elevation is approximately 3,500 cubic yards (See Appendix E). The mound base covers approximately 19,000 square feet and the side slopes range from are approximately 14 to 22 percent. Large ornamental cedar trees currently grow on Mound No. 2.

Mound No. 2 is characterized from evaluation of one surface soil sample and six soil borings. The surface soil sample (SS-5) was collected from the top of the mound during the RI. The borings consist of two borings advanced during the RI (B-8 and B-9) and four borings advanced during the PDI (SB406, SB407, SB418 and SB433). Boring and sample details, along with jar headspace screening results, are provided in Table 4-4. Borings SB433 and B-9 are located on the western side and the eastern side of the mound center, respectively. SB406 is located on the northern slope. SB407 and B-8 are located in the northeastern section of the mound and SB418 is located in the southeastern section of the mound. The borings show that the material encountered in these borings above the base grade elevation consists of fill consisting of fine to coarse sand, silt and gravel mixed with construction debris (asphalt, concrete fragments, and brick pieces). Topsoil was encountered in the surface sample.

A total of nine samples were collected at Mound No. 2 from intervals above and just below the base grade elevation. A list of contaminants in each sample that exceed the PRGS is presented in Table 4-5. No analytes were detected above the PRGs in one of the samples collected from SB433 (6.0 to 8.0 feet bgs). The table below provides a summary of the analyte detections exceeding PRGs.

Mound No. 2 PRG Exceedance Summary

Parameter	No. Samples Above PRG/No. Samples	Range of PRG Exceedance	Soil PRG
Benzo(a)anthracene	2/9	1,000 J – 1,000 J µg/kg	900 µg/kg
Benzo(a)pyrene	4/9	460 – 1,000 J µg/kg	400 µg/kg
Benzo(b)flouranthene	3/9	910 J – 1,400 J µg/kg	900 µg/kg
Chrysene	4/9	510 – 980 J µg/kg	400 µg/kg
Arsenic	5/9	6.3 J – 10.6 mg/kg	6.2 mg/kg
Beryllium	5/6	0.43 – 0.64 mg/kg	0.4 mg/kg
Lead	3/9	192 – 268 mg/kg	150 mg/kg
Manganese	4/9	417 - 450 mg/kg	390 mg/kg

4.3 CENTRAL MOUND FINDINGS

The Central Mound, largest of the three mounds, is located in the center of the OFFTA Site. It is a steeply sloped, three-sided pyramid shape structure approximately 21 feet higher that the surrounding base grade. With a maximum elevation of 31.0 feet above MLW, the Central Mound is the Site's highest topographic feature. The mound base covers an area of approximately 23,000 square feet and the side slopes range from 30 to 45 percent. The volume of the Central Mound was calculated at 7,000 cubic yards based on an average base elevation of 11 feet above MLW. Calculations are provided in Appendix E. The Central Mound is vegetated with grass and several large ornamental cedar trees that range up to 20 feet in height with canopy spans of 20 to 30 feet.

The Central Mound was characterized from evaluation of soil samples from surface soil, soil borings, and test pits shown on Figure 4-1. Central Mound soil boring and sample details, including jar headspace screening results, are provided in Table 4-6.

Six surface soil samples were collected during the RI; three samples (SS-3, SS-25 and SS-26, were collected from the side slopes and an additional three surface soil samples (SS-11, SS-325 and SS-326) were collected from the base.

Four soil borings were advanced through the Central Mound, consisting of B-14 and B-15 as part of the RI, and SB411 and SB412 as part of the PDI. B-14 and SB411 were located near the center, while B-15 and SB412 were located in the eastern section. The borings show that the material encountered in these borings above the base grade elevation consists of fill. Central Mound cross-sections based the borings are presented in Figure 4-2. The fill material consists of fine to coarse sand, silt and gravel mixed with construction debris (asphalt, concrete fragments, and brick pieces), with topsoil or organic material encountered in the surface samples.

Two test pits, TP2 and TP3, were excavated on the side slope of the Central Mound just above the base. TP2 was excavated on the west side on the mound and TP3 was excavated on the north side. In TP2 construction debris was encountered throughout from the surface to a depth of 7 feet. A strong petroleum odor was noted and PID readings of 1200 ppm were recorded at the 7 to 8-feet bgs interval. In TP3 construction debris was also encountered throughout from the surface to a depth of 7 feet and black staining and a petroleum odor was noted in soils at 8 feet bgs.

A total of 23 samples were collected at Central Mound from intervals above and just below the base grade elevation. A list of contaminants in each sample that exceed the PRGS is presented in Table 4-7. No analytes were detected above the PRGs in the surface soil samples collected at SS-25 and SS-26 (both 0.0 to 0.5 feet bgs). The table below provides a summary of the analyte detections exceeding PRGs.

Central Mound PRG Exceedance Summary

Parameter	No. Samples Above PRG/No. Samples	Range of PRG Exceedance	Soil PRG
Benzo(a)anthracene	6/22	930 – 3600 µg/kg	900 µg/kg
Benzo(a)pyrene	10/22	410 – 2,900 µg/kg	400 µg/kg
Benzo(b)flouranthene	3/22	1,100 – 3,900 µg/kg	900 µg/kg
Benzo(g,h,i)perylene	3/22	1,300 J – 1,700 J µg/kg	800 µg/kg
Benzo(k)fluoranthene	2/22	1,400 J – 2,500 J µg/kg	900 µg/kg
Chrysene	13/22	460 J – 3,300 J µg/kg	400 µg/kg
Dibenzo(a,h)anthracene	2/22	600 J – 780 J µg/kg	400 µg/kg
Indeno(1,2,3-cd)pyrene	3/22	1,100 J – 1,700 J µg/kg	900 µg/kg
Antimony	1/23	21.2 mg/kg	10 mg/kg
Arsenic	12/23	7 – 16.3 mg/kg	6.2 mg/kg
Beryllium	8/23	0.41 – 0.55 mg/kg	0.4 mg/kg
Lead	5/23	186 – 3,090 J mg/kg	150 mg/kg
Manganese	9/23	409 - 419 J mg/kg	390 mg/kg

REFERENCES

TRC Environmental Corporation (TRC). 1994. Old Fire Fighting Training Area Remedial Investigation Report, Naval Education and Training Center, Newport, Rhode Island. Draft Final Report with Appendices. U.S. Department of the Navy, Installation Restoration Program Contract No. N62472-86-C-1282. August.

TtNUS, 2000. *Background Soil Investigation for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI.

TtNUS, 2001. *Remedial Investigation for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI. July.

TtNUS, 2002. *Feasibility Study for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI. September.

TtNUS, 2003. *Soil Pre-Design Investigation Work Plan for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI. November.

TABLES

TABLE 4-1
MOUND SOIL SAMPLE ANALYSIS
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location	Event	Date	Surface Elevation (ft MLW)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Analysis							
									VOC	SVOC	PAH	Pest/ PCBs	TAL Metals	Cyanide	TPH	GRO
Mound No. 1																
B-10	RI (Ph II)	11/23/1993	13.7	B101-112393	0.0	1.0	13.7	12.7	X	X	--	X	X	X	--	--
SB415	PDI	11/18/2003	13.3	SB-415-0002	0.0	2.0	13.3	11.3	X	X	--	X	X	--	X	--
				SB-415-0204	2.0	4.0	11.3	9.3	X	X	--	X	X	--	X	--
				SB-415-0608	6.0	8.0	7.3	5.3	--	--	X	--	X	--	X	X
SB416	PDI	11/19/2003	11.5	SB-416-0002	0.0	2.0	11.5	9.5	X	X	--	X	X	--	X	--
				SB-416-0406	4.0	6.0	7.5	5.5	--	--	X	--	X	--	X	X
								Total	4	4	2	4	6	1	5	2
Mound No. 2																
SS-5	RI (Ph I)	4/11/1990	17.5	SS-05	0.0	0.5	17.5	17.0	X	X	--	X	X	--	--	--
B-8	RI (Ph II)	11/22/1993	11.5	B81-112293	0.0	1.0	11.5	10.5	X	X	--	X	X	X	--	--
B-9	RI (Ph II)	11/23/1993	17.7	B91-112393	0.0	1.0	17.7	16.7	X	X	--	X	X	X	--	--
SB406	PDI	12/3/2003	11.4	SB-406-0002	0.0	2.0	11.4	9.4	X	X	--	X	X	--	see Notes	--
SB407	PDI	12/1/2003	12.9	SB-407-0002	0.0	2.0	12.9	10.9	X	X	--	X	X	--	X	--
				SB-407-0204	2.0	4.0	10.9	8.9	X	X	--	X	X	--	X	--
SB418	PDI	12/3/2003	10.0	SB-418-0002	0.0	2.0	10.0	8.0	X	X	--	X	X	--	X	--
SB433	PDI	11/26/2003	17.3	SB-433-0204	2.0	4.0	15.3	13.3	X	X	--	X	X	--	X	--
				SB-433-0608	6.0	8.0	11.3	9.3	X	X	--	X	X	--	X	--
								Total	9	9	0	9	9	2	5	0
Central Mound																
SS-3	RI (Ph I)	4/11/1990	24	SS-03	0.0	0.5	24.0	23.5	X	X	--	X	X	--	--	--
SS-11	RI (Ph I)		12	SS-11	0.0	0.5	12.0	11.5	--	--	--	--	X	--	--	--
SS-25	RI (Ph II)	11/4/1993	19.5	SS25-110493	0.0	0.5	19.5	19.0	--	X	--	X	X	--	--	--
SS-26	RI (Ph II)	11/4/1993	22.5	SS26-110493	0.0	0.5	22.5	22.0	--	X	--	X	X	--	--	--
SS-325	RI (Ph III)	11/19/1998	12	SS-325-0001	0.0	1.0	12.0	11.0	X	X	--	--	X	--	--	--
SS-326	RI (Ph III)	11/19/1998	11	SS-326-0001	0.0	1.0	11.0	10.0	X	X	--	--	X	--	--	--
TP2	RI (Ph II)	1/11/1994	13	TP23	2.0	2.0	11.0	11.0	X	X	--	X	X	X	--	--
TP3	RI (Ph II)	1/11/1994	17	TP33	3.0	3.0	24.6	24.6	X	X	--	X	X	X	--	--
				TP32	7.0	7.0	20.6	20.6	X	X	--	X	X	X	--	--
				TP31	7.0	8.0	20.6	19.6	X	X	--	X	X	X	--	--
									--	--	--	--	--	--	--	--
B-14	RI (Ph II)	12/13/1993	30.7	B141-121393	0.0	1.0	30.7	29.7	X	X	--	X	X	X	--	--

TABLE 4-1 (cont.)
MOUND SOIL SAMPLE ANALYSIS
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Location	Event	Date	Surface Elevation (ft MLW)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Analysis							
									VOC	SVOC	PAH	Pest/ PCBs	TAL Metals	Cyanide	TPH	GRO
				B142-121393	15.0	17.0	15.7	13.7	X	X	--	X	X	X	--	--
B-15	RI (Ph II)	12/13/1993	27.6	B151-121393	0.0	1.0	27.6	26.6	X	X	--	X	X	X	--	--
				B152-121393	10.0	12.0	17.6	15.6	X	X	--	X	X	X	--	--
				B153-121393	15.0	17.0	12.6	10.6	X	X	--	X	X	X	--	--
SB411	PDI	11/24/2003	31.0	SB-411-0204	2.0	4.0	29.0	27.0	X	X	--	X	X	--	X	--
				SB-411-0608	6.0	8.0	25.0	23.0	X	X	--	X	X	--	X	--
				SB-411-1012	10.0	12.0	21.0	19.0	X	X	--	X	X	--	X	--
				SB-411-1416	14.0	16.0	17.0	15.0	X	X	--	X	X	--	X	--
				SB-411-2022	20.0	22.0	11.0	9.0	--	--	X	--	X	--	X	X
SB412	PDI	11/25/2003	24.5	SB-412-0204	2.0	4.0	22.5	20.5	X	X	--	X	X	--	X	--
				SB-412-0608	6.0	8.0	18.5	16.5	X	X	--	X	X	--	X	--
				SB-412-1012	10.0	12.0	14.5	12.5	X	X	--	X	X	--	X	--
								Total	19	21	1	19	23	9	8	1

Notes:
X indicates that specified analysis was conducted.
Sample SB-406-0002 not analyzed for TPH due to low sample volume.

ft MLW	feet above mean low water
ft bgs	feet below ground surface
GRO	gasoline range organics
ID	identifier
Pest	pesticides
RI (Ph I)	Phase I Remedial Investigation
RI (Ph II)	Phase II Remedial Investigation
RI (Ph III)	Phase III Remedial Investigation
PCBs	polychlorinated biphenyls
PAH	polynuclear aromatic hydrocarbons
PDI	Pre-Design Investigation
SVOC	semivolatile organic componds
TAL	Target Analyte List
TPH	total poetroleum hydrocarbons
VOC	volatile organic componds

TABLE 4-2
MOUND No. 1 SOIL SAMPLE SUMMARY
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location/ Date	Surface Elevation (ft MLW)	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Sample ID	OVA (ppm)	PID (ppm)	FID (ppm)	Description
B-10	13.7	**0.0**	**2.0**	**13.7**	**12.7**	**B101-112393**	0.0	ND	na	Fill material consisting of fine sand and gravel mixed with construction debris. Sample B101-112393 collected from 0.0 - 1.0 ft bgs. Refusal at 7 ft bgs.
		2.0	4.0	11.7	9.7		0.0	ND	na	
		4.0	6.0	9.7	7.7		NR	NR	na	
		6.0	8.0	7.7	5.7		0.0	ND	na	
SB415	13.3	**0.0**	**2.0**	**13.3**	**11.3**	**SB-415-0002**	na	0.0	0.0	Fill material consisting of fine to coarse sand, silt and gravel mixed with construction debris.
		2.0	**4.0**	**11.3**	**9.3**	**SB-415-0204**	na	0.0	0.0	
		4.0	6.0	9.3	7.3		na	0.0	0.0	
		6.0	**8.0**	**7.3**	**5.3**	**SB-415-0608**	na	0.0	0.0	
SB416	11.5	**0.0**	**2.0**	**11.5**	**9.5**	**SB-416-0002**	na	0.6	0.0	Fill material consisting of silty fine to coarse sand, silt and gravel mixed with construction debris.
		2.0	4.0	9.5	7.5		na	0.9	0.0	
		4.0	6.0	7.5	5.5		na	0.9	0.0	

Notes:
See boring logs for detailed description.
Bold number indicates the soil sample was collected from that depth interval.

ft bgs	feet below ground surface
ft MLW	feet above mean low water
FID	flame ionization detector
ND	not detected
OVA	organic vapor analyzer
ppm	parts per million (above background readings)
PID	photoionization detector

TABLE 4-3
MOUND No. 1 SOIL CONCENTRATIONS EXCEEDING PRGs
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location	Surface Elevation (ft bgs)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Parameter	Concentration	units	Soil PRG
B-10	13.7	B101-112393	0.0	1.0	13.7	12.7	No PRG exceedances			
SB415	13.3	SB-415-0002	0.0	2.0	13.3	11.3	Benzo(a)pyrene	440	ug/kg	400
							Chrysene	450	ug/kg	400
							Arsenic	11.5	mg/kg	6.2
							Beryllium	0.63	mg/kg	0.4
		SB-415-0204	2.0	4.0	11.3	9.3	Benzo(a)pyrene	800	ug/kg	400
							Benzo(b)flouranthene	1100	ug/kg	900
							Chrysene	880	ug/kg	400
							Arsenic	11.1	mg/kg	6.2
							Beryllium	0.42	mg/kg	0.4
		SB-415-0608	6.0	8.0	7.3	5.3	Arsenic	23.6	mg/kg	6.2
							Lead	182	mg/kg	150
SB416	11.5	SB-416-0002	0.0	2.0	11.5	9.5	Benzo(a)pyrene	480	ug/kg	400
							Chrysene	520	ug/kg	400
							Arsenic	10.7	mg/kg	6.2
							Beryllium	0.53	mg/kg	0.4
							Lead	168	mg/kg	150
		SB-416-0406	4.0	6.0	7.5	5.5	Benzo(a)pyrene	820	ug/kg	400
							Benzo(b)flouranthene	1100	ug/kg	900
							Chrysene	890	ug/kg	400
							Arsenic	11.8	mg/kg	6.2
							Beryllium	0.43	mg/kg	0.4
							Manganese	570	mg/kg	390

Notes:
Soil preliminary remediation goals (PRGs) from OFFTA Feasibility Study, TtNUS September 2002
ft bgs feet below ground surface
ft MLW feet above mean low water
ID identifier
µg/kg microgram per kilogram
mg/kg milligram per kilogram

TABLE 4-4
MOUND No. 2 SOIL SAMPLE SUMMARY
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location/ Date	Surface Elevation (ft MLW)	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Sample ID	OVA (ppm)	PID (ppm)	FID (ppm)	Description
SS-5	17.5	**0.0**	**0.5**	**17.5**	**17.0**	**SS5-411**	na	na	na	Fine sand, some silt
B-8	11.5	**0.0**	**2.0**	**11.5**	**9.5**	**B81-112293**	0.0	0.0	na	Fill material consisting of fine sand, silt and gravel mixed with construction debris. Sample B81-112293 collected from 0.0 -1.0 ft bgs.
		2.0	4.0	9.5	7.5		0.0	0.0	na	
		4.0	6.0	7.5	5.5		NR	NR	na	
		6.0	8.0	5.5	3.5		0.0	6.0	na	
B-9	17.7	**0.0**	**2.0**	**17.7**	**15.7**	**B91-112393**	0.0	0.0	na	Fill material consisting of fine sand, silt and gravel mixed with construction debris. Sample B91-112293 collected from 0.0 -1.0 ft bgs.
		2.0	4.0	15.7	13.7		NR	NR	na	
		4.0	6.0	13.7	11.7		NR	NR	na	
		6.0	7.0	11.7	10.7		NR	NR	na	
		7.0	9.0	10.7	8.7		0.0	0.0	na	
		9.0	11.0	8.7	6.7		0.0	0.0	na	
		11.0	12.0	6.7	5.7		NR	NR	na	
SB406	11.4	**0.0**	**2.0**	**11.4**	**9.4**	**SB-406-0002**	na	0.0	20.6	Fill material consisting of fine to coarse sand, silty sand, silt and gravel, brick and asphalt, with topsoil at surface.
		2.0	4.0	9.4	7.4		na	0.9	0.0	
		4.0	6.0	7.4	5.4		na	1.8	0.0	
		6.0	8.0	5.4	3.4		na	3.8	0.0	
SB407	12.9	**0.0**	**2.0**	**12.9**	**10.9**	**SB-407-0002**	na	0.0	0.0	Fill material consisting of sand, sandy and gracvely silt and gravel, concrete, brick and asphalt, with topsoil at surface.
		2.0	**4.0**	**10.9**	**8.9**	**SB-407-0204**	na	0.0	0.0	
		4.0	6.0	8.9	6.9		na	0.0	0.0	
		6.0	8.0	6.9	4.9		na	0.0	0.0	
SB418	10	**0.0**	**2.0**	**10.0**	**8.0**	**SB-418-0002**	na	3.2	2.1	Fill material consisting of fine to medium sand, silt and gravel, concrete, brick and asphalt, with topsoil at surface.
		2.0	4.0	8.0	6.0		na	4.1	0.0	
		4.0	6.0	6.0	4.0		na	4.1	3.9	
SB433	17.3	0.0	2.0	17.3	15.3		na	NR	NR	Fill material consisting of silty fine to medium sand, sandy silt with gravel, brick pieces.
		2.0	**4.0**	**15.3**	**13.3**	**SB-433-0204**	na	0.0	0.0	
		4.0	6.0	13.3	11.3		na	0.0	0.0	
		6.0	**8.0**	**11.3**	**9.3**	**SB-433-0608**	na	20.0	38.0	
		8.0	10.0	9.3	7.3		na	17.1	34.0	
		10.0	12.0	7.3	5.3		na	0.0	0.0	

Notes:
See boring logs for detailed description.
Bold number indicates the soil sample was collected from that depth interval.

ft bgs	feet below ground surface
ft MLW	feet above mean low water
FID	flame ionization detector
NR	No reading
na	not applicable
OVA	organic vapor analyzer
ppm	parts per million (above background readings)
PID	photoionization detector

TABLE 4-5
MOUND No. 2 SOIL CONCENTRATIONS EXCEEDING PRGs
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location	Surface Elevation (ft bgs)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Parameter	Concentration	units	Soil PRG
SS-5	17.5	SS-05	0	0.5	17.5	17	Beryllium	0.48	mg/kg	0.4
B-8	11.5	B81-112293	0	1	11.5	10.5	Arsenic	6.3 J	mg/kg	6.2
B-9	17.7	B91-112393	0	1	17.7	16.7	Beryllium	0.43	mg/kg	0.4
SB406	11.4	SB-406-0002	0	2	11.4	9.4	Benzo(a)pyrene	460	ug/kg	400
							Chrysene	510	ug/kg	400
							Arsenic	6.7	mg/kg	6.2
							Beryllium	0.56	mg/kg	0.4
							Lead	268	mg/kg	150
							Manganese	450	mg/kg	390
SB407	12.9	SB-407-0002	0	2	12.9	10.9	Benzo(a)anthracene	1000 J	ug/kg	900
							Benzo(a)pyrene	860 J	ug/kg	400
							Benzo(b)flouranthene	1100 J	ug/kg	900
							Chrysene	930 J	ug/kg	400
							Lead	217	mg/kg	150
							Manganese	445	mg/kg	390
		SB-407-0204	2	4	10.9	8.9	Benzo(a)anthracene	1000 J	ug/kg	900
							Benzo(a)pyrene	1000 J	ug/kg	400
							Benzo(b)flouranthene	1400 J	ug/kg	900
							Chrysene	980 J	ug/kg	400
							Arsenic	6.9	mg/kg	6.2
							Lead	192	mg/kg	150
							Manganese	424	mg/kg	390
SB418	10.0	SB-418-0002	0	2	10	8	Arsenic	8.4	mg/kg	6.2
							Beryllium	0.64	mg/kg	0.4
SB433	17.3	SB-433-0204	2	4	15.3	13.3	Benzo(a)pyrene	620 J	ug/kg	400
							Benzo(b)flouranthene	910 J	ug/kg	900
							Chrysene	640 J	ug/kg	400
							Arsenic	10.6	mg/kg	6.2
							Beryllium	0.49	mg/kg	0.4
							Manganese	417	mg/kg	390
		SB-433-0608	6	8	11.3	9.3	No PRG exceedances			

Notes:
Soil preliminary remediation goals (PRGs) from OFFTA Feasibility Study, TtNUS September 2002

ft bgs	feet below ground surface
ft MLW	feet above mean low water
ID	identifier
µg/kg	microgram per kilogram
mg/kg	milligram per kilogram
J	quantation approximate

TABLE 4-6
CENTRAL MOUND SOIL SAMPLE SUMMARY
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location/ Date	Surface Elevation (ft MLW)	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Sample ID	OVA (ppm)	PID (ppm)	FID (ppm)	Description
SS-3	24.0	**0.0**	**0.5**	**24.0**	**23.5**	**SS3-411**	na	na	na	Fine sand and silt, trace organics
SS-11	12.0	**0.0**	**0.5**	**12.0**	**11.5**					Not available
SS-25	19.5	**0.0**	**0.5**	**19.5**	**19.0**	**SS25-110493**	NR	NR	NR	Fill consisting of fine sand and organices, some silt, little rock fragments
SS-26	22.5	**0.0**	**0.5**	**22.5**	**22.0**	**SS26-110493**	NR	NR	NR	Fill consisting of fine sand and organices, trace medium sand and gravel
SS-325	12.0	**0.0**	**1.0**	**12.0**	**11.0**	**SS-325-0001**				
SS-326	11.0	**0.0**	**1.0**	**11.0**	**10.0**	**SS-326-0001**				
TP2	13.0	**0.0**	**3.0**	**13.0**	**10.0**	**TP23**	NR	NR	na	Fill consisting of fine to medium sand, silt, cobbles and rock fragments mixed with construction debris
		3.0	6.0	10.0	7.0		NR	NR	na	
TP3	17.0	**0.0**	**4.0**	**17.0**	**13.0**	**TP33**	NR	NR	na	Fill consisting of fine to medium sand and rock fragments mixed with construction debris
		4.0	4.5	13.0	12.5		NR	NR	na	
		4.5	**7.0**	**12.5**	**10.0**	**TP32**	NR	NR	na	
		7.0	**8.0**	**10.0**	**9.0**	**TP31**	NR	NR	na	
B-14	30.7	**0.0**	**2.0**	**30.7**	**28.7**	**B141-121393**	0.0	0.0	na	Fill consisting of fine to medium sand, silt, gravel, cobbles and rock fragments mixed with construction debris Sample B141-121393 collected from 0.0 - 1.0 ft bgs
		5.0	7.0	25.7	23.7		0.0	0.0	na	
		7.0	9.0	23.7	21.7		0.0	0.0	na	
		9.0	11.0	21.7	19.7		0.0	0.0	na	
		15.0	**17.0**	**15.7**	**13.7**	**B142-121393**	0.0	0.0	na	
		17.0	19.0	13.7	11.7		0.0	0.0	na	
		20.0	22.0	10.7	8.7		NR	NR	na	
B-15	27.6	**0.0**	**2.0**	**27.6**	**25.6**	**B151-121393**	0.0	0.0	na	Fill consisting of fine to medium sand, silt, gravel, cobbles and rock fragments mixed with construction debris Sample B151-121393 collected from 0.0 - 1.0 ft bgs
		2.0	4.0	25.6	23.6		0.0	0.0	na	
		4.0	6.0	23.6	21.6		0.0	0.0	na	
		8.0	10.0	19.6	17.6		0.0	0.0	na	
		10.0	**12.0**	**17.6**	**15.6**	**B152-121393**	0.0	0.0	na	
		15.0	**17.0**	**12.6**	**10.6**	**B153-121393**	0.0	0.0	na	
		17.0	19.0	10.6	8.6		NR	NR	na	

TABLE 4-6
CENTRAL MOUND SOIL SAMPLE SUMMARY
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Location/ Date	Surface Elevation (ft MLW)	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Sample ID	OVA (ppm)	PID (ppm)	FID (ppm)	Description
SB411	31.0	0.0	2.0	31.0	29.0		na	na	0.0	Fill material consisting of sand, silt and gravel, mixed with construction debris with topsoil at surface.
		2.0	**4.0**	**29.0**	**27.0**	**SB-411-0204**	na	na	0.0	
		4.0	6.0	27.0	25.0		na	na	0.0	
		6.0	**8.0**	**25.0**	**23.0**	**SB-411-0608**	na	na	72.8	
		8.0	10.0	23.0	21.0		na	na	94.1	
		10.0	**12.0**	**21.0**	**19.0**	**SB-411-1012**	na	na	0.0	
		12.0	14.0	19.0	17.0		na	na	574.0	
		14.0	**16.0**	**17.0**	**15.0**	**SB-411-1012**	na	na	201.9	
		16.0	18.0	15.0	13.0		na	na	489.0	
		18.0	20.0	13.0	11.0		na	na	NR	
		20.0	22.0	11.0	9.0		na	na	0.0	
SB412	24.5	0.0	2.0	24.5	22.5		na	NR	NR	Fill material consisting of silty sand and gravel, mixed with construction debris with topsoil at surface.
		2.0	**4.0**	**22.5**	**20.5**	**SB-412-0204**	na	123.0	25.0	
		4.0	6.0	20.5	18.5		na	0.0	7.2	
		6.0	**8.0**	**18.5**	**16.5**	**SB-412-0608**	na	51.6	33.0	
		8.0	10.0	16.5	14.5		na	0.0	8.3	
		10.0	**12.0**	**14.5**	**12.5**	**SB-412-1012**	na	19.7	8.8	
		12.0	14.0	12.5	10.5		na	38.9	103.3	
		14.0	**16.0**	**10.5**	**8.5**	**SB-412-1416**	na	50.3	137.3	
		16.0	18.0	8.5	6.5		na	63.0	132.6	

Notes:
Bold number indicates the soil sample was collected from that depth interval.

ft bgs	feet below ground surface
ft MLW	feet above mean low water
FID	flame ionization detector
NR	No reading
na	not applicable
OVA	organic vapor analyzer
ppm	parts per million (above background readings)
PID	photoionization detector

TABLE 4-7
CENTRAL MOUND SOIL CONCENTRATIONS EXCEEDING PRGs
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Location	Surface Elevation (ft bgs)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Parameter	Concentration	units	Soil PRG
SS-3	24	SS-03	0.0	0.5	24.0	23.5	Beryllium	0.41	mg/kg	0.4
SS-25	19.5	SS25-110493	0.0	0.5	19.5	19.0	No PRG exceedances	na	na	na
SS-26	22.5	SS26-110493	0.0	0.5	22.5	22.0	No PRG exceedances	na	na	na
SS-11	12	SS-11	0.0	0.5	12.0	11.5	Beryllium	0.5	mg/kg	0.4
SS-325	12	SS-325-0001	0.0	1.0	12.0	11.0	Arsenic	10.4	mg/kg	6.2
SS-326	11	SS-326-0001	0.0	1.0	11.0	10.0	Arsenic	10.1	mg/kg	6.2
							Beryllium	0.47	mg/kg	0.4
B-14	30.7	B141-121393	0.0	1.0	30.7	29.7	Arsenic	8.5	mg/kg	6.2
		B142-121393	15.0	17.0	15.7	13.7	Arsenic	9.2	mg/kg	6.2
							Chrysene	460 J	ug/kg	400
							Lead	252	mg/kg	150
B-15	27.6	B151-121393	0.0	1.0	27.6	26.6	Arsenic	7	mg/kg	6.2
							Benzo(a)anthracene	2400	ug/kg	900
							Benzo(a)pyrene	2600	ug/kg	400
							Benzo(b)fluoranthene	3900	ug/kg	900
							Benzo(g,h,i)perylene	1300 J	ug/kg	800
							Chrysene	2400	ug/kg	400
							Indeno(1,2,3-cd)pyrene	1100 J	ug/kg	900
							Manganese	506 J	mg/kg	390
		B152-121393	10.0	12.0	17.6	15.6	Benzo(a)anthracene	1200	ug/kg	900
							Benzo(a)pyrene	730	ug/kg	400
							Benzo(b)fluoranthene	1300	ug/kg	900
							Chrysene	1100	ug/kg	400
		B153-121393	15.0	17.0	12.6	10.6	Benzo(a)anthracene	1300	ug/kg	900
							Benzo(a)pyrene	760	ug/kg	400
							Benzo(b)fluoranthene	1400	ug/kg	900
							Chrysene	1100	ug/kg	400
							Lead	292	mg/kg	150
							Manganese	419 J	mg/kg	390
TP2	13.0	TP23	2.0	2.0	11.0	11.0	Benzo(a)pyrene	460 J	ug/kg	400
							Chrysene	580 J	ug/kg	400
TP3	17.0	TP33	3.0	3.0	14.0	14.0	Benzo(a)pyrene	630 J	ug/kg	400
							Chrysene	640 J	ug/kg	400
		TP32	7.0	7.0	10.0	10.0	Benzo(a)anthracene	2400 J	ug/kg	900
							Benzo(a)pyrene	2900 J	ug/kg	400
							Benzo(b)fluoranthene	2300 J	ug/kg	900
							Benzo(g,h,i)perylene	1700 J	ug/kg	800
							Benzo(k)fluoranthene	2500 J	ug/kg	900
							Chrysene	2500 J	ug/kg	400
							Dibenz(a,h)anthracene	780 J	ug/kg	400
							Indeno(1,2,3-cd)pyrene	1700 J	ug/kg	900
							Manganese	413 J	mg/kg	390
		TP31	7.0	8.0	10.0	9.0	Arsenic	16.3 J	mg/kg	6.2
							Chrysene	690 J	ug/kg	400
							Lead	3090 J	mg/kg	150

TABLE 4-7 (cont.)
CENTRAL MOUND SOIL CONCENTRATIONS EXCEEDING PRGs
DRAFT MOUND SUMMARY REPORT
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Location	Surface Elevation (ft bgs)	Sample ID	Sample Depth (ft bgs)		Sample Elevation (ft MLW)		Parameter	Concentration	units	Soil PRG
SB411	31.0	SB-411-0204	2.0	4.0	29.0	27.0	Benzo(a)pyrene	410	ug/kg	400
							Chrysene	480	ug/kg	400
							Arsenic	7.8	mg/kg	6.2
							Manganese	491	mg/kg	390
		SB-411-0608	6.0	8.0	25.0	23.0	Chrysene	490	ug/kg	400
							Arsenic	12.8	mg/kg	6.2
							Beryllium	0.54	mg/kg	0.4
							Manganese	557	mg/kg	390
		SB-411-1012	10.0	12.0	21.0	19.0	Benzo(a)anthracene	930	ug/kg	900
							Benzo(a)pyrene	610	ug/kg	400
							Benzo(b)flouranthene	1100	ug/kg	900
							Chrysene	970	ug/kg	400
							Arsenic	8.8	mg/kg	6.2
							Beryllium	0.5	mg/kg	0.4
							Manganese	424	mg/kg	390
		SB-411-1416	14.0	16.0	17.0	15.0	Benzo(a)anthracene	3600	ug/kg	900
							Benzo(a)pyrene	2900	ug/kg	400
							Benzo(b)flouranthene	3300	ug/kg	900
							Benzo(g,h,i)perylene	1700 J	ug/kg	800
							Benzo(k)flouranthene	1400 J	ug/kg	900
							Chrysene	3300	ug/kg	400
							Dibenzo(a,h)anthracene	600 J	ug/kg	400
							Indeno(1,2,3-cd)pyrene	1500 J	ug/kg	900
							Arsenic	9.5	mg/kg	6.2
							Beryllium	0.46	mg/kg	0.4
							Lead	559	mg/kg	150
		SB-411-2022	20.0	22.0	11.0	9.0	Manganese	409	mg/kg	390
SB412	24.5	SB-412-0204	2.0	4.0	22.5	20.5	Arsenic	11.5	mg/kg	6.2
							Beryllium	0.55	mg/kg	0.4
		SB-412-0608	6.0	8.0	18.5	16.5	Arsenic	8.9	mg/kg	6.2
							Beryllium	0.44	mg/kg	0.4
							Manganese	574	mg/kg	390
		SB-412-1012	10.0	12.0	14.5	12.5	Benzo(a)pyrene	590	ug/kg	400
							Chrysene	680	ug/kg	400
							Antimony	21.2	mg/kg	10
							Arsenic	11.6	mg/kg	6.2
							Lead	186	mg/kg	150
							Manganese	536	mg/kg	390

Notes:
Soil preliminary remediation goals (PRGs) from OFFTA Feasibility Study, TtNUS September 2002

ft bgs	feet below ground surface
ft MLW	feet above mean low water
ID	identifier
µg/kg	microgram per kilogram
mg/kg	milligram per kilogram
na	not applicable
J	quantation approximate

FIGURES

COASTERS HARBOR ISLAND

OFFTA

KATY FIELD

HARBOR

COASTERS

NEWPORT

HARBOR

LAWRENCE FIELD

POINT ROAD

S.M.R.C.

CUSHING ROAD

DEWEY FIELD

NETC MARINA

HELIPAD

GATE 1

GEN. BLDG.

RESERVOIR

SMITH ROAD

HIGGS ROAD

FLAG POLE

HOSPITAL GATE 1

STONE BREAKWATER

NAVSTA PUBLIC WORKS

NAVAL WAR COLLEGE

1 FATHOM

3 FATHOMS

6 FATHOMS

NARRAGANSETT BAY

GRAPHIC SCALE

0' 400' 800'

1 INCH = 400 FEET

NOTES:

BASE MAP FROM PLAN BY DEPT. OF NAVY, "COASTERS HARBOR ISLAND AND NAVAL HOSPITAL EXISTING CONDITIONS MAP", DATED: 9/98, NETC DWG NO.: 31058-307, CODE ID NO.: 80091. SCALE: 1"=200'.

OFFTA LOCATION MAP			FIGURE 2-1
OLD FIRE FIGHTING TRAINING AREA			TETRA TECH NUS, INC.
NAVSTA NEWPORT – NEWPORT, RHODE ISLAND			55 Jonspin Road Wilmington, MA 01887 (978)658-7899
DRAWN BY: D.W. MACDOUGALL		REV.: 0	
CHECKED BY: D. BAXTER		DATE: JANUARY 23, 2004	
SCALE: 1" = 400'		FILE NO.: DWG\4152\1400\FIG_2-1.DWG	

LEGEND

- CATCH BASIN
- FENCE
- EXISTING CONTOUR
- SOIL BORING LOCATION WHERE SURFACE AND SUBSURFACE SOIL SAMPLES WERE COLLECTED
- MONITORING WELL LOCATION WHERE SURFACE AND SUBSURFACE SOIL SAMPLES WERE COLLECTED
- STORM SEWER
- TEST PIT LOCATION WHERE SUBSURFACE SOIL SAMPLE(S) WERE COLLECTED (B&RE, 6/97)
- TEST PIT LOCATION WHERE SUBSURFACE SOIL SAMPLE(S) WERE COLLECTED (TRC, 1/94)
- SB400 PROPOSED BORING AND IDENTIFIER
- SUBSURFACE SOIL SAMPLE LOCATION WHERE CRITERIA* EXCEEDED
- LOCATIONS (INCLUDING TEST PITS & BORINGS) WHERE PETROLEUM WAS OBSERVED ON SUB-SURFACE SOILS
- * RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA EXCEPT FOR ARSENIC (PROPOSED 6.2 MG/KG BACKGROUND LEVEL WAS USED)
- INTERPRETED BASE OF MOUND

NOTES AND REFERENCES:

1. DRAWING COMPILED FROM A DRAWING ENTITLED "BASE MAP OLD FIRE FIGHTING TRAINING AREA NETC, NEWPORT, RHODE ISLAND, JULY 1997, PROJ. NO. 7578 CTO: 288, BY BROWN & ROOT ENVIRONMENTAL, SOURCE: BASE PLAN BY GUERRIERE & HALNON, INC., DATED NOVEMBER 10, 1997, AND THE ADDITION OF FIELD MEASURED FEATURES, BY LOUIS FEDERICI AND ASSOCIATES 3/16/99, PRESENTED ON A DRAWING ENTITLED "KADY FIELD, TOPOGRAPHIC, SOIL SAMPLE LOCATION, AND SITE SURVEY AT THE OLD FIRE FIGHTING TRAINING AREA, NAVAL STATION NEWPORT IN NEWPORT, RHODE ISLAND FOR TETRA TECH NUS, INC., LOUIS FEDERICI & ASSOCIATES, 3/16/99, DWG NO. 990205-01.

2. HORIZONTAL DATUM BASE ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM BASED ON NAVEL BASE MEAN LOW WATER.

3. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.

4. PLAN NOT TO BE USED FOR DESIGN.

GRAPHIC SCALE

50' 0' 50' 100'

1 INCH = 50 FEET

DRAWN BY: D.W. MACDOUGALL	TITLE: SOIL BORING LOCATIONS PRE-DESIGN INVESTIGATION, SOIL REMOVAL OLD FIRE FIGHTING TRAINING AREA NAVAL STATION NEWPORT, RHODE ISLAND
PREPARED BY: D. HARTIGAN	
CHECKED BY: S. PARKER	
	SOURCE: BASE PLAN BY SEE NOTES.
	SCALE: 1" = 50' / DATE: JANUARY 23, 2003 / PROJ. NO: 4152
PROJECT MANAGER: S. PARKER	DRAWING NO: FIGURE 4-1 / ACFILE NAME: DWG\4152\1401\FIG_4-1.DWG / REV: 0
PROGRAM MANAGER: J. TREPANOWSKI	

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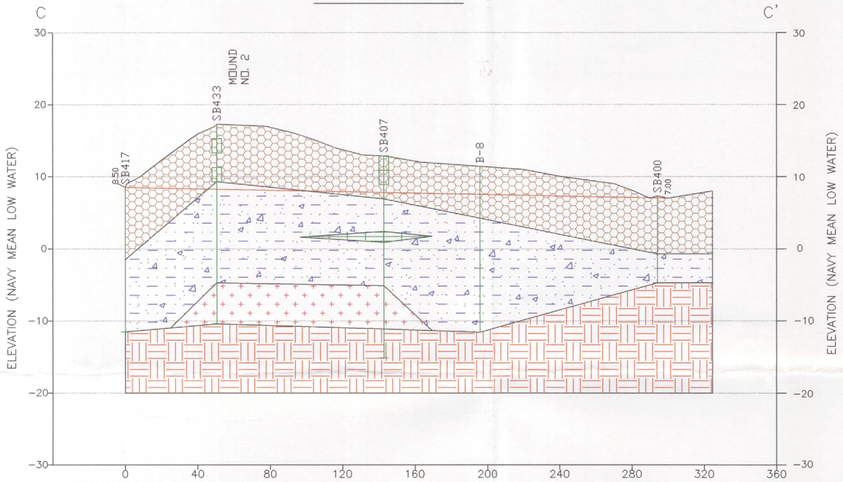
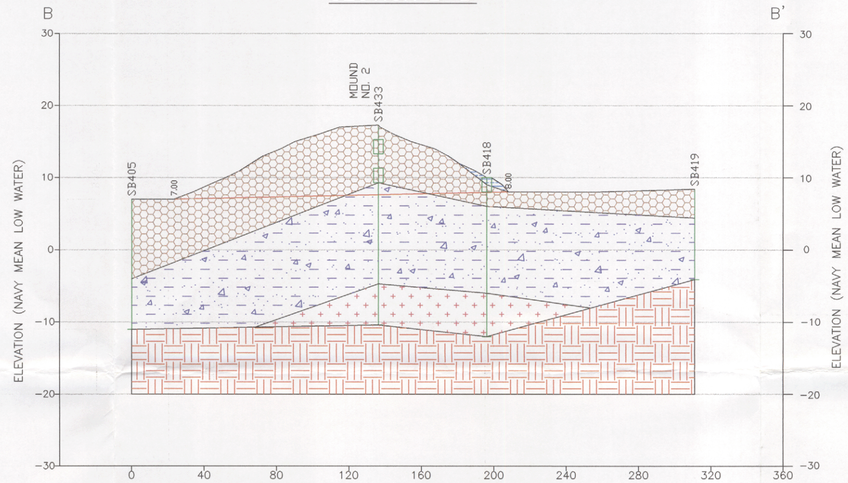
55 JONSPIN ROAD
WILMINGTON, MASSACHUSETTS 01887
(978)658-7899

0410CB2Y

SECTION C - C'



SECTION B - B'



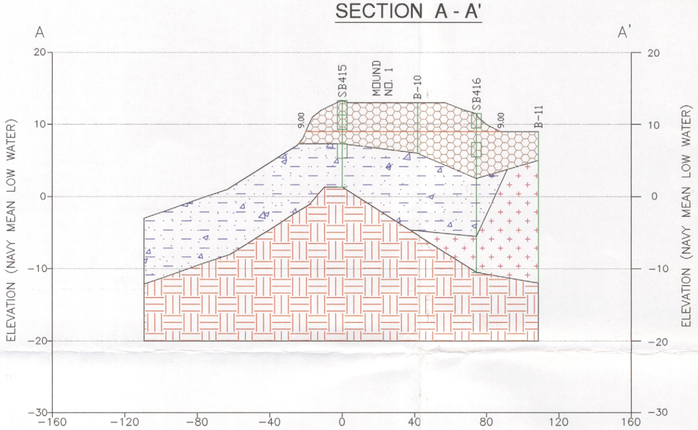
GRAPHIC SCALE

0' 10' 0' 40'

VERT: 1 INCH = 10 FEET HORIZ: 1 INCH = 40 FEET

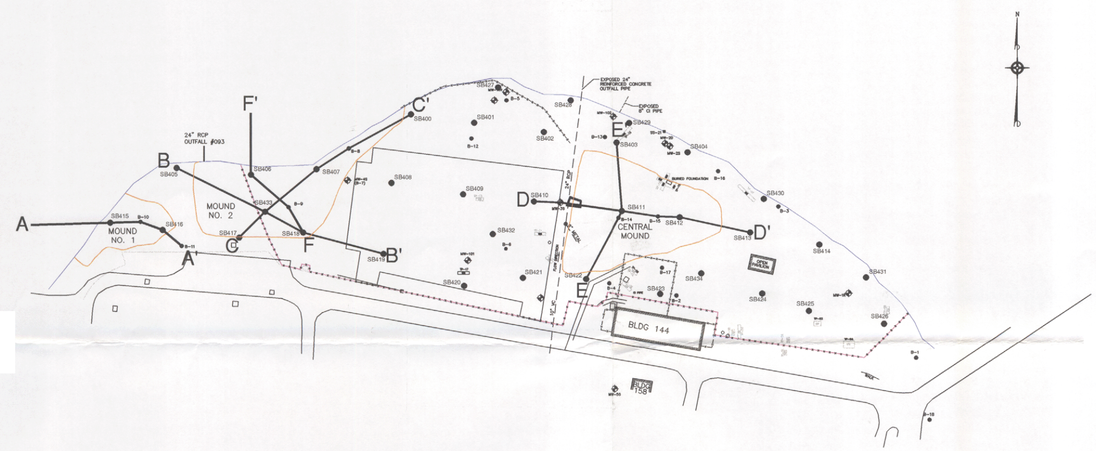
VERTICAL EXAGGERATION = 4X

SECTION A - A'



X-SECTION LOCATION MAP

(NOT TO SCALE)



LEGEND

- FILL – FINE TO MEDIUM SAND, SILT, GRAVEL, AND ROCK FRAGMENTS MIXED WITH VARYING AMOUNTS OF CONSTRUCTION-TYPE DEBRIS INCLUDING: ASPHALT, CONCRETE, METAL, BRICK, WOOD AND GLASS
- SILTY SAND AND GRAVEL – FINE TO MEDIUM SAND, SILT AND GRAVEL, WITH VARYING AMOUNTS OF ROCK FRAGMENTS AND SEASHELL FRAGMENTS
- PEAT – PEAT WITH VARYING AMOUNTS OF SAND AND SILT
- TOP SOIL
- TILL – DENSE SILT WITH FINE TO MEDIUM SAND, GRAVEL AND ROCK FRAGMENTS
- BEDROCK – CONGLOMERATE WITH QUARTZITE COBBLES
- 8.00 SOIL ABOVE THIS LINE TO BE REMOVED NUMBER IS ELEVATION AT END OF LINE IN FEET

NOTES:

1. THE DEPTHS AND THICKNESSES DETERMINED FOR THE SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN TEST BORINGS. THE STRATIFICATION LINES REPRESENT AN APPROXIMATE BOUNDARY BETWEEN SOIL TYPES; THE TRANSITION MAY BE GRADUAL. INFORMATION ON SUBSURFACE CONDITIONS EXIST ONLY AT THE LOCATION OF THE TEST BORINGS; THEREFORE, IT IS POSSIBLE THAT THE SUBSURFACE CONDITIONS MAY VARY FROM THOSE INDICATED.

2. WELL SCREEN WIDTHS ARE NOT TO SCALE.

3. HORIZONTAL DATUM IS BASED ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM IS BASED ON NAVAL BASE MEAN LOW WATER (NGVD 1929 MINUS 1.6 FEET).

4. BASE PLAN BY GEURRIERE AND HALNON, INC., JULY 1997, DATED NOVEMBER 10, 1997, PROJ. NO. 7578 CTO 288, BY BROWN AND ROOT ENVIRONMENTAL.

5. GROUND ELEVATIONS WERE BASED ON BORING LOGS PROVIDED BY TRC.

6. ELEVATIONS OF SUBSURFACE CONTACTS WERE GENERALIZED FROM BORING LOGS BY TRC AND TTNUS.

7. BASED ON THE SEISMIC REFRACTION SURVEY RESULTS, THE ESTIMATED ACCURACY OF DEPTH OF BEDROCK IS +/- 15 PERCENT OR 2 FEET, WHICHEVER IS GREATER. THE DEPTHS DETERMINED FOR BEDROCK ⊗ ARE DEPTHS OF COMPETENT ROCK; DEEPLY WEATHERED ROCK MAY OCCUR AT SHALLOWER DEPTHS.

8. PRESUMPTION MADE THAT APPROXIMATELY 1-2 FEET OF TOPSOIL (FILL) LIES BETWEEN THE MOUNDS AND ACROSS THE EASTERN PORTION OF THE SITE, UNLESS OTHERWISE SPECIFIED.

9. BEDROCK ELEVATIONS ARE BASED ON THE DEPTH TO BEDROCK OBSERVED IN TEST PITS AND BORINGS. SEISMIC REFACTION SURVEY RESULTS WERE USED TO SUPPLEMENT THESE DATA. IF A REFUSAL WAS NOTED IN A BORING THE TOP OF BEDROCK WAS ASSUMED TO BE WITHIN ONE FOOT OF THE REFUSAL DEPTH. THE BEDROCK CONTOURS ARE INTERPRETATIONS OF THESE DATA AND THE ACTUAL BEDROCK ELEVATION MAY BE DIFFERENT FROM THE ELEVATION INDICATED.

10. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.

11. PLAN NOT TO BE USED FOR DESIGN.

LEGEND

- SB405 BORING NUMBER
- SOIL SAMPLE COLLECTED
- SOIL BORING
- END OF BORING

DRAWN BY: D.W. MACDOUGALL	TITLE: GEOLOGICAL CROSS SECTIONS A-A', B-B' AND C-C' OLD FIRE FIGHTING TRAINING AREA NAVSTA NEWPORT – NEWPORT, RHODE ISLAND
PREPARED BY: D. HARTIGAN	
CHECKED BY: S. PARKER	
	SOURCE: BASE PLAN BY SEE NOTES
	SCALE: AS SHOWN / DATE: JANUARY 23, 2003 / PROJ. NO: 4152
PROJECT MANAGER: S. PARKER	DRAWING NO: FIGURE 4-2 / ACFILE NAME: DWG\4152\1401\FIG_4-2.DWG / REV: 0
PROGRAM MANAGER: G. GARDNER	

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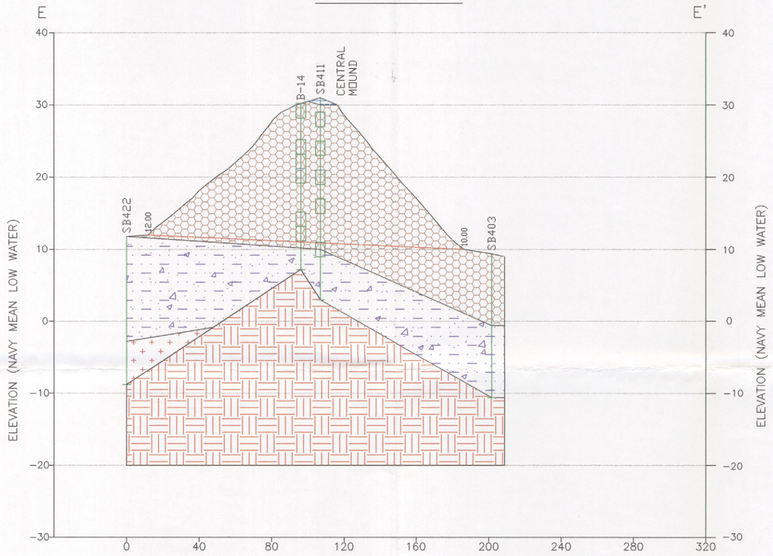
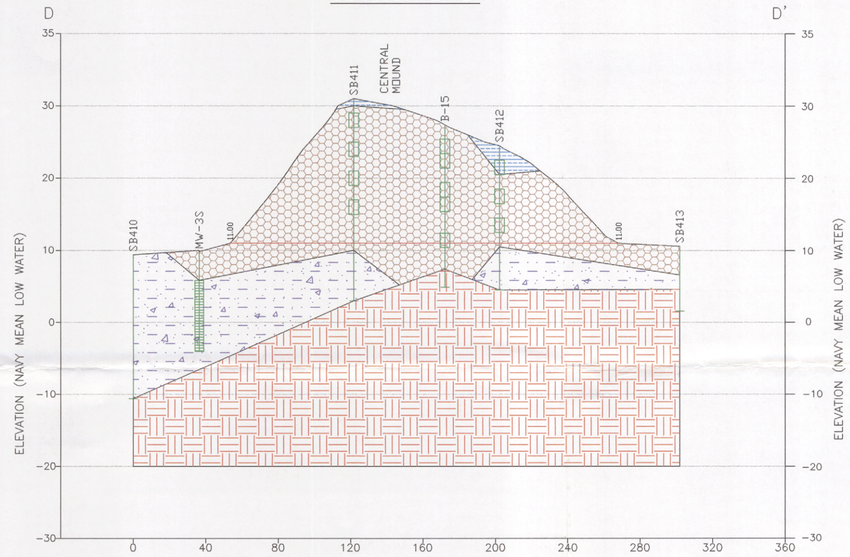
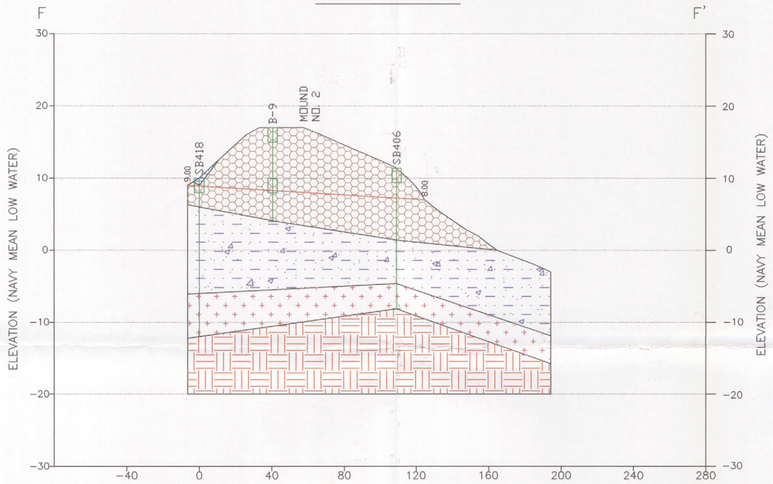
SECTION E - E'



SECTION D - D'



SECTION F - F'



GRAPHIC SCALE

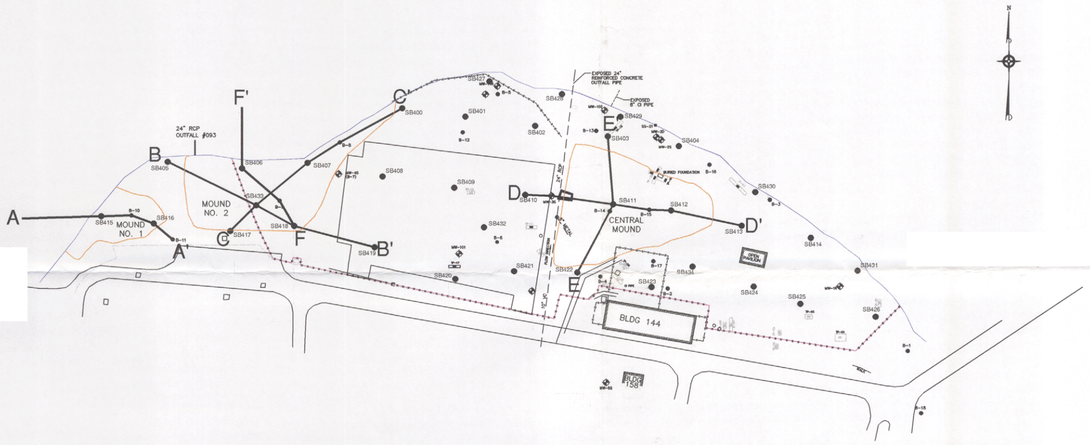
0' 10' 0' 40'

VERT: 1 INCH = 10 FEET HORIZ: 1 INCH = 40 FEET

VERTICAL EXAGGERATION = 4X

X-SECTION LOCATION MAP

(NOT TO SCALE)



LEGEND

- FILL – FINE TO MEDIUM SAND, SILT, GRAVEL, AND ROCK FRAGMENTS MIXED WITH VARYING AMOUNTS OF CONSTRUCTION–TYPE DEBRIS INCLUDING: ASPHALT, CONCRETE, METAL, BRICK, WOOD AND GLASS
- SILTY SAND AND GRAVEL – FINE TO MEDIUM SAND, SILT AND GRAVEL, WITH VARYING AMOUNTS OF ROCK FRAGMENTS AND SEASHELL FRAGMENTS
- PEAT – PEAT WITH VARYING AMOUNTS OF SAND AND SILT
- TOP SOIL
- TILL – DENSE SILT WITH FINE TO MEDIUM SAND, GRAVEL AND ROCK FRAGMENTS
- BEDROCK – CONGLOMERATE WITH QUARTZITE COBBLES
- 8.00 SOIL ABOVE THIS LINE TO BE REMOVED NUMBER IS ELEVATION AT END OF LINE IN FEET

NOTES:

1. THE DEPTHS AND THICKNESSES DETERMINED FOR THE SUBSURFACE STRATA WERE GENERALIZED FROM AND INTERPOLATED BETWEEN TEST BORINGS. THE STRATIFICATION LINES REPRESENT AN APPROXIMATE BOUNDARY BETWEEN SOIL TYPES; THE TRANSITION MAY BE GRADUAL. INFORMATION ON SUBSURFACE CONDITIONS EXIST ONLY AT THE LOCATION OF THE TEST BORINGS; THEREFORE, IT IS POSSIBLE THAT THE SUBSURFACE CONDITIONS MAY VARY FROM THOSE INDICATED.

2. WELL SCREEN WIDTHS ARE NOT TO SCALE.

3. HORIZONTAL DATUM IS BASED ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM IS BASED ON NAVAL BASE MEAN LOW WATER (NGVD 1929 MINUS 1.6 FEET).

4. BASE PLAN BY GEURRIERE AND HALNON, INC., JULY 1997, DATED NOVEMBER 10, 1997, PROJ. NO. 7578 CTO 288, BY BROWN AND ROOT ENVIRONMENTAL.

5. GROUND ELEVATIONS WERE BASED ON BORING LOGS PROVIDED BY TRC.

6. ELEVATIONS OF SUBSURFACE CONTACTS WERE GENERALIZED FROM BORING LOGS BY TRC AND TTNUS.

7. BASED ON THE SEISMIC REFRACTION SURVEY RESULTS, THE ESTIMATED ACCURACY OF DEPTH OF BEDROCK IS +/– 15 PERCENT OR 2 FEET, WHICHEVER IS GREATER. THE DEPTHS DETERMINED FOR BEDROCK ⊗ ARE DEPTHS OF COMPETENT ROCK; DEEPLY WEATHERED ROCK MAY OCCUR AT SHALLOWER DEPTHS.

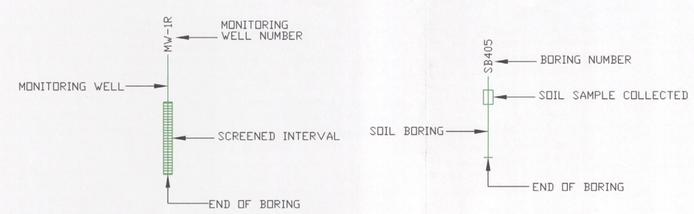
8. PRESUMPTION MADE THAT APPROXIMATELY 1–2 FEET OF TOPSOIL (FILL) LIES BETWEEN THE MOUNDS AND ACROSS THE EASTERN PORTION OF THE SITE, UNLESS OTHERWISE SPECIFIED.

9. BEDROCK ELEVATIONS ARE BASED ON THE DEPTH TO BEDROCK OBSERVED IN TEST PITS AND BORINGS. SEISMIC REFACTION SURVEY RESULTS WERE USED TO SUPPLEMENT THESE DATA. IF A REFUSAL WAS NOTED IN A BORING THE TOP OF BEDROCK WAS ASSUMED TO BE WITHIN ONE FOOT OF THE REFUSAL DEPTH. THE BEDROCK CONTOURS ARE INTERPRETATIONS OF THESE DATA AND THE ACTUAL BEDROCK ELEVATION MAY BE DIFFERENT FROM THE ELEVATION INDICATED.

10. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.

11. PLAN NOT TO BE USED FOR DESIGN.

LEGEND



DRAWN BY: D.W. MACDOUGALL	TITLE: GEOLOGICAL CROSS SECTIONS D–D', E–E' AND F–F' OLD FIRE FIGHTING TRAINING AREA NAVSTA NEWPORT – NEWPORT, RHODE ISLAND		
PREPARED BY: D. HARTIGAN			
CHECKED BY: S. PARKER			
	SOURCE: BASE PLAN BY SEE NOTES		
	SCALE: AS SHOWN	DATE: JANUARY 26, 2003	PROJ. NO: 4152
PROJECT MANAGER: S. PARKER	DRAWING NO: 4–3	ACFILE NAME: DWG\4152\1401\FIG_4–3.DWG	REV: 0
PROGRAM MANAGER: G. GARDNER			

TETRA TECH NUS, INC.

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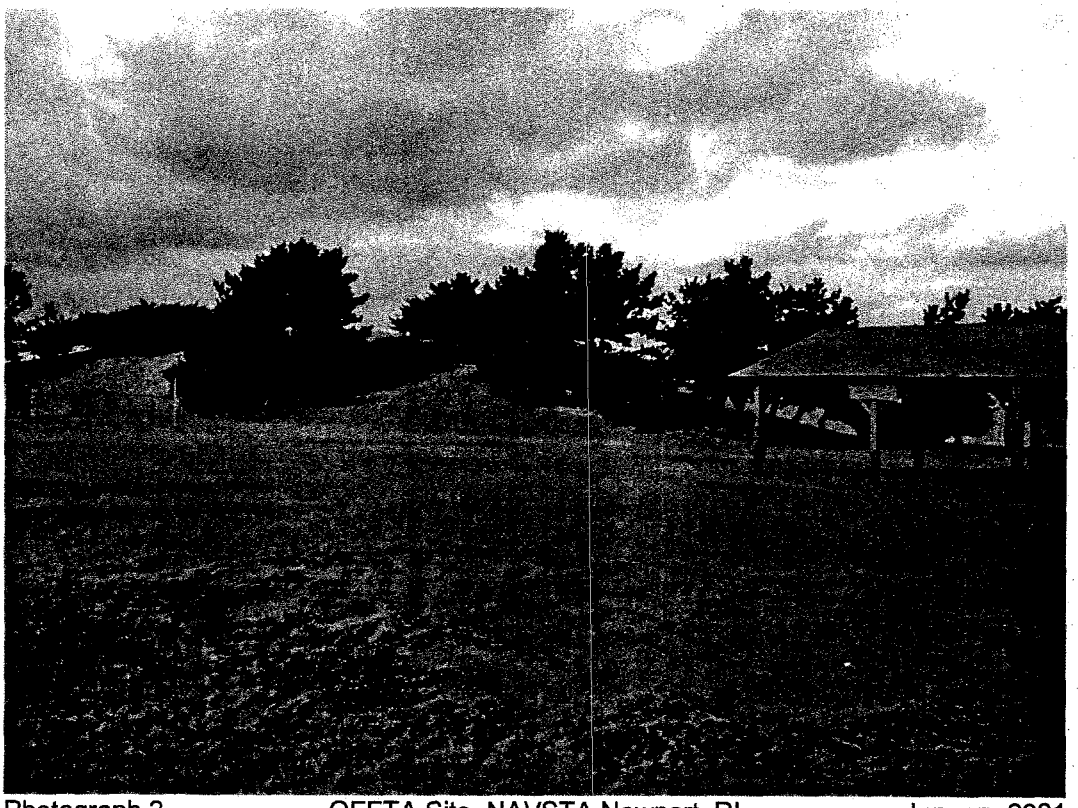
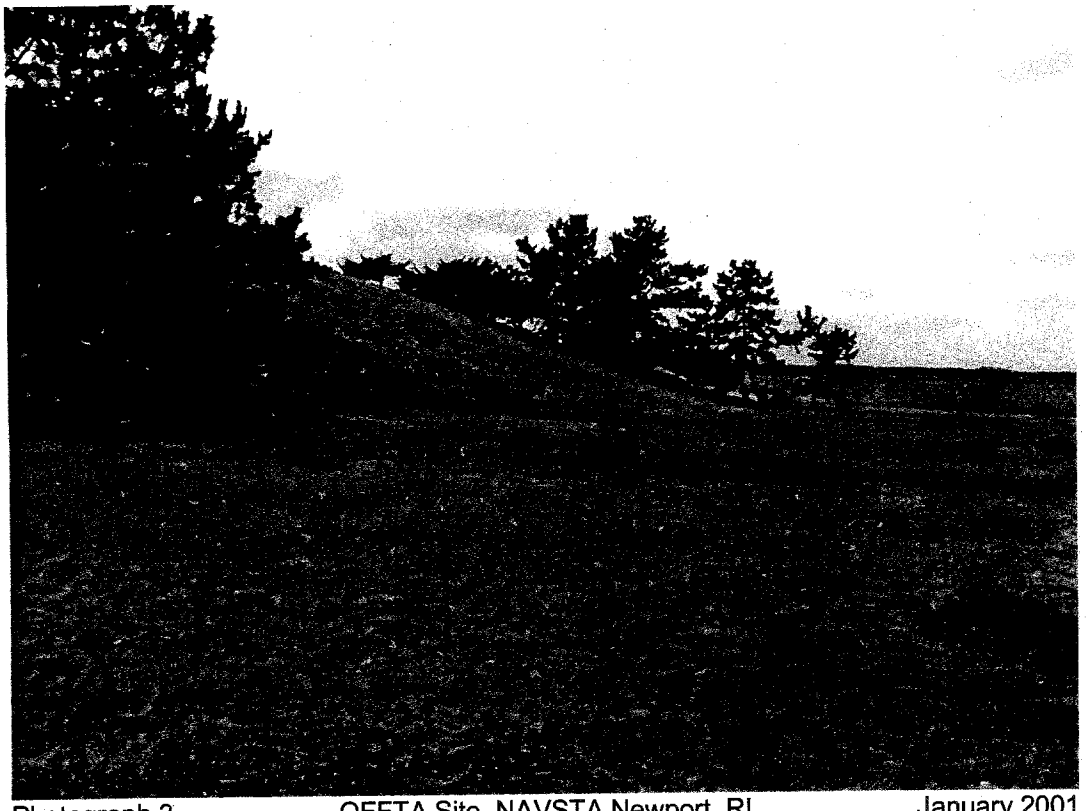
(978)658–7899

APPENDIX A
SITE PHOTOGRAPHS

Photograph 1 OFFTA Site, NAVSTA Newport, RI January 2001
Central Mound viewed from west (prior to construction of temporary parking lot)

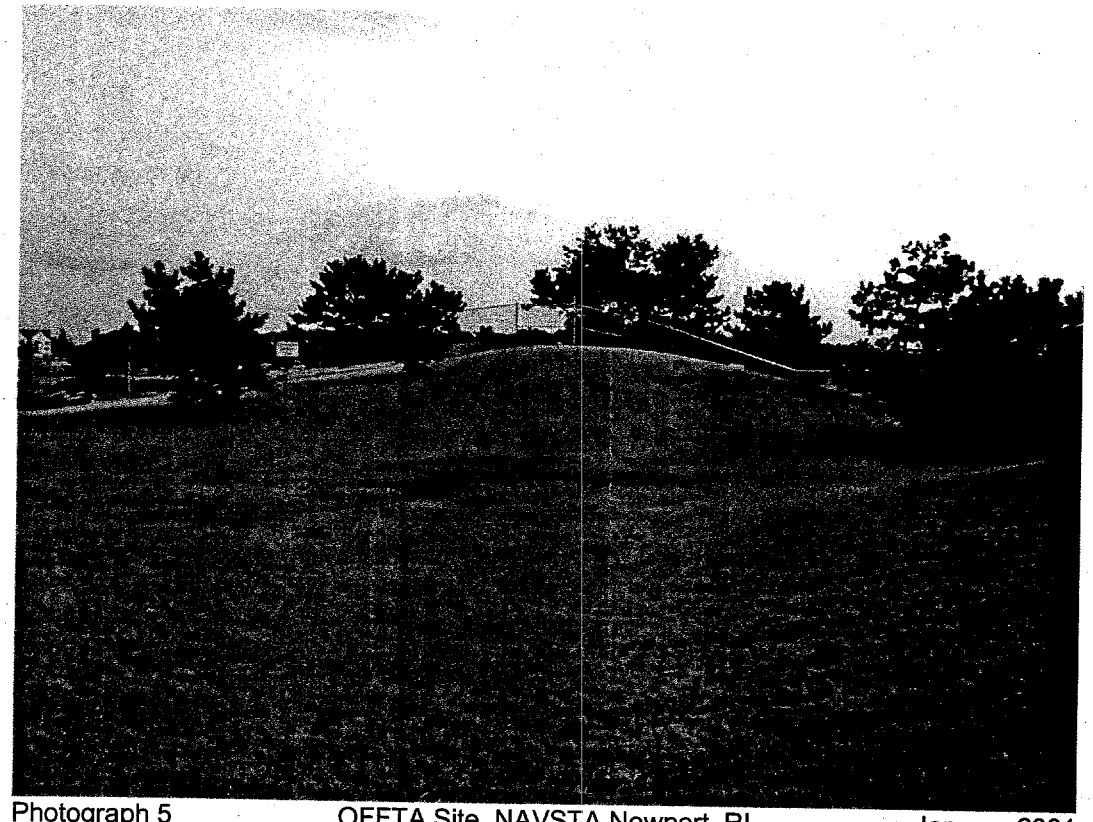


Photograph 2 OFFTA Site, NAVSTA Newport, RI January 2001
Central Mound viewed from southeast



Photograph 3 OFFTA Site, NAVSTA Newport, RI January 2001
Central Mound viewed from northeast

Photograph 4 OFFTA Site, NAVSTA Newport, RI January 2001
Mound No. 2 viewed from east (prior to construction of temporary parking lot)



Photograph 5 OFFTA Site, NAVSTA Newport, RI January 2001
Mound No. 2 viewed from west; Mound No. 1 is to the right of the frame

Photograph 6 OFFTA Site, NAVSTA Newport, RI January 2001
OFFTA shoreline viewed from east

APPENDIX B
FIELD LOGS

- RI Surface Sample Descriptions
- RI Test Pit Logs
- RI Soil Boring Logs
- PDI Soil Boring Logs

RI Surface Sample Descriptions

Surface Sample ID

SS-3

SS-5

SS-25

SS-26

SS-325

SS-326

SS-11 (No Description available)

B8

B9

B-10

B-11

B14

B15

SITE 09 – OLD FIREFIGHTING TRAINING AREA
SURFACE SOIL SAMPLE LOG

SAMPLE NUMBER	DATE	ANALYSES	SOIL DESCRIPTION
~~SS–01~~	~~4/11/90~~	~~TCL, TAL, DIOXIN (ARCHIVED)~~	~~SILT AND FINE SAND, MEDIUM DENSE, BROWN~~
~~SS–02~~	~~4/11/90~~	~~TCL, TAL, DIOXIN (ARCHIVED)~~	~~FINE SAND, SOME SILT, TRACE GRAVEL, DARK BROWN *(SAMPLE SPLIT WITH EPA)~~
SS–03	4/11/90	TCL, TAL, DIOXIN (ARCHIVED)	FINE SAND AND SILT, TRACE ORGANICS, BROWN
~~SS–04~~	~~4/11/90~~	~~TCL, TAL, DIOXIN (ARCHIVED)~~	~~FINE SAND, SOME SILT, BROWN~~
SS–05	4/11/90	TCL, TAL, DIOXIN (ARCHIVED)	FINE SAND, SOME SILT, BROWN
~~SS–06~~	~~4/11/90~~	~~TCL, TAL, DIOXIN (ARCHIVED)~~	~~0–6" LOOSE PEBBLES AND SHELLS; 6–12" COARSE SAND AND GRAVEL, SOME COBBLES, TRACE ASPHALT, BROWN~~

TABLE 2-3
NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLE DESCRIPTIONS

Sample I.D.	Date Sampled	Time Sampled	Soil Description
Surface Soil Samples			
~~FF-SS12~~	~~11/3/93~~	~~0850~~	~~Brown F-M SAND & ORGANICS, little gravel & rock fragments, dry, no odor, 0" to 9".~~
FF-SS13	11/3/93	0915	Brown F SAND & ORGANICS, some M sand, trace gravel & rock fragments, dry, no odor, 0" to 10".
FF-SS14	11/3/93	0930	Brown F SAND & ORGANICS, little silt, dry, no odor, 0" to 10".
FF-SS15	11/3/93	1005	Brown F SAND & ORGANICS, trace rock fragments, dry, no odor, 0" to 10".
FF-SS16	11/3/93	1035	Tan F SAND & ORGANICS, 0" to 3". Brown F SAND, little silt & organics, dry, no odor, 0" to 10".
FF-SS17	11/3/93	1100	Brown F SAND & ORGANICS, little silt & rock fragments, dry, no odor, 0" to 11".
FF-SS18	11/3/93	1120	Brown F SAND, some organics, little silt & rock fragments, 0" to 7".
FF-SS19	11/3/93	1200	Brown FILL, F sand & organics, little silt & gravel, dry, no odor, 0" to 12".
FF-SS20	11/3/93	1215	Brown FILL, F sand & rock fragments, little organics & silt, trace brick & asphalt, dry, no odor, 0" to 10".
FF-SS21	11/4/93	0805	Brown FILL, F-M sand & organics, some rock fragments, trace gravel & glass, dry, no odor, 0" to 9".
FF-SS22	11/4/93	0830	Brown FILL, F sand & organics, some rock fragments, trace M sand & silt, dry, no odor, 0" to 10".
FF-SS23	11/4/93	0850	Brown F SAND & ORGANICS, little silt, trace gravel & rock fragments, dry, no odor, 0" to 10".
~~FF-SS24~~	~~11/4/93~~	~~0905~~	~~Brown F SAND & ORGANICS, little silt & rock fragments, dry, no odor, 0" to 9".~~
FF-SS25	11/4/93	0925	Brown FILL, F sand & organics, some silt, little rock fragments, dry, no odor, 0" to 9".
FF-SS26	11/4/93	0950	Brown FILL, F sand & organics, trace M sand & gravel, dry, no odor, 0" to 9".
~~FF-SS27~~	~~11/4/93~~	~~1220~~	~~Brown F SAND & ORGANICS, trace gravel & rock fragments, dry, no odor, 0" to 12".~~
FF-SS28	11/4/93	1020	Brown F SAND & ORGANICS, trace rock fragments, dry, no odor, 0" to 8".
FF-SS29	11/4/93	1040	Brown F SAND & ORGANICS, some rock fragments, trace M sand, dry, no odor, 0" to 10".
FF-SS30	11/4/93	1125	Brown F SAND & ORGANICS, some silt, dry, no odor, 0" to 9".
~~FF-SS31~~	~~11/4/93~~	~~1200~~	~~Brown F SAND & ORGANICS, some rock fragments, trace gravel & M sand, dry, no odor, 0" to 10".~~

TABLE 2-3
NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLE DESCRIPTIONS

Sample I.D.	Date Sampled	Time Sampled	Soil Description
Soil Boring Surface Soil Samples			
FF-B81	11/22/93	0935	Brown FILL, F sand & organics, trace gravel & silt, 0" to 7". Grey FILL, F sand, brick, dry, no odor, 7 to 18"
FF-B91	11/23/93	0840	Brown FILL, F sand & organics, some rock fragments, dry, no odor, 0" to 12".
FF-B101	11/23/93	1420	Brown FILL, F sand & organics, some rock fragments, little asphalt & concrete, dry, no odor, 0" to 12".
FF-B111	11/24/93	0800	Brown FILL, F sand & organics, some rock fragments & gravel, dry, no odor, 0" to 12".
~~FF-B121~~	~~11/24/93~~	~~0812~~	~~Brown F SAND & SILT, some gravel, dry, no odor, 0" to 12".~~
~~FF-B131~~	~~11/23/93~~	~~1300~~	~~Brown FILL, F sand & brick fragments, dry, no odor, 0" to 12".~~
FF-B141	12/13/93	0910	Brown FILL, F sand & organics, trace rock fragments, dry, no odor, 0" to 12".
FF-B151	12/13/93	1315	Brown FILL, F sand & organics, some rock fragments, trace brick fragments, dry, no odor, 0" to 12".
~~FF-B161~~	~~11/23/93~~	~~0930~~	~~Brown F SAND & SILT, some organics, M sand, & gravel, dry, no odor, 0" to 11".~~
~~FF-B171~~	~~11/24/93~~	~~0717~~	~~Brown F SAND, some silt & M-C gravel, trace cobbles, dry, no odor, 0" to 12".~~
~~FF-B181~~	~~11/23/93~~	~~0810~~	~~Brown F SAND, trace silt, dry, no odor, 0" to 12".~~
~~Well Boring Surface Soil Samples~~			
FF-M61	~~11/30/93~~	0755	Brown TOPSOIL, 0" to 6". Brown F SAND, some silt, little gravel, trace asphalt, dry, no odor, ~~6" to 12".~~
FF-M71	11/29/93	~~1311~~	~~Brown F SAND, little cobbles, trace silt, 0" to 12".~~
FF-M81	11/30/93	1319	Brown TOPSOIL, ~~0" to 3". Brown F SAND, little cobbles~~, trace silt, dry, no odor, 3" to 12".
FF-M91	12/01/93	0715	~~Brown TOPSOIL, 0" to 6". Brown SILT & ROCK fragments~~, little F sand, dry, no odor, 6" to 12".
FF-M101	~~11/29/93~~	0825	Brown FILL, topsoil, 0" to 6". Brown FILL, F sand & silt, little brick ~~fragments, dry~~, no odor, 6" to 12".
~~FF-M111~~	11/29/93	1020	Brown FILL, F sand & plastic, 0" to 3". FILL, black charred wood, little asphalt & concrete, dry, no ~~odor, 3" to 12~~".

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: OFFTA Site 09
Sample ID: OFF-SS-325-0001

Tetra Tech, NUS Job No./PMS 5278-1020
QC Information: NA (if applicable)

Sample Method: Collected w/ sharp-shooter shovel (steel) + trowel
Depth Sampled: 0.5 feet bgs (voc) composite (0-9inches - metals + SVOC)
Sample Date & Time: 11/19/98 0855 hours Dup NA hours
Sampler(s): Conan, McKenna, Parker, Pillion, Jalkut (circle applicable)

Data Recorded By: K Jalkut
Signature

PID/~~OVA~~ FID Monitor Reading: No FID readings ppm

TYPE OF SAMPLE: (Check all that apply)

- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- X ~~Grab~~ Grab (voc)
- X Composite (metals/SVOC)
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, organic-rich silty soil, very gravelly. No visible stains.

SAMPLE DATA/REMARKS: Refusal @ 9 inches (~0.75 ft bgs). Attempted several spots - could not get below 9 inches. Composited 0 to 9 inches from sidewalls for metals + SVOCs.

ANALYSIS	BOTTLE LOT NO.
TCL VOCs	3 x 5g Encore sampler ✓
TCL SVOCs	1 x 16oz wm jar ✓
TAL Metals	
Dioxin →	NA
	LOTS:
	16oz jar = 62544010
	Encore = EN005005

NOTES/SKETCH:

* Did not split samples
* Edge of central mound - near playground
* No dioxin analysis

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: OFFTA Site 09
Sample ID: OFF-SS-326-0001

Tetra Tech, NUS Job No./PMS 5278-1020
QC Information: NA (if applicable)

Sample Method: Collected w/ shovel + trowel
Depth Sampled: 0.5 feet bgs (VOC) Composite 0-12 inches
Sample Date & Time: 11/19/98 1215 hours Dup NA hours
Sampler(s): Conan, McKenna, Parker, Pillion, Jalkut (circle applicable)

Data Recorded By: K Jalkut
Signature

PID/~~OVA~~ FID Monitor Reading: No FID readings ppm

TYPE OF SAMPLE: (Check all that apply)

- x Soil
- ___ Sediment
- ___ Lagoon/Pond
- x ~~Grab~~ Grab VOC
- x Composite (metals/SVOC)
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown silty sand; few to little gravel. At 1' bgs - soil was transitioning

SAMPLE DATA/REMARKS: Able to advance to 1' bgs. Composited from sidewalls 0-12 inches bgs. Collected VOC fraction from middle of sidewall - approx 6 inches bgs.

ANALYSIS	BOTTLE LOT NO.
TCL VOCs	3x5g Encore sampler ✓
TCL SVOCs	1x16oz wm jar ✓
TAL Metals	
Dioxin → NA	
	LOTS:
	16oz jar = 62540010
	Encore = ENCR0005

NOTES/SKETCH:

* No dioxin sample
* Did ~~not~~ split sample w/ Gannett-Fleming (G-F). G-F collected MS/MSD at this location
* Located W-N-W of TTNUS test pit 13

Tt NUS Form 0005A

RI Test Pit Logs

Test Pit ID

TP2

TP3

NETC - Newport
Site 09 - Old Fire Fighting Training Area
Test Pit Log FF-TP2
January 11, 1994

Rationale: To characterize the fill material in the western portion of the soil mound.

Date: January 11, 1994

Dimensions: 15' X 4' X 8.5' (L X W X D).

TRC Inspector: Tom McMorrow & John Coykendall

Excavation Subcontractor: Clean Harbors

Sample ID: FF-TP21 collected from oily soils encountered 7 to 8 feet below grade.
FF-TP22 collected from 4.5 feet below grade.
FF-TP23 collected from 2 feet below grade.

DEPTH (FT)	DESCRIPTION
0 - 3'	FILL, brown F-M SAND, some cobbles, little concrete and asphalt, trace wire.
3 - 6'	FILL, brown/grey F SAND and SILT, little rock fragments and cobbles, trace brick.
6 - 7'	FILL, brown C sand and brick, damp.
7 - 8'	Grey/black F-M SAND, some cobbles and rock fragments, black staining with a strong petroleum odor.
	Strong petroleum odor with PID readings of 1200 ppm were noted in soils from the 7 to 8 foot layer.

CONCLUSIONS

Construction debris encountered from surface to a depth of 7 feet. Strong Petroleum odor and staining encountered in soils at the ground water table (approx. 8 feet).

NETC - Newport
Site 09 - Old Fire Fighting Training Area
Test Pit Log FF-TP3
January 11, 1994

Rationale: To characterize the fill material in the northern portion of the soil mound in the central portion of the site.

Date: January 11, 1994

Dimensions: 15' X 4' X 8.5' (L X W X D).

TRC Inspector: Tom McMorrow & John Coykendall

Excavation Subcontractor: Clean Harbors

Sample ID: FF-TP31 collected from oily soils encountered at a depth of 7 to 8 feet.
FF-TP32 collected from approx. 7 feet below grade.
FF-TP33 collected from approx. 3 feet below grade.

DEPTH (FT)	DESCRIPTION
0 - 4'	FILL, brown F to M SAND and rock fragments, little brick, concrete, and wood, dry, no odor.
4 - 4.5'	FILL, asphalt layer.
4.5 - 7'	FILL, dark brown F-M SAND and rock fragments, brick and metal.
7 - 8'	Light brown sand with rusted metal pieces. Black staining and petroleum odor noted in soils at ground water table (approx 8 feet).

CONCLUSIONS

Construction debris encountered from surface to depth of 7 feet. Petroleum odor and stained soils noted in soils at ground water table.

RI Soil Boring Logs

Soil Boring/Monitoring Well ID

B-8

B-9

B-10

B-11

B-14

B-15

MW-3S

Test Boring: B-8
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 23 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156989.51
E 546998.41

Date Started: November 22, 1993
Date Completed: November 22, 1993
Approximate Depth to Water: 11 feet
Test Boring Elevation: 11.52 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	3 20	24 21	ND	ND	0-7" FILL, brown F sand & organics, trace gravel & silt. 7-18" FILL, grey F sand, some rock fragments, little gravel & brick fragments, trace asphalt, dry, no odor.	0.0
2-4	17 50/4"	50	ND	ND	0-8" FILL, brown/grey F sand, some silt & rock fragments, little gravel, trace glass. 8-10" FILL, brick. 10-12" FILL, brown F sand & silt, some gravel, dry, no odor.	
4-6	50/2.5"		NR	NR	FILL, grey shale fragments, dry. Recovery = 1".	
6-8	33 11	12 42	ND	6	FILL, brown/grey F sand & rock fragments, some silt & gravel. Piece of brick in tip, moist, no odor. Recovery = 12".	
8-10	22 42	28 45	ND	7	FILL, brown/grey F-M sand & rock fragments, some gravel, little silt, asphalt, & brick fragments, moist, no odor. Recovery = 16".	
10-12	39	50/5"	NR	NR	FILL, Brick & rock fragments.	11.0
12-14	22 50	33 50/4"	28	20	Grey M-F SAND, some gravel & rock fragments, trace shale fragments, strong petroleum odor & staining in bottom 4" of spoon, wet. Recovery = 12".	
14-16	20 50/5"	34	ND	6	Grey/black ROCK fragments, some M-F sand & gravel, little silt, wet, petroleum odor. Recovery = 6".	
16-18	50/3"		NR	NR	ROCK fragments, wet, slight odor. Recovery = 1".	
18-20	33	50/2"	1	8	Brown/grey F SAND & ROCK fragments, some silt, wet, slight odor. Recovery = 6".	
20-22	48	50/3"	1	2	Brown F SAND & SILT, some rock fragments & gravel, wet, slight odor. Recovery = 6".	
22-23	50/5"		ND	4	Grey ROCK fragments, some F sand & silt, wet, no odor. Recovery = 5". Auger refusal at 23'	23.0

Sample FF-B81-112293 collected from 0-1'.
Sample FF-B82-112293 collected from 8-10'.

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-9
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 13 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156908.45
E 546915.05

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: Unknown
Test Boring Elevation: 17.71 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	4 40	37 28	ND	ND	0-6" FILL, brown F sand & organics, little rock fragments. 6-12" FILL, brown F sand, some rock fragments. 12-14" FILL, rock fragments, some F sand, dry, no odor.	0.0
2-4	47	50/5"	NR	NR	No Recovery	
4-6	50/5"		NR	NR	No Recovery	
6-7	100/5"		NR	NR	No Recovery	
7-9	13 9	11 50/5"	ND	ND	0-2" FILL, rock fragments. 2-10" FILL, brown F sand & silt, some rock fragments & gravel. 10-12" FILL, asphalt chunks, dry, no odor.	
9-11	67 29	35 48	ND	ND	0-2" FILL, brown F-M sand, some rock fragments, trace brick. 2-6" FILL, asphalt fragments, little brown F-M sand. 6-12" FILL, concrete fragments, dry, no odor.	
11-12	100/3"		NR	NR	FILL, concrete fragments, dry, no odor. Recovery = 1"	
12-14	89	100/3"	ND	ND	FILL, concrete fragments, dry, no odor. Recovery = 4".	
					Auger refusal at 13'	13.0

Sample FF-B91-112393 collected from 0-1'.

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-10
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 7 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156888.50
E 546710.64

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: unknown
Test Boring Elevation: 13.66 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	4	16	ND	ND	0-8" FILL, brown F sand & organics, some rock fragments. 8-22" FILL, brown F sand, some gravel, little asphalt & concrete, dry, no odor.	0.0
	17	15				
2-4	21	17	ND	ND	FILL, brown F sand, some rock fragments & gravel, little concrete fragments, dry, no odor. Recovery = 14".	
	46	20				
4-6	3	4	NR	NR	No Recovery	
	5	8				
6-8	33	42	ND	ND	0-3" FILL, brown F sand, some rock fragments & gravel. 3-5" FILL, asphalt pieces, little brown F sand. 5-7" FILL, brick pieces, dry, no odor.	7.0
	50/1"					
					Auger refusal at 7 feet.	
					Sample FF-B101-112393 collected from 0-1'.	

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-11
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 27 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156854.90
E 546767.50

Date Started: November 24, 1993
Date Completed: November 24, 1993
Approximate Depth to Water: 6 Feet
Test Boring Elevation: 8.39 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	3 26	10 28	ND	ND	0-8" FILL, brown F sand & organics, little rock fragments & silt. 8-24" FILL, dk brown F sand, some rock fragments & gravel, dry, no odor.	0.0
2-4	16 40	23 28	ND	ND	0-8" FILL, brown F sand, some silt, trace rock fragments & brick. 8-22" FILL, brown F sand, some silt & rock fragments, little gravel, trace wood, dry, no odor.	
4-6	12 8	11 15	ND	ND	Brown F-M SAND, some gravel & rock fragments, moist, no odor. Recovery = 18". Tip of spoon appears wet.	4.0
6-8	13 4	27 13	1	ND	0-5" Brown F-M SAND, some gravel & rock fragments. 5-8" Grey/black F-M SAND, some shell fragments. 8-20" Brown F SAND, some silt, trace shells, wet, no odor.	
TILL? 8-10	4 21	8 19	1	ND	0-11" Brown F SAND, some rock fragments, little silt, trace shells. 11-17" Black/grey TILL, F sand & silt, little rock fragments & gravel, wet, no odor.	
10-12	5 13	11 15	ND	ND	Black/grey TILL, silt, some F sand & rock fragments, little gravel, wet, no odor. Recovery = 15".	
12-14	7 100/5"	15	ND	ND	0-10" Black/grey TILL, silt, some rock fragments & gravel, little F sand. 10-12" Brown/grey M-F SAND, some silt & rock fragments, wet, no odor.	
14-16	6 12	30 16	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 14".	
16-18	9 33	16 37	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 12".	
18-20	7 19	9 25	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 8".	
20-22	7 19	12 23	ND	ND	0-6" Black/grey TILL, silt, some rock fragments & gravel, trace F sand. 6-12" Highly weathered BEDROCK, wet, no odor.	21.0
22-24	12 12	13 25	ND	ND	Brown/grey weathered BEDROCK, wet, no odor. Recovery = 12".	
25-27	35 50/4"	40	ND	ND	Brown/grey weathered BEDROCK, wet, no odor. Recovery = 8".	27.0

Sample FF-B111-112493 collected from 0-1'.
Sample FF-B112-112493 collected from 4-6'.

Note: ND = Not Detected

Test Boring: B-14
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 28 Feet

Drilling Company: Soil Explorations
Drillers: G. Juinta & G. Caquette
TRC Inspector: J. Coykendall
Test Boring Coordinates:
N 156893.04
E 547371.18

Date Started: December 13, 1993
Date Completed: December 13, 1993
Approximate Depth to Water: 27 Feet
Test Boring Elevation: 30.71 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	5 10	5 30	ND	ND	0-12" FILL, brown F sand & organics, trace rock fragments. 12-16" FILL, dk brown F-M sand, little rock fragments, trace brick, dry, no odor.	0.0
5-7	7 16	9 30	ND	ND	FILL, brown F-M sand, some gravel & rock fragments, little concrete & asphalt, trace brick fragments, dry, no odor. Recovery = 18".	
7-9	27 27	30 34	ND	ND	FILL, brown/grey F-M sand, some rock fragments & cobbles, little concrete & gravel, trace asphalt & brick fragments, dry, no odor. Recovery = 22".	
9-11	61	120/4"	ND	ND	FILL, brown/grey F-M sand, some rock fragments & cobbles, little concrete & gravel, trace asphalt & brick fragments, dry, no odor. Recovery = 2".	
15-17	9 6	7 6	ND	ND	FILL, grey/black silt, little F sand & rock fragments, trace gravel, moist, no odor. Recovery = 18".	
17-19	9 25	13 10	ND	ND	0-8" FILL, grey/black silt, little F sand & rock fragments, trace gravel. 8-18" FILL, brown F sand, little cobbles, trace wood & brick, moist, no odor.	
20-22	120/4"		NR	NR	FILL, concrete fragments. Recovery = 1".	
						23.0
25-27	50/1"		NR	NR	No Recovery	
					Auger to 28 feet and hit auger refusal. Bedrock estimated to be approximately 23 feet below grade. Water in borehole at approximately 27 feet below grade.	28.0
					Sample FF-B141-121393 collected from 0-1'. Sample FF-B142-121393 collected from 15-17'.	

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-15
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 22.5 Feet

Drilling Company: Soil Explorations
Drillers: G. Juinta & G. Caquette
TRC Inspector: J. Coykendall
Test Boring Coordinates:
N 156895.02
E 547425.72

Date Started: December 13, 1993
Date Completed: December 13, 1993
Approximate Depth to Water: Unknown
Test Boring Elevation: 27.58 Feet (mlw)

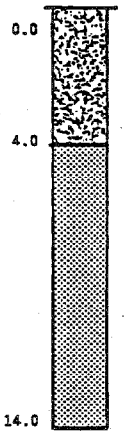
Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description	Lithology
0-2	14 14 7 6	ND	ND	0-4" FILL, brown F sand & organics, little rock fragments. 4-12" FILL, brown F-M sand, some rock fragments, trace brick fragments, dry, no odor.	0.0
2-4	11 9 9 11	ND	ND	FILL, brown F-M sand, some rock fragments & cobbles, little gravel, trace concrete, asphalt & brick, dry, no odor. Recovery = 18".	
4-6	11 9 100/3"	ND	ND	FILL, brown F-M sand & rock fragments, some cobbles & gravel, trace brick & concrete, dry, no odor. Recovery = 12".	
8-10	20 65 67 62	ND	ND	FILL, brown/grey M-F sand & gravel, some rock fragments & cobbles, little concrete & asphalt, trace brick & glass, dry, no odor. Recovery = 14".	
10-12	13 19 34 100/4"	ND	ND	FILL, grey F-M sand, some rock fragments & cobbles, little concrete & asphalt, trace brick, dry, slight petroleum odor. Recovery = 18".	
15-17	9 12 18 26	ND	ND	FILL, brown F sand & silt, some gravel & cobbles, little rock fragments & concrete, trace brick, moist, no odor. Recovery = 12".	
17-19	100/4"	NR	NR	No recovery - piece of wood & chunk of asphalt in tip of spoon	
20-21	25 100/1"	NR	NR	No Recovery	20.0
				Augered to refusal at 22.5 feet - did not reach water table. Bedrock estimated to be approximately 20 feet below grade.	22.5
				Sample FF-B151-121393 collected from 0-1'. Sample FF-B152-121393 collected from 10-12'. Sample FF-B153-121393 collected from 15-17'.	

Notes: NR = No Reading
ND = Not Detected

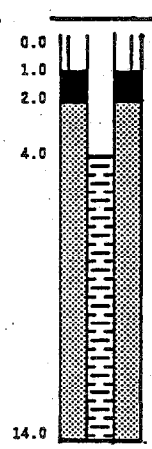
BORING NO.:	MW-3	CONTRACTOR:	CDS	DATE STARTED:	4/24/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/24/90
ECT:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	6 FT.
TION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10,418
SITE:	09-FIREFIGHTER	GROUND ELEVATION:	9.83		E 4,546
BORING DEPTH:	14 FT.	CASING ELEVATION:	9.61		

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)
0 - 2	3 10	13.8	FILL, FINE SAND, SOME SILT, BROWN (14")
	30 80		FILL, F-M SAND, LITTLE GRAVEL, ROCK FRAGMENTS, BROWN (8")
2 - 4	41 25	14.2	FILL, FINE SAND AND ROCK FRAGMENTS, LT. BROWN (8")
	17 13		FILL, FINE SAND AND SILT, TRACE BRICK FRAGMENTS, BROWN (12")
4 - 6	28 25	10	SILT AND FINE SAND, TRACE GRAVEL, BROWN. BLACK PETROL STAINING
	29 13		FROM 12" - 15", STRONG ODOR, MOIST (24")
6 - 8	9 11	144	FINE SAND AND SILT, SOME GRAVEL, BROWN/BLACK, VISIBLE CONTAMINATION,
	6 7		STRONG ODOR, WET (20")
8 - 10	2 2	59	F - M SAND AND GRAVEL, BLACK, STRONG ODOR, WET (8")
	6 4		
10 - 12	2 6	24	SILT AND FINE SAND, BROWN (4")
	19 30		FINE SAND, BROWN, SLIGHT ODOR (16")
12 - 14	12 13	18.2	FINE SAND, GRAY, SLIGHT PETROL ODOR (24")
	13 13		

LITHOLOGY



WELL CONSTRUCTION



END OF BORING - 14 FT.

STRONG PETROLEUM ODOR FROM 4-12 FT.
VISIBLE OILY STAINING FROM 4-8 FT.

SAMPLE FF-MW31-424 TAKEN FROM 6-8 FT.
SAMPLE FF-MW32-424 TAKEN FROM 12-14 FT.

PDI Soil Boring Logs

Soil Boring/Monitoring Well ID

SB400

SB403

SB405

SB406

SB407

SB410

SB411

SB412

SB413B

SB415

SB416

SB417

SB418

SB419

SB422

SB433

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-400
PROJECT NO.:	4152-0552	START DATE:	12/01/03
LOGGED BY:	J.DANIELI / J. LAMBERT	TRANSCRIBED BY: MES	COMPLETION: DATE: 12/01/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BIERHOLM		MON. WELL NO.: --
GRD. SURFACE ELEVATION:	7.3' (MLW)	ELEVATION FROM:	CHECKED BY: JL

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
	3	0.6 / 2.0'	1300 OFF-SB-400-0002	Fill	Medium Dense	Gray-Brown	0.0-0.4' = fine to coarse sand, some silt, trace gravel	SW	Dry	PID = 0.0
	5									
	6					Light Brown	0.4-1.6' = Silty fine to coarse SAND, some gravel (rounded)	SM		FID = 0.0
2	9									
	15	0.4' / 0.5'	No sample		Very Dense		Silty fine to coarse SAND, trace gravel		Dry Note: caught on a piece of riprap – will move over	PID = 0.0
	100/2"									
4										FID = 0.0
			No sample				Auger from 0-4' - no samples collected			
0										
			No sample							
2										
			No sample							
4										
	17	1.2' / 2.0'	No sample		Very Dense	Tan	0.0-0.3' = Fine sand 0.3-0.9' = Fine to coarse SAND, some silt, some gravel	SP SW	Moist Brick fragments, trace coal, slag fragments	PID = 6.8
	19									
	33						0.9-1.2' = Cobble	--		FID = 9.4
6	120/3"									
	50	1.1' / 1.5'	No sample				0.0-0.4' = Cobble 0.4-1.1' = Fine to coarse sand, some silt, some gravel bottom 0.5'	-- SW	Piece of plastic at 6' bgs Trace brick - no manmade materials after 7'	
	44									
	60/3"						very dense			
8										
	60/2"	0.0' / 2.0'	1340 OFF-SB-400-0810							
							No recovery			
10										

TYPE OF DRILLING RIG:	CME – Track mounted
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon driven by 300 lb. hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	FIRST ATTEMPT = 4' refusal, second attempt = 12' refusal, third attempt = 12' refusal

BORING NO.: SB-400

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-400
PROJECT NO.:	4152-0552			START DATE:	12/01/03
LOGGED BY:	J.DANIELI / J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/01/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BIERHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	7.3' (MLW)	ELEVATION FROM:		CHECKED BY:	JL

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
10										
	65/0"		No sample		Very Dense		No recovery - slough only (natural materials in slough)		Augers have been moving well, last 4' driller believes we are pushing a cobble	
12					↓					
			No sample							
0										
			No sample				Auger to 2' - no samples collected from 0-2'			
2										
	70/2"	0.2' / 0.2'	No sample		Very Dense		Silty fine to coarse sand, some gravel will keep 0-2' sample from first attempt	SM	Dry	
4					↓			↓		
6										
		1.0'	No sample				No sample collected - see attempt 2			
8										
	4 70/2"	0.5' / 1.0'	No sample		Very Dense	Light Brown	Silty fine to coarse sand, some gravel	SM	Wet - driller believes this is on a slab/block, boulder due to reverberations from spoon	
10					↓					
	70/1"						No recovery, material all slough, angular fragments, no manmade material		Spoon and auger refusal - borehole complete	
12				EOB (refusal)	↓					

TYPE OF DRILLING RIG:	Track mounted
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon driven by 300 lb. hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

BORING NO.: SB-400

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-403
PROJECT NO.:	4152-0552	START DATE:	11/24/03
LOGGED BY:	J. LAMBERT	COMPLETION: DATE:	11/25/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	9.4' (MLW)	CHECKED BY:	JL
TRANSCRIBED BY:	MES		
ELEVATION FROM:			

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = (FID, (PPM))
0							Auger to 2' bgs – no sample collected			
				Fill						
2										
	5	1.5 / 2	1600 (11/24/03) OFF-SB-403-0204		Medium Dense	Brown	0-0.6' = SILT, some fine sand, trace angular gravel	ML	Moist (Angular gravel)	PID = 188
	10					Dark brown	0.6-0.9 = similar to above, some black staining			
	8					Orange brown	0.9-1.5 = SILT, some fine sand, some gravel			FID = 0.0
4	10									
	6	1.2 / 2	No sample			Gray-orange	0-0.4' = SILT, some angular gravel	Fill	Wet (Mottled)	PID = 101
	10					Red-black	0.4-0.7' = Friable fill material – SLAG?			
	14					--	0.7-0.8 = GLASS layer			
6	16					Red-black	0.8-1.2' = SLAG (gravel - fine sand (?))			FID = 79.1
	6	0.8 / 2	1615 (11/24/03) OFF-SB-403-0608			Black	Fine to coarse SAND, some silt, some gravel, trace glass → oil - saturated soils, ceramic	SW	Wet Petroleum odor Sheen on water in split spoon	PID = 215
	7									
	8						Similar to above			FID = 540.0
8	9									
	4	0.6 / 2	No sample						Wet	PID = 34.3
	7									
	5									FID = 170.1
10	2									
	7	1.0 / 2	1630 (11/24/03) OFF-SB-403-1012			Dark Gray	Fine SAND, trace shell fragments	SP	Wet	
	8									
	4									
12	3									
	2	0.0 / 2	No sample		Very Loose	--	No recovery (slough)	--		PID = 35.6
	1									
	2									FID = 158
14	9									
	4	0.6 / 2	1645 (11/24/03) OFF-SB-403-1416		Medium Dense	Dark Gray	0-0.4' = Fine SAND, trace shell fragments	SP		PID = 14.0
	8									
	8						0.4-0.6' = Sandy (fine sand) SILT	ML		FID = 24.3
16	8									

TYPE OF DRILLING RIG:	CME 75
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon driven by 300 lb. hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-403

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-403
PROJECT NO.:	4152-0552			START DATE:	11/24/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/25/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	9.4' (MLW)	ELEVATION FROM:		CHECKED BY:	JL

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	8		No sample		Dense	Gray	Fine sandy SILT, some angular gravel, possible till	SM	Wet	PID = 1.8
	9									
	10									
18	9									FID = 0.0
	7		0735 (11/25/03) OFF-SB-403-1820				Fine sandy SILT, some gravel, trace coarse sand, possible till		Wet	PID = 0.0
	12									
	14									
20	14			EOB 20'						FID = 7.3

TYPE OF DRILLING RIG:	CME 75		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon driven by 300 lb. hammer dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:		BORING NO.: SB-403	PAGE: 2 OF 2

BORING LOG FOR: CTO 833 – OFFTA – SITE 09
PROJECT NO.: 4152-0552
LOGGED BY: J. LAMBERT
DRILLED BY (Company/Driller): AMERICAN DRILLING / RODNEY DEAN
GRD. SURFACE ELEVATION: 7.0' (MLW)

TRANSCRIBED BY: MES
ELEVATION FROM:

BORING NO.: SB-405
START DATE: 11/18/03
COMPLETION: DATE: 11/18/03
MON. WELL NO.: --
CHECKED BY: JL

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
0							Auger to 2' – no samples collected from 0-2'			
				Fill						
2										
	19	1.0' / 2'	1320 OFF-SB-405-0204		Medium Dense	Light Brown	Fine to coarse SAND and GRAVEL	SW	Dry Brick fragments at 4'	PID = 0.0
	15									FID = 0.0
4	15									
	17									
	20	0.1' / 2'	No sample		Dense		Spoon blocked by cobble			PID = 0.0
	21									FID = 0.0
6	20									
	10									
	3	1.0' / 2'	1340 MS/MSD OFF-SB-405-0608		Medium Dense	Brown	Fine to coarse SAND, some gravel mixed with brick fragments throughout	SW	Moist Piece of copper wire in sample	PID = 0.0
	10									FID = 0.0
8	6									
	5									
	6	0.5' / 2'	No sample				Gravelly SILT, angular brick fragments throughout	ML	Moist	PID = 0.0
	6									FID = 0.0
10	5									
	6									
	10	1.0' / 2'	1410 = OFF-SB-405-1012 1415 = OFF-SB-Dup02				0-0.4' = Similar to above 0.4-1.0' = Fine to coarse SAND and SILT, some gravel (very	SM	Saturated	PID = 0.0
	7						Dense-potential till)			FID = 0.0
12	5									
	11									
	19	0.9' / 1.5'	No sample		Very Dense		0-0.5' = Gravelly fine to coarse SAND, gravel = angular → subangular	SW		PID = 0.0
	24					Red-Brown	0.5-0.9' = Similar to above but more consolidated - saprolite or till			FID = 0.0
14	120/4"									
							Silty gravelly SAND (fine to coarse sand), angular gravel - (till)		Auger refusal at 16' very hard at 15', will try a split spoon	PID = 0.0
	17	1.0' / 1.5'	1430 OFF-SB-405-1416							FID = 0.0
	53									
	120/5"									
16										

TYPE OF DRILLING RIG: CME – Track mounted
METHOD OF ADVANCING BORING: Hollow stem augers
METHOD OF SOIL SAMPLING: 3" Split spoons driven with 300 lb. hammer dropped 18"
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS: ~ 10' bgs
OTHER OBSERVATIONS:

BORING NO.: SB-405

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-405
PROJECT NO.:	4152-0552			START DATE:	11/18/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/18/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	7.0' (MLW)	ELEVATION FROM:		CHECKED BY:	JL

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16'										
	120/4"	0.0 / 2.0	No sample		Very Dense		Split spoon refusal; steady grind on augers (auger refusal) – believed to be at or close to bedrock			
18				18'						
				EOB						

TYPE OF DRILLING RIG:	CME – 75		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" Split spoons driven with 300 lb. hammer dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	~ 10' bgs		
OTHER OBSERVATIONS:		BORING NO.: SB-405	PAGE: 2 OF 2

BORING LOG FOR: CTO 833 – OFFTA – SITE 09
PROJECT NO.: 4152-0552
LOGGED BY: J.DANIELI
DRILLED BY (Company/Driller): AMERICAN DRILLING / CARL BEIRHOLM
GRD. SURFACE ELEVATION: 11.4' (MLW)

TRANSCRIBED BY: MES
ELEVATION FROM:

BORING NO.: SB-406
START DATE: 12/03/03
COMPLETION: DATE: 12/03/03
MON. WELL NO.: --
CHECKED BY: DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0	4	0.8 / 2.0'	1455 OFF-SB-406-0002	Fill	Dense Loose	Brown	Fine silty SAND with roots, topsoil 1.0-0.2' 0.2-0.6' = fine to coarse SAND, trace silt	SM	Dry	FID = 20.6
	5						0.6-0.8' = piece of boulder, some rounded gravels			PID = 0.0
2	5				Loose Dense (Compact)	White Olive Gray	0.0-0.2' = pieces of cobble, concrete? 0.2-1.2' = SILT with trace sand and sub-angular gravel, pieces of Brick and asphalt	ML	Dry	FID = 0.0
	6									PID = 0.9
	13	1.0 / 1.2'	No sample							
	25									
4	60/2"								Dry	FID = 0.0
	20	1.1 / 2.0'	No sample							PID = 1.8
	12									
6	12								Dry	FID = 0.0
	8				Loose	Dark Gray	Silty SAND with some gravel, pieces of cobble / concrete?	SM		PID = 3.8
	60/4"	0.3 / 0.3'	1530 OFF-SB-406-0608							
8									Dry Wet ~ 9' bgs	FID = 1.3
	20	1.0 / 2.0'	No sample		Loose	Dark Gray	Piece of concrete (0.3-0.5')			PID = 3.7
	12					Dark Brown	Piece of brick (0.9-1.0')			
10	17						Gravelly SILT, trace sand	ML	Wet Soupy	FID = 5.2
	13									PID = 2.7
	6	0.7 / 2.0'	1550 (& grain size) OFF-SB-406-1012							
12	7									
	7				Dense	Dark Brown	0.0-0.8' = fine to medium SAND, well sorted	SP	Wet	FID = 0.0
	9	1.0 / 2.0'	No sample							PID = 1.6
	7						0.8-1.0' = SILT with sand	ML		
	8									
14	6				Dense	Dark Gray	SILT, trace rounded gravels and sand	ML	Wet	FID = 0.8
	12	1.4 / 2.0'	1610 (Dup 1615) OFF-SB-406-1416							PID = 3.5
	6									
16	8									
	7									
	5									

TYPE OF DRILLING RIG: Track mounted – CME
METHOD OF ADVANCING BORING: Hollow stem auger
METHOD OF SOIL SAMPLING: 3" split spoon – 2' long - 300 lb. hammer – 18" drop
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS: ~ 9' bgs
OTHER OBSERVATIONS:

BORING NO.: SB-406

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-406
PROJECT NO.:	4152-0552			START DATE:	12/03/03
LOGGED BY:	J.DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/03/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	11.4' (MLW)	ELEVATION FROM:		CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	9					Dark	0.0-0.7' = silty GRAVEL with sand, till		Wet	
	22	1.3 / 2.0'	No sample		Dense	Gray		GM		FID = 0.0
	56						0.7-1.3' = silty GRAVEL, trace sand, till		Soupy	
18	51				Dense	Brown		GM		PID = 3.7
	21						Silty sandy GRAVEL, till		Wet	
	20	0.9 / 1.0'	1625		Dense	Brown		GM		FID = 0.0
	60/1"		OFF-SB-406-1820				19.5' auger refusal			
20							Pieces of rock (phyllite) in nose?			PID = 2.6
		No Recovery / No' Penetration	No sample				EOB @ 19.5' bgs			
	60/0"									
22										
24										

TYPE OF DRILLING RIG:	Track mounted – CME		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon – 2' long - 300 lb. hammer – 18" drop		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	~ 9' bgs		
OTHER OBSERVATIONS:		BORING NO.: SB-406	PAGE: 2 OF 2

BORING LOG FOR: CTO 833 – OFFTA – SITE 09
PROJECT NO.: 4152-0552
LOGGED BY: J. DANIELI
DRILLED BY (Company/Driller): AMERICAN DRILLING / CARL BEIRHOLM
GRD. SURFACE ELEVATION: 12.9' (MLW)

TRANSCRIBED BY: MES
ELEVATION FROM:

BORING NO.: SB-407
START DATE: 12/01/03
COMPLETION: DATE: 12/01/03
MON. WELL NO.: --
CHECKED BY: DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0	29	1.6' / 2.0'	1020 Dup 1030 OFF-SB-407-0002	Fill	Topsoil Dense	Brown	Topsoil with roots 0-6'		Dry	FID = 0.0
	42						SAND and GRAVEL with pieces of brick, fill	SW/ GW		PID = 0.0
2					Loose				Dry	FID = 0.0
	6	1.3' / 2.0'	1040 MS/MSD OFF-SB-407-0204							PID = 0.0
	10					Dark Brown	Sandy and gravelly SILT	ML		
4	10				Dense		Large pieces of concrete 0.5' long, pieces of brick and asphalt		Dry	FID = 0.0
	12									PID = 0.0
	16	1.5' / 2.0'	No sample							
	17									
6	13					Light Brown	Pieces of cobble at nose of spoon Sandy SILT – trace gravel	ML	Dry	FID = 0.0
	16									PID = 0.0
	5	0.6' / 2.0'	No sample	Natural Materials						
	6									
8	9									
	13				Loose	White/ Pink	Broken up cobble – 0.5' long		Dry	FID = 0.0
	10	1.0' / 2.0'	1103 OFF-SB-407-0810							PID = 0.0
	16					Dark Brown	Silty SAND and GRAVEL	SW/ GM		
10	16									
	19				Loose	Brown	Fine to medium SAND, trace silt and gravel	SM	Wet	FID = 0.0
	5	0.9' / 2.0'	No sample							PID = 0.0
	5					Dark Brown	Sandy silt with layers of brown peat and roots	ML		
12	11				Dense					
	17					Olive Gray	Silty SAND with gravel, soupy, saturated with oil	SM	Wet Sheen noted	FID = 29.2
	20	0.9' / 2.0'	1120 OFF-SB-407-1214		Loose					PID = 19.1
	11									
14	17					Olive Gray	Soupy, saturated with oil, SILT with sand and gravel	ML	Wet Sheen noted	FID = 1.1
	9				Dense					
	13	2.0' / 2.0'	No sample							PID = 0.1
	11					Brown	0.5' – fine silty SAND	SM		
16	7									
	8									

TYPE OF DRILLING RIG: Track mounted CME
METHOD OF ADVANCING BORING: Hollow stem auger
METHOD OF SOIL SAMPLING: 3" split spoon – 2' length, 18" drop with 300 lb. hammer
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS: ~ 10' bgs (from top of mound)
OTHER OBSERVATIONS:

BORING NO.: SB-407

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-407
PROJECT NO.:	4152-0552			START DATE:	12/01/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/01/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	12.9' (MLW)	ELEVATION FROM:		CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	38	1.0' / 2.0'	1140 (grain size Collected) OFF-SB-407-1618		Loose	Dark Gray	Soupy, broken rock, weathered, phyllite?		Wet - sheen saturated with oil, weathered rock	PID = 4.1
	23									
18	33				Dense	Olive Gray	0.5' long - mixture, SILT with sand and gravel - till?	ML		FID = 4.7
	20									
	4	0.9' / 2.0'	No sample		Dense	Olive Gray	SILT with sand and gravel - till?	ML	Orange staining Wet	PID = 3.8
	5									
20	5					Gray	Pieces of weathered rx - orange staining			FID = 6.9
	6									
	11	1.4' / 2.0'	1215 Dup			Gray	Piece of wire-copper SILT with gravel and trace sand		Wet	PID = 2.1
	5									
22	5		1220 OFF-SB-407-2022				Orange staining - rx- phyllite?			FID = 4.8
	9									
	47	0.7' / 1.5'	No sample						Wet	PID = 0.0
	120/2"									
24							Soupy			FID = 0.0
		0.2' / 1.0'	No sample Weathered rx Low recovery			Gray	Weathered broken rx – phyllite?	Broken rock	Wet	PID = 0.0
	120/2"									
26							EOB @ 24' 2"			FID = 0.6

TYPE OF DRILLING RIG:	Track mounted rig – CME		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon – 2' length, 18" drop with 300 lb. hammer		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	~ 10' bgs (from top of mound)		
OTHER OBSERVATIONS:		BORING NO.: SB-407	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-410
PROJECT NO.:	4152-0552	START DATE:	11/20/03
LOGGED BY:	J. LAMBERT	COMPLETION: DATE:	11/21/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	9.4'	CHECKED BY:	DH
TRANSCRIBED BY:	MES		
ELEVATION FROM:	NGVD 1929 (MLW)		

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
				Fill			Hollow stem auger to 2' - no sample collected		Dry	
2										
	10									
	20	1.0 / 2	1540 (11/20/03) OFF-SB-410-0204		Dense	Light Brown	Fine to coarse SAND, trace gravel (angular - rounded)	SW	Dry	PID = 0.0
4	11						0.0-0.2' = Stained material, similar to above 0.2-0.4' = Dry friable manmade material - no reaction to acid			FID = 1.5
	14									
	7				Medium Dense	Red Tan		Fill	Petroleum odor Moist	PID = 127
	8	0.8 / 2	No sample							
6	10			Oil - Impacted Soil		Black	0.4-0.8' = Stained, gravelly SILT, some sand	ML		FID = 122.5
	5									
	8						Similar to above - very strong petroleum odor, free product		Wet	PID = 52.0
	2	1.2 / 4	1600 (11/20/03) OFF-SB-410-0608		Loose					
8	3									FID = 1438
	3									
	2						Slough material to above, sheen on water in spoon		Wet	PID = 88.7
	2	0 / 4.2	No sample			Black				
10	2									FID = 107.6
	2									
	3		MS/MSD		Medium Dense		0.0-0.4' = same as above 0.4-1.0' = fine to coarse SAND, trace gravel (angular - subangular)	SW	Wet	PID = 60.0
	6	1.1 / 4.2	1615 (11/20/03) OFF-SB-410-1012							
12	8						1.0-1.1' = coarse SAND	SP		FID = 61.6
	10									
	9					Dark Gray	Fine to coarse SAND and SILT, trace fine gravel	SM	Very slight odor	PID = 5.3
	13	1.7 / 4.2	No sample							
14	13									FID = 0.0
	18									
	5								Petroleum odor slight sheen on wash water	
	10	1.1 / 2.0	0725 (11/21/03) OFF-SB-410-1416							
16	11						Fine silty SAND, trace coarse sand, trace fine gravel (rounded)			
	12									

TYPE OF DRILLING RIG:	CME – 75
METHOD OF ADVANCING BORING:	Hollow stem auger 4.25"
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb. hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

BORING NO.: SB-410

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-410
PROJECT NO.:	4152-0552			START DATE:	11/20/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/21/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	9.4'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	5	1.2 / 2	No sample		Medium Dense	Dark Gray	Silty fine SAND, trace coarse sand, trace fine gravel (rounded)	SM	Wet	PID = 4.5
	5									
	8									
18	8									FID = 4.0
	5	1.2 / 2	0750 OFF-SB-410-1820				Similar to above			PID = 0.0
	12									
	17									
20	31			20'						FID = 3.2
				EOB						

TYPE OF DRILLING RIG:	CME 75
METHOD OF ADVANCING BORING:	Hollow stem auger 4.25" ID
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-411
PROJECT NO.:	4152-0552	START DATE:	11/24/03
LOGGED BY:	J. DANIELI	COMPLETION: DATE:	11/25/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	31.0'	CHECKED BY:	DH
TRANSCRIBED BY:	MES		
ELEVATION FROM:	NGVD 1929 (MLW)		

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
			No sample							
			No split spoon auger to 2' bgs							
2										
	7	1.4 / 2.0'	1440 OFF-SB-411-0204	Fill		Brown	0-0.6' = Topsoil with grass and roots 0.6-2.0' = SAND and GRAVEL	GW/ SW	2-4' used 140 lb Hammer Dry	FID = 0.0
	9						- Fill -			
4	8					Brown				
	12									
	10	1.5 / 2.0'	No sample			Dark Brown	SAND and GRAVEL – some silt Pieces of asphalt	GW/ SW	Dry	FID = 0.0
	16						- Fill -			
6	19									
	35									
	18	0.5 / 1.0'	1520 OFF-SB-411-0608		Dense	Gray	Silty sand with gravel Pieces of brick	SM	Moist	FID = 72.8
	130/5"						- Fill -			
8										
	8	0.4 / 2.0'	No sample						Moist	FID = 94.1
	12						Large piece of gravel 0.2'- diameter at base of split spoon			
10	22									
	45									
	30	1.1 / 2.0'	1535 OFF-SB-411-1012		Dense	Gray	SAND and GRAVEL with silt	GW/ SW	Moist	FID = 0.0
	15						0.2- Piece of gravel - boulder? Concrete? 11.5-11.7 – Fill			
12	10									
	9									
	13	1.4 / 2.0'	No sample		Dense	Gray/ Black	Silty SAND and GRAVEL – pieces of brick, pieces of asphalt	GW/ SW		FID = 574
	11						13.9-14.1 – Piece of asphalt, fill			
14	11									
	14									
	12	1.3 / 2.0'	1600 OFF-SB-411-1416		Dense	Gray/ Black	Sandy SILT with pieces of asphalt, piece of green plate, rock phyllite? Compact, fill	ML	Moist	FID = 201
	11									
16	10									FID = 0.0
	100									

TYPE OF DRILLING RIG:	Track mounted CME
METHOD OF ADVANCING BORING:	Hollow stem auger – 140 lb hammer
METHOD OF SOIL SAMPLING:	3" split spoon S.S. – 2' long
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	Not clear
OTHER OBSERVATIONS:	Uuse140 lb. hammer w/ 30" stroke – missing pin for 300 lb hammer, BZ = 0.0 ppm, in hole at ~ 16' stem from hole Reading 1500 ppm - down to 0.0 ppm

Tetra Tech NUS, Inc.

BORING NO.: SB-411

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-411
PROJECT NO.:	4152-0552			START DATE:	11/24/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/25/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	31.0'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16'										
	130 FOR 6"	0.2 / 0.5'	NO SAMPLE		Dense	Gray	Sandy SILT, piece of boulder at base of split spoon	ML	Moist	FID = 489 PPM
18							Fill			
	130 FOR 4"	NO RECOVERY / 0.33'	NO SAMPLE				No recovery (18-20')			--
20										
	39 42	1.1 / 1.8'	1650 OFF-SB-411-2022	Fill		Gray	Sandy SILT with asphalt fill	ML	Moist Dry	FID = 0.0 PPM
22	39 130 /4"			Natural Materials		Brown	21.5 – SAND and GRAVEL (rounded)	GW/ SP		
	130/5"	0.4 / 0.4'	0735 OFF-SB-411-2224		Loose		Fine to medium SAND with gravel, pieces of boulder/cobble (rounded edges)	SP	Dry	FID = 0.0 PPM
24	27					Olive Gray				
	130/4"	0.3 / 0.3'	NO SAMPLE		Loose			SP	Dry	FID = 0.0 PPM
26	120/2"									
		0.1 / 0.16'	0830 OFF-SB-411-2628		Dense/ Compact	Dark Gray	Silty SAND with gravel (rounded)	SM		
28	130/2"				Loose	Light Gray	Fine to medium SAND with gravel - rx? Concrete? Pulverized rx?			
		0.1 / 0.16'	NO SAMPLE			Light Gray	Wet mixture of powder with pieces of rock		Auger refusal @ 27.5' – send split spoon down	
							EOB @ 27'8" / top of rx ~ 27'6"?			
									Only drives down and then 2" and 0.1' recovered	

TYPE OF DRILLING RIG:	TRACK MOUNTED – CME		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	HOLLOW STEM AUGER – 140 LB. HAMMER		
METHOD OF SOIL SAMPLING:	3" SPLIT SPOON, 2' LONG		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NOT CLEAR		
OTHER OBSERVATIONS:	USE 140 LB. HAMMER W/ 30" STROKE – MISSING PIN FOR 300 LB. HAMMER	BORING NO.: SB-411	PAGE: 2 OF 2

BORING LOG FOR: CTO 833 – OFFTA – SITE 09
PROJECT NO.: 4152-0552
LOGGED BY: J. DANIELI
DRILLED BY (Company/Driller): AMERICAN DRILLING / CARL BEIRHOLM
GRD. SURFACE ELEVATION: 24.5'

TRANSCRIBED BY: MES
ELEVATION FROM: NGVD 1929 (MLW)

BORING NO.: SB-412
START DATE: 11/25/03
COMPLETION: DATE: 11/25/03
MON. WELL NO.: --
CHECKED BY: DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
			No sample No split spoon Auger to 2' bgs							
2										
	10	0.55 / 2.0	1050 OFF-SB-412-0204 1055 Dup	Topsoil	Dense	Brown	Silty SAND with roots Topsoil	SM	Moist	FID = 25 PID = 123
	56									
4	65									
	90									
	12	1.5 / 2.0	No sample	Fill	Loose	Dark Brown	Fill, SAND and GRAVEL with boulder piece (0.5' in length) Pieces of red brick	SW/ GW	Dry	FID = 7.2 PID = 0.0
	31									
6	36					Red Brick				
	48									
	31	1.5 / 1.5	1120 OFF-SB-412-0608							FID = 33 PID = 51.6
	130/5.5"						Smaller pieces of boulder	SW/ GW		
8										
	13	1.3 / 2.0	No sample		Loose	Olive Gray	SAND with gravel - fill - pieces of brick	SW	Dry	FID = 8.3 PID = 0.0
	13									
10	16				Dense	Light gray Dark gray	Boulder (0.2' long) SILT with sand, shell, asphalt and brick	ML		
	6									
	5	1.2 / 2.0	1145 OFF-SB-412-1012				Silty SAND and gravel, fill	SW/ GW	Moist	FID = 8.8 PID = 19.7
	7									
12	7						Pieces of asphalt and brick, orange staining			
	8									
	4	1.2 / 2.0	No sample	Fill			Sandy SILT with gravel, pieces of boulders, brick, asphalt and wood chips	ML	Moist	FID = 103.3 PID =38.9
	7									
14	12									
	37									
	30	0.2 / 0.25	1230 OFF-SB-412-1416	Natural Material	Loose	Olive Gray	Fine to medium SAND with gravel, trace silt, pieces of boulder - dark gray platey rock	SP	Dry	FID = 137.0 PID = 50.3
	130/3"									
16										

TYPE OF DRILLING RIG: Track rig CME
METHOD OF ADVANCING BORING: Hollow stem auger
METHOD OF SOIL SAMPLING: 3" split spoon – 2' in length – 300 lb. hammer – 18" drop
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS: Not clear
OTHER OBSERVATIONS:

BORING NO.: SB-412

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-412
PROJECT NO.:	4152-0552			START DATE:	11/25/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/25/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	24.5'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD =* [FID, (PPM)]
16										
	33						Pieces of boulder - rounded		Dry	PID = 63
	133/3"	0.2 / 0.5	No sample		Loose	Gray	Traces of fine SAND	SW		FID = 132.6
18										
	130/4"	No Recovery / 0.30	No sample				No recovery			
20										
	130/3"	No Recovery / 0.25	No sample				No recovery			
22										
							Auger refused at 20' bgs, stop augering - can't go any further - may come back with drive and wash			
							EOB @ 20.25' BGS			

TYPE OF DRILLING RIG:	Track mounted rig – CME		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon, 2' long, 300 lb hammer, 18" drop		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	Not clear		
OTHER OBSERVATIONS:		BORING NO.: SB-412	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-413B
PROJECT NO.:	4152-0552			START DATE:	12/04/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/04/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	10.6'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD = [FID, (PPM)]*
			No sample				Auger to 4' bgs, no sample			
2										
										FID = 7.1
4										PID = 0.0
	70/1"	0.1 / 0.1'	No sample						Moist	
6					Dense	Brown	In nose - SILT with sand (0-0.1')	ML		
	70/0"	No Recovery	No sample				Auger refusal 5.5' bgs No recovery - pieces of broken rock			
8		No Penetration					Switch over to drive and wash, will roller bit in 3' the take spoon			
8.5	65/1"	0.1 / 0.1'	No sample				Roller bit down 3' for total depth of 8.5' bgs Send spoon down → roller bit steady pieces of rx in wash water			
9.5										
						Gray	Pulverized rx			
							EOB @ 8.5' BGS			

TYPE OF DRILLING RIG:	Track mounted CME		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger and drive and wash		
METHOD OF SOIL SAMPLING:	3" split spoon –300 lb. hammer with 18" drop		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	Not evident		
OTHER OBSERVATIONS:		BORING NO.: SB-413B	PAGE: 1 OF 1

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-415
PROJECT NO.:	4152-0552			START DATE:	11/18/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/19/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	13.3'	ELEVATION FROM:	NGVD 1929	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD =* [FID, (PPM)]
0										
	2	1.5 / 2.0'	1530 (11/18)	Fill	Medium	Dark	0-0.7' organic sandy SILT (fine sand)		Asphalt, brick, concrete fragments in sample	
	5		OFF-SB-415-0002		Dense	Brown		OL		PID = 0.0
	7		1535 (11/18)				0.7-1.5 – silty fine to coarse SAND			
2	14		OFF-SB-415-DUP03					SM		FID = 0.0
	4	0 / 2.0'	No sample				No recovery - will retrieve sample from 2ND borehole			
	6									
	8									
4	15									
	11	1.4 / 2.0'	No sample			Black	0-0.2' – Asphalt (prob. Reason for poor recovery)	--	Moist	
	13				Dense	Brown	0.2-0.6' – Fine to coarse SAND and GRAVEL	SW		PID = 0.0
	22					Red	0.6-0.8' – Brick	--		
6	20					Brown	0.8-1.4' – Fine to coarse SAND and GRAVEL	SW		FID = 0.0
	14	1.2 / 2.0'	1550 (11/18)				Silty fine to coarse SAND, some angular gravel, some orange molting from oxidation		Moist	
	15		OFF-SB-415-0608		Medium			SM		PID = 0.0
	10				Dense					
8	15									FID = 0.0
	19	0.2 / 2.0'	No sample				Minimal recovery - slough			
	13									
	8									
10	11									
	8	0.8 / 2.0'	1600 (11/18)		Very		Cobble at 10' (likely reason for 8-10' poor recovery) fine to coarse SAND and GRAVEL		Wet	
	20		OFF-SB-415-1012		Dense					PID = 0.0
	120/4"		Grain size							
12								SW		FID = 0.0
				EOB			EOB @ 12' bgs – both auger and split spoon refusal, no indications of fill or contamination			
2										
	10	1.0 / 2.0'	0825 (11/19)			Light	0-0.5' concrete fragments		Concrete layer not sampled (only sampled soil)	
	26		OFF-SB-415-0204 *		Very	Gray		--		
	36				Dense	Dark	0.5-1.0' – fine to coarse SAND, some gravel, trace silt			
4	20					Brown		SW		

TYPE OF DRILLING RIG:	CME 75		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	Hollow stem aguer		
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb hammer dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:	* Second boring advanced for 2-4' recovery and sample only	BORING NO.: SB-415	PAGE: 1 OF 1

BORING LOG FOR: CTO 833 – OFFTA – SITE 09
PROJECT NO.: 4152-0552
LOGGED BY: J. LAMBERT
DRILLED BY (Company/Driller): AMERICAN DRILLING / RODNEY DEAN
GRD. SURFACE ELEVATION: 11.5'

TRANSCRIBED BY: MES
ELEVATION FROM: NGVD 1929 (MLW)

BORING NO.: SB-416
START DATE: 11/19/03
COMPLETION: DATE: 11/19/03
MON. WELL NO.: --
CHECKED BY: DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
	5	1.8 / 2.0'	MS/MSD 0850 OFF-SB-416-0002	Fill	Medium Dense	Dark Brown	0.0-0.4' = Grass and roots 0.4-1.8' = silty fine to coarse sand, some coarse rounded gravel	SM	PID/FID = 0.0 on sample Damp	PID = 0.6
	10									
	15									FID = 0.0
2	15									
	6	1.1 / 2.0'	No sample		Very Dense	Brown Red	0-0.2 = silty fine to coarse sand, some gravel 0.2-0.6 = brick fragments	--	Damp	PID = 0.9
	9									
	70					White Brown	0.6-0.8 = concrete 0.8-1.1 = silty fine sand, trace gravel	--		FID = 0.0
4	34									
	7	0.8 / 2.0'	0910 OFF-SB-416-0406		Medium Dense	Light Brown	Fine to coarse sand, some gravel (angular to subrounded)	SW	Damp Small pieces of slag and concrete	PID = 0.0
	11									
	8									FID = 0.0
6	6									
	6	1.2 / 2.0'	No sample				0.0-0.7 = sandy silt (fine to medium sand)	ML	0.3' – non-native gravel	PID = 0.0
	8									
	9					Black	0.7-0.9' = Possible burn zone (slag and charcoal) 0.9-1.2' = Silty fine to coarse sand, some gravel	-- SM		FID = 0.0
8	9									
	10	1.1 / 2.0'	0925 OFF-SB-416-0810			Light Brown	0.0-0.2' = Fine to coarse sand, brick particles, slag, ash, some silt	SW	Wet PID = 72.7 at ~ 0.6' in the sample, saturated at bottom	PID = 1.3
	14									
	11					Olive / Red	0.2-1.1' = Densely packed fine SAND, generally olive colored, orange - red mottled oxidation	SP		FID = 0.0
10	8									
	4	1.5 / 2.0'	No sample			Light Brown	Silt, some rounded gravel, trace clay (gravel rounded - subrounded), mottled blue gray spots	ML	PID = 1.0 ppm at 10.5' in the sample	PID = 0.8
	9									
	17									FID = 0.0
12	14									
	14	1.7 / 2.0'	0940 OFF-SB-416-1214		Very Dense				Wet	PID = 1.8
	40									
	41						Gravelly silt, some fine to coarse sand, gravel is angular to subrounded			FID = 0.5
14	42									
	6	1.2 / 2.0'	No sample		Dense		0.0-0.8' = gravelly, sandy silt (sand - mediumto coarse sand, trace fine sand) - very dense		Wet	PID = 0.9
	12									
	27					Red	*			FID = 0.0
16	32									

TYPE OF DRILLING RIG: CME 75
METHOD OF ADVANCING BORING: Hollow stem auger
METHOD OF SOIL SAMPLING: 3" split spoon driven with a 300 lb. hammer dropped 18"
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS: * - 0.8-1.2' = similar to above, less silt

BORING NO.: SB-416

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-416
PROJECT NO.:	4152-0552			START DATE:	11/19/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/19/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	11.5'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16	37									
	120	1.3 / 2.0'	1020 OFF-SB-416-1618	Till	Very Dense	Light Brown	0-0.6' – light brown, gravelly silt, some medium to coarse sand	ML		PID = 1.5
	120/0"					Red Brown	0.6-1.3' – gravelly sandy silt, possible till (gravel = fine to coarse angular to subangular)			
18										FID = 3.0
	45						Partially consolidated gravelly silt, some medium to coarse sand (till)			
	45	1.0 / 1.3'	1042 OFF-SB-416-1820							PID = 0.6
	120/3"									
20										FID = 11.4
	120/2"						No recovery - cobble in the nose of the spoon - broken face			
		0.0 / 2.0'	No sample							
22										
				EOB Spoon Refusal						

TYPE OF DRILLING RIG:	CME 75		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb. hammer, dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:		BORING NO.: SB-416	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-417
PROJECT NO.:	4152-0552	START DATE:	11/19/03
LOGGED BY:	J. LAMBERT	COMPLETION: DATE:	11/19/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	8.5'	CHECKED BY:	DH

TRANSCRIBED BY: MES

ELEVATION FROM: NGVD 1929 (MLW)

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
0										
				Fill			Auger to 2' – no sample collected from 0-2'			
2										
	8				Medium		No recovery			
	11	0.0 / 2.0'	No sample		Dense					
4	7									
	9									
	8						Silty sand (fine to coarse sand)		Moist	
	4	1.3 / 2.0'	1340		Loose	Brown		SM	Wet – bottom 0.5'	PID = 122
	4		OFF-SB-417-0406				Oxidized above 0.5', petroleum staining and odor			
6	5									FID = 10.9
	7		1400		Medium		Oil stained fine to coarse SAND		PID = 10.3 ppm in sample	
	6	1.0 / 2.0'	OFF-SB-417-0608		Dense	Black	0.4' = white gray material surrounding a hard white center -	SW		PID = 7.0
	7		1410				Possibly grout, inorganic or tile,			
8	5		OFF-SB-DUP04				At 0.6' = Off-white material, possible grout			FID = 0.0
	8						0-0.5' – oil stained material, shell in spoon			
	8	0.9 / 2.0'	No sample			Black				PID = 11.0
	8					Dark	0.5-0.9' – fine sand, some olive green mottling			
10	8					Gray		SP		FID = 0.0
	8						Similar to above, fine sand		Wet	
	7	1.0 / 2.0'	1415							PID = 1.0
	7		OFF-SB-417-1012							
12	8									FID = 0.0
	12						0.0-0.4' = fine sand, trace silt in lower portions		Wet	
	11	0.8 / 2.0'	No sample		Dense					PID = 0.3
	23						0.0-0.8' = dropstone with varves bent around it			
14	21									FID = 0.0
	18							SM	Wet	
	19	1.2 / 2.0'	1430						Cobble at 16'	PID = 0.6
	18		OFF-SB-417-1416				Silty fine sand, some gravel, pockets of heavily oxidized (dark red) material			
16	20									FID = 0.0

TYPE OF DRILLING RIG:	CME 75 – track mounted
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb hammer dropped 18"
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

BORING NO.: SB-417

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-417
PROJECT NO.:	4152-0552			START DATE:	11/19/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/19/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	8.5'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	13					Dark	Gravelly silt, some sand, extremely dense	TillL		
	19	1.3 / 2.0'	No sample			Gray	Possibly weathered conglomerate or till, layers and nodules of			PID = 1.0
	22						heavily oxidized material, mottled (light brown, gray and red)			
18	22						0.0-0.4' = similar to above			FID = 0.0
	28									
	78	1.0 / 2.0'	1455							PID = 2.2
	72		OFF-SB-417-1820			Light	0.4-1.0' = compacted gravelly sand, some silt - possible			
20	82					Brown	conglomerate			FID = 0.0
				EOB						

TYPE OF DRILLING RIG:	CME 75		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon driven with a 300 lb. hammer dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:		BORING NO.: SB-417	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-418
PROJECT NO.:	4152-0552	START DATE:	12/03/03
LOGGED BY:	J. LAMBERT	COMPLETION: DATE:	12/03/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	10.0'	CHECKED BY:	DH
TRANSCRIBED BY:	MES		
ELEVATION FROM:	NGVD 1929 (MLW)		

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
	7	1.7 / 2.0'	1120 OFF-SB-418-0002	Topsoil			0.0-0.5 = Fine to medium SAND with silt - topsoil		Dry	
	12			Fill	Loose	Brown				FID = 2.1
	18						Fine to medium SAND with gravel Intermittent pieces of dense/compact silt, trace brick	SW	Fill	PID = 3.2
2	17									
	12	1.1 / 2.0'	No sample		Loose Dense	White Brown	Piece of cobble 0-0.2' SILT with sand and gravel - large piece of asphalt (0.3') long and	ML	Dry	FID = 0.0
	24									
	30			Fill	Compact Materials		Piece of cobble = 0.1'longG			PID = 4.1
4	46									
	5	1.2 / 2.0'	1140 OFF-SB-418-0406	Native			Sandy SILT, trace gravel	ML	Dry	FID = 3.9
	5									
	6									PID = 4.1
6	3									
	5	1.1 / 2.0'	No sample			Dark Brown	Wood debris		Dry	FID = 23.5
	7									
	6				Dense Compact	Dark Gray	Silty SAND with gravel layers of silt Orange staining &pieces of black goo, piece of cobble (0.1' long)	SM	Moist	PID = 151
8	6									
	10	1.1 / 2.0'	1205 OFF-SB-418-0810				SILT with sand and gravel	ML	Wet Saturated with oil Strong oil odor	FID = 23.5
	10									
	12									PID = 139
10	13									
	5	1.1 / 2.0'	No sample			Dark Gray	SILT – trace sand and gravel	ML	Wet Strong petroleum odor	FID = 5.2
	5									
	7					Olive Gray	Sandy silt with gravels - layers of fine silty sand (brown)			PID = 38.5
12	9									
	7	1.1 / 2.0'	1220 OFF-SB-418-1214				Silty with sand, trace gravel		Wet Saturated in oil Petroleum odor	FID = 1.8
	9									
	9						Orange staining			PID = 25.0
14	8									
	7	1.1 / 2.0'	No sample		Dense Compact	Olive Gray	SILT with sand, trace gravel (rounded)	ML	Wet Petroleum odor	FID = 1.7
	12									
	12						Interbedded with fine sand brown Orange staining			PID = 20.8
16	15									

TYPE OF DRILLING RIG:	Track mounted – CME
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon - 2' long – 300 lb. hammer, 18" drop
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	~ OR = 8' bgs
OTHER OBSERVATIONS:	

BORING NO.: SB-418

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-418
PROJECT NO.:	4152-0552			START DATE:	12/03/03
LOGGED BY:	J. LAMBERT	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/03/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	10.0'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	17	1.1 / 2.0	1310 = Sample		Loose	Dark Brown	Silty SAND with gravel - piece of weathered rx - orange staining - till?	SW/ SM	Wet	FID = 0.0
	21		1315 = Dup13							
	34		OFF-SB-418-1618							
18	46									PID = 3.6
	18	0.9 / 1.1	No sample		Loose	Dark Brown	Sandy GRAVEL, trace silt - abundant pieces of weathered rx - phyllite? Orange staining	GW	Wet	FID = 2.1
	49									
	80/2"									
20										PID = 11.5
	60/0"	No Recovery No Penetration	No sample				No recovery - piece of rx in nose of spoon - phyllite?			FID = NR
22							EOB @ 20' bgs			PID = NR

TYPE OF DRILLING RIG:	Track mounted CME		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon – 2' length – 300 lb. hammer with 18" drop		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	~ OR = 8' bgs		
OTHER OBSERVATIONS:		BORING NO.: SB-418	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-419
PROJECT NO.:	4152-0552	START DATE:	11/18/03
LOGGED BY:	J. LAMBERT	COMPLETION: DATE:	11/18/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / RODNEY DEAN	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	8.4'	CHECKED BY:	DH

TRANSCRIBED BY: MES

ELEVATION FROM: NGVD 1929 (MLW)

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0				FILL			Auger to 2' – no samples taken from 0-2' BGS			
2										
	7				Medium	Gray/	0-1.0' = Oixidized silty fine to coarse SAND, some gravel		Moist	
	10	2.0' / 2.0'	0745		Dense	Orange		SW	Petroleum odor	PID = 59.9
	17		OFF-SB-419-0204			Dark	1.0' – Geotech fabric	--	Brick fragments	
4	15					Gray	1.0-2.0' – Similar to above, slightly stained	SW		FID = 44.6
	4						Silty fine to coarse SAND	SM	Moist	
	16	1.8' / 2.0'	No sample							PID = 277
	18						PID = 128 ppm in sample			
6	18									FID = 289
	26		0800		Very		Crumbly silty fine to coarse SAND in sample		Petroleum odor	
	46	1.5' / 2.0'	OFF-SB-419-0608		Dense		PID = 310 ppm in sample			PID = 294
	55		0810							
8	85		OFF-SB-DUP01					SW		FID = 174
	10						0-0.8' = Crumbly fine to coares SAND, some gravel		Wet	
	40	1.2' / 2.0'	No sample					SM	Sheen on water in spoon	PID = 23.3
	25						0.8-1.2' = Silty fine to coarse SAND			
10	20									FID = 34.9
	6					Red-	0-0.6' = Silty fine to coarse SAND, some clay, trace gravel		Spoon refusal at 11.5' -	
	10	1.0' / 2.0'	0820			Gray			light petroleum odor	PID = 27.7
	35		OFF-SB-419-1012				0.6-1.0' = Saprolitic rock (more dense)			
12	120/5"									FID = 20.9
	120/4"			EOB			Saprolitic rock - possible conglomerate with oxidized coarse sand sized pieces		Petroleum odor	
				12.5'						PID = 52.6
				Spoon						
14				Refusal						FID = 40.0

TYPE OF DRILLING RIG:	CME 75		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	4.25" ID hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon driven with 300 lb. hammer and dropped 18"		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:	*Augers started pulling up water and saturated soils @ 10'.*	BORING NO.: SB-419	PAGE: 1 OF 1

Only manmade material to 4' - the rest is most likely native

PROJECT NO.: CTO 833 – OFFTA – SITE 09
LOGGED BY: 4152-0552
J. DANIELI
DRILLED BY (Company/Driller): AMERICAN DRILLING / CARL ~~AND JIMMY~~ BEIRHOLM
GRD. SURFACE ELEVATION: 11.8'

TRANSCRIBED BY: MES
ELEVATION FROM: NGVD 1929 (MLW)

BORING NO.: SB-422
START DATE: 12/03/03
COMPLETION: DATE: 12/03/03
MON. WELL NO.: --
CHECKED BY: DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIE SCREE DAT METH (FID, (P
0							Auger to 2' bgs			
2							No sample			
	11	2.0' / 2.0'	0745 OFF-SB-422-0204		Loose	Brown	Fine to coarse SAND with gravel, some orange staining	SW	Dry	PID = 0.0
4	4 / 4 / 9									FID = 0.0
	9	1.4' / 2.0'	No sample		Loose	Brown / Gray	0-0.3' / 0.3-0.7' = Pieces of cobble	SP	Dry	PID = 18.0
6	7 / 11 / 9				Dense	Brown / Dark brown	0.7-0.8' = Fine to medium SAND, well sorted / 0.8-1.4' = Sandy SILT with pieces of boulder	ML		FID = 18.6
	4	1.3' / 2.0'	0805 OFF-SB-422-0406		Loose	Gray	0-0.7' = Fine to coarse SAND with gravel	SW	Dry	PID = 6.4
8	4 / 8 / 7				Dense	Dark gray / Black	0.7-1.3' = SILT, trace clay, pieces of cobble	ML	Orange staining	FID = 334
	13	1.3' / 2.0'	No sample		Dense	Gray	0.1-0.5' = SILT with sand, trace gravels	ML	Wet	PID = 6.0
10	12 / 12 / 13						0.5-1.3' = Sandy SILT with orange staining			FID = 3.2
	6	2.0' / 2.0'	0820 OFF-SB-422-1012		Dense	Gray	0.0-0.7' = Slough / 0.7-2.0' = SILT, trace clay	ML	Wet	PID = 1.3
12	8 / 7 / 8						Orange staining			FID = 1.1
	6	0.9' / 2.0'	No sample					ML	WET	PID = 1.0
14	9 / 9 / 15									FID = 3.7
	6	1.5' / 2.0'	MS/MSD 0840 OFF-SB-422-1416		Dense	Gray	Silty fine SAND (0-0.5')	SM	Wet	PID = 0.3
16	11 / 12 / 16				Very Dense	Dark gray/ Black	0.5-1.5' = SILT with trace clay and gravels – till?	ML		FID = 0.0

TYPE OF DRILLING RIG: Track mounted CME
METHOD OF ADVANCING BORING: Hollow stem auger
METHOD OF SOIL SAMPLING: 3" Split spoon, 2' long, 300 lb. hammer, 18" drop
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS: ~ 8' bgs
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: SB-422

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-422
PROJECT NO.:	4152-0552			START DATE:	12/03/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	12/03/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL ~~AND JIMMY~~ BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	11.8'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD =* [FID, (PPM)]
16										
	12				Very	Brown	0-0.2' = Slough		Wet	
	13	2.0' / 2.0'	No sample		*Dense*	*Dark*				FID = 0.0
	12					Gray	SILT with gravel, trace clay and intermittent layers fine sand – till?			
18	15							ML		PID = 1.7
	12					*Dark*	*Sandy SILT with gravels*		*1 piece of weathered rock*	
	14	1.7' / 2.0'	0910		Dense	Brown		ML		FID = 0.0
	17		OFF-SB-422-1820				Till?			
20	22									PID = 0.3
							EOB @ 20' bgs			

TYPE OF DRILLING RIG:	Track mounted CME		*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	Hollow stem auger		
METHOD OF SOIL SAMPLING:	3" split spoon, 2' long, 300 lb. hammer, 18" drop		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	~ 8' bgs		
OTHER OBSERVATIONS:		BORING NO.: SB-422	PAGE: 2 OF 2

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09	BORING NO.:	SB-433
PROJECT NO.:	4152-0552	START DATE:	11/26/03
LOGGED BY:	J. DANIELI	COMPLETION: DATE:	11/26/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM	MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	17.3'	CHECKED BY:	DH

TRANSCRIBED BY: MES

ELEVATION FROM: NGVD 1929 (MLW)

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
			No sample				No split spoon – auger to 2' bgs			
2				Fill						
	9								Dry	
	8	0.9' / 2.0'	0845		Dense	Dark Brown	Silty fine to medium SAND with gravel, roots – top 0.1', pieces of brick throughout	SM		PID = 0.0
4	5		OFF-SB-433-0204							
	6									FID = 0.0
	8						Sandy SILT with gravel, pieces of brick		Moist	
	5	1.0' / 2.0'	No sample		Dense			ML		PID = 0.0
6	6								Wet V ~ 5.5'	
	5									FID = 0.0
	5									
	3	1.0' / 2.0'	0900							PID = 20.0
8	3		OFF-SB-433-0608							
	2									FID = 38.0
	3			Native Materials		Dark Brown	SILT with sand, trace gravel, trace roots		Wet	
	6	1.0' / 2.0'	No sample							PID = 17.1
10	5							ML		
	6									FID = 34.0
	2								Wet	
	2	0.9' / 2.0'								PID = 0.0
12	2									
	3									FID = 0.0
	27						Pieces of boulder (0.8' long)		Wet	
	59	1.0' / 2.0'	0920		Loose					PID = 24.6
14	59		OFF-SB-433-1214				Silty SAND and GRAVEL, trace brick pieces	SW/ GW		
	24									FID = 47.0
	130/3"								Wet	
		0.8' / 2.0'	No sample (14.0'-14.25')							PID = 116.0
16							Auger refusal at 14.5'			FID = 326.0

TYPE OF DRILLING RIG:	Track mounted CME
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon, 2' long, 300 lb. hammer, 18" drop
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	~ 5.5' BGS
OTHER OBSERVATIONS:	

BORING NO.: SB-433

Tetra Tech NUS, Inc.

BORING LOG FOR:	CTO 833 – OFFTA – SITE 09			BORING NO.:	SB-433
PROJECT NO.:	4152-0552			START DATE:	11/26/03
LOGGED BY:	J. DANIELI	TRANSCRIBED BY:	MES	COMPLETION: DATE:	11/26/03
DRILLED BY (Company/Driller):	AMERICAN DRILLING / CARL BEIRHOLM			MON. WELL NO.:	--
GRD. SURFACE ELEVATION:	17.3'	ELEVATION FROM:	NGVD 1929 (MLW)	CHECKED BY:	DH

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16										
	130/1"	0.15' / 0.16'	No sample Spoon only 14.5'-14.9'				0.15' in length Piece of concrete – move auger to 14.5' - try to send spoon down		(Recover 0.15' – Concrete)	FID = --
18							Move south – 5' to auger to 16' & taken 16-18' spoon			PID = --
16	14 18	0.9 / 2.0'	1050 OFF-SB-433-1618		Dense	Brown	Silty fine to medium SAND with gravel	SW	Wet (Second hole) Wet	PID = 0.4 FID = 0.0
18	11 9									PID = 1.0 FID = 0.0
	11 14	1.5' / 2.0'	No sample		Dense	Dark Gray	SILT with trace sand and gravel	ML	Wet	FID = 8.0
20	19 17									PID = 5.4
	4 4	2.0'	1140 OFF-SB-433-2022						Wet Rock – brittle breaks apart easily	FID = 0.0
22	8 17	2.0'	1145 Dup09				SILT - less sand and gravel Sandy SILT with gravels (20 - 21.5')	ML		PID = 0.0
	90 53	1.5' / 2.0'	No sample		Dense	Brown	SILT with trace sand and gravels (21.5 - 22.0')	ML	Wet	FID = 0.0
24	79 29						SILT, weathered rock Orange staining, pieces of gravel, till - soupy	ML		PID = 1.6
	24 26	1.5' / 2.0'	1215 OFF-SB-433-2426				Soupy - silty, sandy - GRAVEL with weathered rock, orange staining, till	GM	Wet	FID = 0.0
26	31 38		1220 Dup10							PID = 0.1
	130/4"	0.9' / 2.0'	No sample				Trace clay Auger refusal @ 27.5' bgs	GC GM	Wet	FID = 0.0
28						Light Brown	Soupy, silty, sandy GRAVEL with weathered rock, orange staining - till	GM		PID = 0.0
	130/1"	0.8' / 0.8'	1240 OFF-SB-433-2830		Loose	Brown	Sample from 27.5' plus 1" - 27.7'			
30							EOB @ 27.7' - did not reach competent bedrock but till overlies bedrock in area and just shy of 20' requirement stated in Work Plan - 20' from base of mound that is 8' high			

TYPE OF DRILLING RIG:	Track mounted CME
METHOD OF ADVANCING BORING:	Hollow stem auger
METHOD OF SOIL SAMPLING:	3" split spoon, 2' long, 300 lb. hammer, 18" drop
METHOD OF ROCK CORING:	~ 5.5' bgs
GROUNDWATER LEVELS:	N/A
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

APPENDIX C
SURVEY DATA

LOUIS FEDERICI and ASSOCIATES

365 Smith Street, Providence, RI 02908 Tel: 401-331-1570 Fax: 401-331-1593
land surveyors biologists planners

Tabulation of field located soil samples for Tetra Tech NUS, Inc.
at the Old Fire Fighting Training Area, Naval Station Newport, in Newport, RI

LFA PROJECT NUMBER = 990205

Date Surveyed: 1/2/2004
The values below are based on the following datums:
Horizontal = NAD 1927, Vertical = NGVD 1929 (MLW)

LFA PT. NO.	TETRA TECH I.D.	NORTHING	EASTING	ORIGINAL GRADE
2000	SB-421	156808.5	547238.1	10.8
2001	SB-420	156797.8	547156.9	10.0
2002	SB-419	156842.7	547045.4	8.4
2003	SB-408	156940.5	547056.3	8.0
2004	SB-409	156924.8	547155.3	9.1
2005	SB-410	156914.9	547253.2	9.4
2006	SB-402	157010.9	547266.9	8.4
2007	SB-432	156869.9	547196.4	9.5
2008	SB-401	157029.8	547170.7	7.9
2009	SB-400	157035.5	547083.5	7.3
2010	SB-428	157054.9	547304.0	8.0
2011	SB-403	156956.3	547367.7	9.4
2012	SB-429	157023.5	547385.1	8.6
2013	SB-404	156982.7	547465.7	8.9
2014	SB-430	156918.5	547570.9	9.5
2016	SB-427	157072.7	547203.9	8.3
2162	SB-415	156886.6	546668.1	13.3
2167	SB-416	156875.4	546740.5	11.5
2232	SB-426	156745.8	547737.1	11.5
2233	SB-425	156763.1	547633.3	12.1
2234	SB-424	156787.4	547568.9	12.0
2235	SB-413	156872.0	547552.2	10.6
2238	SB-412	156893.2	547454.9	24.5
2239	SB-411	156901.8	547375.0	31.0
2240	SB-434	156816.2	547484.7	11.5
2245	SB-423	156786.8	547428.2	11.9
2247	SB-422	156807.2	547325.4	11.8
2248	SB-414	156855.1	547647.6	10.7
2249	SB-431	156809.4	547712.1	11.1
2277	SB-433	156900.7	546881.8	17.3
2278	SB-406	156951.9	546862.3	11.4
2279	SB-407	156959.5	546952.7	12.9
2280	SB-418	156871.9	546934.3	10.0
2285	SB-417	156864.9	546846.1	8.5
2292	SB-405	156961.0	546759.8	7.0

E-35
OK

Louis Federici PLS
1/6/04
RI Rge. Number 1645

APPENDIX D
ANALYTICAL RESULTS

- RI Soil Sample Analytical Results
- PDI Soil Sample Analytical Results

RI Soil Sample Analytical Results

Sample ID

Surface Soil Samples

SS-03

SS-05

SS-11

SS25-110493

SS26-110493

B81-112293

B91-112393

B101-112393

B141-121393

B151-121393

SS-325-0001

SS-326-0001

Subsurface Soil Samples

TP23

TP33

TP32

TP31

B142-121393

B152-121393

B153-121393

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	FB-041290	TB-041290
**** VOLATILE ORGANICS (PPB) ***								
METHYLENE CHLORIDE.....	10 U*	14 U*	24 U*	11 U*	13 U*	12 U*	7 B	8 B
ACETONE.....		12 U**	10 U**	10 U**	10 U**		5 J	11
CARBON DISULFIDE.....								
CHLOROFORM.....								
2-BUTANONE.....								
TETRACHLOROETHENE.....		2 J						
TOLUENE.....								
ETHYLBENZENE.....								
XYLENE.....								
TOTAL VOLATILE ORGANICS....	0	2	0	0	0	0	12	19
** BASE NEUTRAL / ACIDS (PPB) **								
PHENOL.....								N/A
BENZOIC ACID.....								
NAPHTHALENE.....@						480 J		
2-METHYLNAPHTHALENE.....@								
ACENAPHTHYLENE.....@								
ACENAPHTHENE.....@						940 J		
DIBENZOFURAN.....						650 J		
FLUORENE.....@						1200 J		
PHENANTHRENE.....@	83 J	350 J		250 J	100 J	7200		
ANTHRACENE.....@						1500 J		
DI-N-BUTYLPHTHALATE.....								
FLUORANTHENE.....@	97 J	250 J	44 J	290 J	180 J	8000		
PYRENE.....@	160 J	480		300 J	190 J	5700 J*		
BUTYLBENZYLPHTHALATE.....								
BENZO(a)ANTHRACENE.....@@		150 J		130 J	76 J	3300		
CHRYSENE.....@@		170 J		110 J	78 J	2800		
BIS(2-ETHYLHEXYL)PHTHALATE.	590 *	450 U**		340 U*				
BENZO(b)FLUORANTHENE.....@@		130 J		120 J	65 J	2800		
BENZO(k)FLUORANTHENE.....@@		91 J		110 J		3100		
BENZO(a)PYRENE.....@@		130 J		120 J	61 J	2700		
INDENO(1,2,3-cd)PYRENE.....@@								
DIBENZO(a,h)ANTHRACENE.....@@								
BENZO(g,h,i)PERYLENE.....@								N/A
TOTAL BNA'S.....	930	1751	44	1430	750	40370	0	
TOTAL PAH'S.....	340	1751	44	1430	750	39720	0	
TOTAL CARCINOGENIC PAH'S...	0	671	0	590	280	14700	0	

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	FB-041290	TB-041290
**** PESTICIDES/PCB'S (PPB) ****								
4,4'-DDE.....	7.3 J	7.2 J	8.1 J	2.9 J	3.7 J			N/A
4,4'-DDT.....	8.3 J	8.8 U*	6.3 J	8.8 J	3.7 J	2.3 J		|
AROCLOR-1254.....	80 J							N/A
******* INORGANICS (PPM) *******								
SILVER.....		0.68 J*						N/A
ALUMINUM.....	8800	6080	8730	5070	10500	10600		|
ARSENIC.....	6.2	5.1 J*	5.5	2	5.8	8.9		|
BARIUM.....	25.8	18.7	21.8	21.7	28.3	8		|
BERYLLIUM.....	0.47		0.41		0.48	0.39		|
CALCIUM.....	1100	673	540	21000	1480	1870	0.19 B1	|
CADMIUM.....				0.94				|
COBALT.....	7.5	5.7	7.1	4.7	9.3	20		|
CHROMIUM.....	15.9	6.8	18.8	8.8	16.7	16.4		|
COPPER.....	27.1	11.2	16.8	15.4	23	44.3		|
IRON.....	17400	10100	14500	10300	17800	35500		|
MERCURY.....				0.17				|
POTASSIUM.....	261	229	247	442	503	424		|
MAGNESIUM.....	1480	917	1530	7340	1820	5010		|
MANGANESE.....	249	174	185	174	251	750		|
SODIUM.....	60.8 U*	49	47.6 U*	93.6 U*	91.9 U*	907	0.198	|
NICKEL.....	12.3	5.4	10.9	7	12.8	25.6		|
LEAD.....	52.5	19	21		28.1	77.8		|
ANTIMONY.....						5.6		|
SELENIUM.....	0.53						0.0022	|
VANADIUM.....	24.5	9.8	19.5	19.3	27.4	36.3		|
ZINC.....	80.1	26.2	32.4	34.5	70.4	142	0.0111	|
CYANIDE.....								N/A

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

TABLE 1

SITE 09 - OLD FIRE FIGHTING TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-07 (1)	SS-08 (2)	SS-12	SS-09	SS-10	SS-11	FB-1219
******* INORGANICS (ppm) *******							
SILVER.....							
ALUMINUM.....	4160	3430	2420	6120	6350	6570	
ARSENIC.....	3.5	2.2 B	2 B	5.6	4	4.4	
BARIUM.....	17 B	19.4 B	14 B	22.7 B	28.4 B	21.9 B	
BERYLLIUM.....			0.32 B	0.31 B	0.43 B	0.5 B	
CALCIUM.....	1090 B	859 B	628 B	1090 B	1220 B	1100 B	
CADMIUM.....							
COBALT.....	2.7 B	2.4 B	1.8 B	4.2 B	4 B	4.5 B	
CHROMIUM.....	8.7	5.8	4.3	10.3	10	8.5	
COPPER.....	8.4	9.8	6.2	9.7	13.4	11.4	
IRON.....	6760	6160	4470	9670	9470	10100	
MERCURY.....		0.08 B	0.07 B	0.07 B	0.09 B		
POTASSIUM.....	273 B	433 B	373 B	290 B	411 B		
MAGNESIUM.....	783 B	932 B	717 B	886 B	1010 B	945 B	
MANGANESE.....	143	166	117	189	197	201	
SODIUM.....							
NICKEL.....				8.6 B	6.2 B	5.1 B	
LEAD.....	22.2	27.5	26	32.4	38.7	20.6	
ANTIMONY.....							
SELENIUM.....							
THALLIUM.....							
VANADIUM.....	6.2 B	5.3 B	4.6 B	9.1 B	9.8 B	10.1 B	5.5 B
ZINC.....	36.1	38.1	26.6	34.9	46.5	35.3	

Note: (1) SS-07 was collected from the same location as SS-02.
(2) SS-12 is a duplicate sample of SS-8.
B = Indicates that the reported value is less than the CRDL

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS24-110493			FF-SS25-110493			FF-SS26-110493			FF-SS27-110493		
Sample Designation=		031390-0004-SA			031390-0005-SA			031390-0006-SA			031390-0007-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
beta-BHC	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
delta-BHC	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
gamma-BHC (Lindane)	ug/kg	0.37	J	2.1	0.096	J	1.8	ND	UJ*	2.0	ND	R	2.1
Heptachlor	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Aldrin	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Heptachlor epoxide	ug/kg	ND	U	2.1	ND	U	1.8	0.58	J	2.0	ND	R	2.1
Endosulfan I	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Dieldrin	ug/kg	0.91	NJ	4.1	0.66	J	3.5	ND	UJ*	6.2	ND	R	4.1
4,4'-DDE	ug/kg	12		4.1	10		3.5	5.1	J	3.9	ND	R	4.1
Endrin	ug/kg	3.6	J	4.1	2.2	NJ	3.5	ND	U	3.9	ND	R	4.1
Endosulfan II	ug/kg	ND	U	4.1	ND	U	3.5	ND	U	3.9	ND	R	4.1
4,4'-DDD	ug/kg	2.3	J	4.1	5.5		3.5	ND	U	3.9	ND	R	4.1
Endosulfan sulfate	ug/kg	ND	U	4.1	ND	U	3.5	ND	U	3.9	ND	R	4.1
4,4'-DDT	ug/kg	14		4.1	17		3.5	9.4	J	3.9	ND	R	4.1
Methoxychlor	ug/kg	ND	U*	21	3.8	J	18	ND	U	20	ND	R	21
Endrin ketone	ug/kg	ND	U	4.1	ND	U	3.5	ND	U	3.9	ND	R	4.1
Endrin aldehyde	ug/kg	6.9	J	4.1	5.1	J	3.5	9.4		3.9	ND	R	4.1
alpha-Chlordane	ug/kg	ND	U	2.1	ND	U	1.8	0.62	J	2.0	ND	R	2.1
gamma-Chlordane	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Toxaphene	ug/kg	ND	U	210	ND	U	180	ND	U	200	ND	R	210
Aroclor 1016	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1221	ug/kg	ND	U	84	ND	U	71	ND	U	79	ND	R	84
Aroclor 1232	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1242	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1248	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1254	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1260	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-SS24-110493			FF-SS25-110493			FF-SS26-110493		
Sample Designation=	031390-0004-SA			031390-0005-SA			031390-0006-SA		
Sample Collection Date=	04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Acenaphthylene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
9H-Carbazole	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(a)anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(a)pyrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(b)fluoranthene	ug/kg	46	J	420	36	J	350	ND	U	390
Benzo(g,h,i)perylene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(k)fluoranthene	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Bromophenyl phenyl ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
Butyl benzyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chloroaniline	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroethyl) ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chloro-3-methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Chloronaphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Chlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chlorophenyl phenyl ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
Chrysene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Di-n-butyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dibenz(a,h)anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dibenzofuran	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,2-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,3-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,4-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
3'-Dichlorobenzidine	ug/kg	ND	U	420	ND	U	350	ND	U	390
-Dichlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Diethyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,4-Dimethylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dimethyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4-Dinitrotoluene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,6-Dinitrotoluene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Di-n-octyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	420	ND	U*	350	ND	U*	390
Fluoranthene	ug/kg	46	J	420	38	J	350	ND	U	390
Fluorene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorobutadiene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorocyclo-pentadiene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachloroethane	ug/kg	ND	U	420	ND	U	350	ND	U	390
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Isophorone	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Methylnaphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Naphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
Nitrobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Nitrophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
N-Nitrosodiphenylamine	ug/kg	ND	U	420	ND	U	350	ND	U	390
N-Nitroso-di-n-propylamine	ug/kg	ND	U	420	ND	U	350	ND	U	390
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
Phenanthrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Phenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Pyrene	ug/kg	48	J	420	40	J	350	49	J	390
1,2,4-Trichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4,6-Trichlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
al PAHs		140			114			49		
Total Carcinogenic PAHs		46			36			0		
Total SVOCs		140			114			49		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS24-110493			FF-SS25-110493			FF-SS26-110493			FF-SS27-110493		
Sample Designation=		031390-0004-SA			031390-0005-SA			031390-0006-SA			031390-0007-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9360		NA	9890		NA	9090		NA	7650		NA
Antimony	mg/kg	6.3	UJ	NA	5.4	UJ	NA	5.9	UJ	NA	6.2	UJ	NA
Arsenic	mg/kg	5.2	J	NA	5.5	J	NA	5.2	J	NA	4.3	J	NA
Barium	mg/kg	24	B	NA	22.9	B	NA	22.8	B	NA	20.9	B	NA
Beryllium	mg/kg	0.36	B	NA	0.34	B	NA	0.33	B	NA	0.31	B	NA
Cadmium	mg/kg	0.75	U	NA	0.65	U	NA	0.71	U	NA	0.75	U	NA
Calcium	mg/kg	907	J	NA	604	J	NA	643	J	NA	743	J	NA
Chromium	mg/kg	16.7		NA	10.5		NA	12.1		NA	9		NA
Cobalt	mg/kg	5.5	B	NA	5.6	B	NA	5.6	B	NA	4.5	B	NA
Copper	mg/kg	9.8		NA	14.2		NA	8.8		NA	8.7		NA
Iron	mg/kg	13300		NA	14200		NA	14300		NA	11800		NA
Lead	mg/kg	16.5	J	NA	15.1	J	NA	16.1	J	NA	14.9	J	NA
Magnesium	mg/kg	1720		NA	1720		NA	1790		NA	1460		NA
Manganese	mg/kg	191		NA	205		NA	210		NA	173		NA
Mercury	mg/kg	0.06	U	NA	0.07	B	NA	0.06	U	NA	0.06	U	NA
Nickel	mg/kg	11.5		NA	12.8		NA	12		NA	11.3		NA
Potassium	mg/kg	351	B	NA	249	B	NA	286	B	NA	163	U	NA
Selenium	mg/kg	0.5	U	NA	0.43	U	NA	0.47	U	NA	0.5	U	NA
Silver	mg/kg	1	U	NA	0.86	U	NA	0.94	U	NA	1	U	NA
Sodium	mg/kg	302	U	NA	259	U	NA	283	U	NA	300	U	NA
Thallium	mg/kg	0.5	U	NA	0.43	U	NA	0.47	U	NA	0.5	UW	NA
Vanadium	mg/kg	16.9		NA	16		NA	15.3		NA	13		NA
Zinc	mg/kg	40.6		NA	38.2		NA	37.2		NA	41.5		NA
Cyanide, Total	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.62	U	NA

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX		OFF-SS-329-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98		11/20/98	
QC Identifier	None		None		None		None		None		Field Dup. OFF-SS-328-0001		None	
Interval (ft)	0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0	
1,1,1-TRICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1,2-TRICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHENE (TOTAL)	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROPROPANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
2-BUTANONE	9	U	9	J	28	U	11	U	7	J	11	U	11	U
2-HEXANONE	9	U	9	U	17	U	11	U	10	U	10	U	11	U
4-METHYL-2-PENTANONE	9	U	9	U	17	U	11	U	10	U	10	U	11	U
ACETONE	150	J	130	J	320	J	80	U	77	J	110		100	J
BENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMODICHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMOFORM	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMOMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CARBON DISULFIDE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CARBON TETRACHLORIDE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROBENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROFORM	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CIS-1,3-DICHLOROPROPENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
DIBROMOCHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
ETHYLBENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
METHYLENE CHLORIDE	2	J	4	J	3	J	2	J	3	J	2		3	J
STYRENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TETRACHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TOLUENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TOTAL XYLENES	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TRICHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
VINYL CHLORIDE	4	U	5	U	8	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss. Conc.

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-322-0001		OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98	
QC Identifier	None		None		None		None		None		None		Field Dup. OFF-SS-328-0001	
Interval (ft)	0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0	
1,2,4-TRICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,2-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,3-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,4-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,2'-OXYBIS(1-CHLOROPROPANE)	350	UJ	360	UJ	1800	UJ	670	U	400	UJ	1900	UJ	390	U
2,4,5-TRICHLOROPHENOL	890	U	900	U	4600	UJ	1700	U	1000	U	4700	UJ	980	U
2,4,6-TRICHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DICHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DIMETHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DINITROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	UJ	4700	UJ	980	U
2,4-DINITROTOLUENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,6-DINITROTOLUENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-CHLORONAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-CHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-METHYLNAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-METHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-NITROANILINE	890	U	900	U	4600	U	1700	UJ	1000	U	4700	U	980	U
2-NITROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
3,3'-DICHLOROBENZIDINE	350	U	360	U	1800	UJ	670	UJ	400	UJ	1900	UJ	390	U
3-NITROANILINE	890	U	900	U	4600	U	1700	U	1000	U	4700	U	980	U
4,6-DINITRO-2-METHYLPHENOL	890	U	900	U	4600	U	1700	UJ	1000	UJ	4700	U	980	U
4-BROMOPHENYL-PHENYLETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-CHLORO-3-METHYLPHENOL	350	U	360	U	1800	U	670	U	140	J	1900	U	390	U
4-CHLOROANILINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-CHLOROPHENYL-PHENYLETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-METHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-NITROANILINE	890	U	900	U	4600	UJ	1700	UJ	1000	UJ	4700	UJ	980	U
4-NITROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	U	4700	UJ	980	U
ACENAPHTHENE	350	U	360	U	1800	UJ	670	U	400	U	240	J	390	U
ACENAPHTHYLENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
ANTHRACENE	350	U	360	U	1800	U	95	J	400	U	1800	J	390	U
BENZO(A)ANTHRACENE	350	U	360	U	1800	U	300	J	400	U	2500		390	U
BENZO(A)PYRENE	350	U	360	U	1800	U	300	J	400	U	1900		390	U
BENZO(B)FLUORANTHENE	350	U	360	U	210	J	400	J	400	U	2400		45	
BENZO(G,H,I)PERYLENE	350	U	360	U	1800	U	150	J	400	U	1200	J	390	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss. Conc.

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-322-0001		OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98	
QC Identifier	None		None		None		None		None		None		Field Dup. OFF-SS-328-0001	
Interval (ft)	0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0	
BENZO(K)FLUORANTHENE	350	U	360	U	1800	U	170	J	400	U	930	J	390	U
BIS(2-CHLOROETHOXY)METHANE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BIS(2-CHLOROETHYL)ETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BIS(2-ETHYLHEXYL)PHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BUTYLBENZYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
CARBAZOLE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
CHRYSENE	350	U	360	U	1800	U	270	J	400	U	2300		41	
DI-N-BUTYLPHTHALATE	53	J	50	J	1800	U	94	J	400	U	1900	U	390	U
DI-N-OCTYLPHTHALATE	350	U	360	U	1800	UJ	670	UJ	400	U	1900	UJ	390	U
DIBENZO(A,H)ANTHRACENE	350	U	360	U	1800	U	670	U	400	U	230	J	390	U
DIBENZOFURAN	350	U	360	U	1800	U	670	U	400	U	220	J	390	U
DIETHYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
DIMETHYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
FLUORANTHENE	350	U	360	U	210	J	660	J	400	U	5500		78	
FLUORENE	350	U	360	U	1800	U	670	U	400	U	370	J	390	U
HEXACHLOROBENZENE	350	U	360	U	1800	U	670	UJ	400	UJ	1900	U	390	U
HEXACHLOROBUTADIENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
HEXACHLOROCYCLOPENTADIENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
HEXACHLOROETHANE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
INDENO(1,2,3-CD)PYRENE	350	U	360	U	1800	U	160	J	400	U	1100	J	390	U
ISOPHORONE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
N-NITROSO-DI-N-PROPYLAMINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
N-NITROSO-DIPHENYLAMINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
NAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
NITROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
PENTACHLOROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	U	4700	UJ	980	U
PHENANTHRENE	350	U	360	U	1800	U	440	J	400	U	4700		47	
PHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
PYRENE	41	J	360	U	270	J	690		400	U	4700		72	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss. Conc.

SURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX		OFF-SS-329-0001		OFF-SS-330-0001		OFF-SS-331-0001		OFF-SS-332-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/20/98		11/20/98		11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		None		Field Dup. OFF-SS-328-0001		None		None		None		None	
Interval (ft)	0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0		0.0-1.0	
ALUMINUM	10700		10900		11000		11000		11400	J	11400		10400		10600	J
ANTIMONY	1.1	U	0.56	U	0.58	J	0.55	U	0.55	UJ	0.57	UJ	0.56	UJ	0.59	J
ARSENIC	10.4		10.1		7.7	J	10.3		7.2		8.7	J	6.6	J	7.9	
BARIUM	24.7		24.7		27.7		25.7		27.7		27.4		25.9		26.2	
BERYLLIUM	0.35	J	0.47		0.32	U	0.38		0.39	J	0.49	U	0.48	U	0.32	
CADMIUM	0.1	U	0.09	U	0.08	U	0.09	U	0.09	U	0.09	U	0.09	U	0.09	U
CALCIUM	707		1210		2610	J	1070	U	5970		759	J	650	J	903	U
CHROMIUM	11.1		11		12.2		9.8		10.9		13.7		14.6		11.4	
COBALT	8.6		6.8		7		8.5		9.4		5.8		6.5		9.1	
COPPER	16.6		8.8	J	13.6		13.5		14.1		7.6		12.2		17.4	
IRON	20200		18100		18000		21000		18100	J	16700		16300		19800	J
LEAD	46.1	J	18.9	J	36.1		24.2		26.1		30.3		33.9		55.1	
MAGNESIUM	2420		1910		2420		1910		3780	J	2110		2750		2180	J
MANGANESE	293		196		282		305		226	J	229		240		274	J
MERCURY	0.06	U	0.06	U	0.05	U	0.06	U	0.07		0.06	U	0.06	U	0.05	U
NICKEL	15.7		13.2		13.1		15.5	U	17.2		12.8		11.8		16.4	
POTASSIUM	260	U	274	U	425		234		269		409		932		272	
SELENIUM	0.77	U	0.69	U	0.64	U	0.68	U	0.68	U	0.71	U	0.7	U	0.69	U
SILVER	6	U	5.6	U	3.1	J	5.3		4.3		5.2	J	5	J	4.2	
SODIUM	84.9	U	99.1	U	103	J	218	U	128	U	53.4	UJ	52.5	UJ	247	U
THALLIUM	0.58	U	0.51	U	0.48	U	0.51	U	0.51	U	0.53	U	0.52	U	0.52	U
VANADIUM	18.8		19.3		17.3		18.3		20		18.9		19.8		19.9	
ZINC	61.5		33.8		75.1		50.3		52.8		50.1		49.9		67.2	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss. Conc.

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromomethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Vinyl Chloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Chloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Methylene chloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Acetone	ug/kg	ND	U*	12	ND	UJ	12	ND	UJ	11	ND	U	11
Carbon disulfide	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Chloroform	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
2-Butanone	ug/kg	ND	U*	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromodichloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Trichloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Dibromochloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Benzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromoform	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
2-Hexanone	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Tetrachloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	16		11
Toluene	ug/kg	ND	U	12	ND	UJ	12	2	J	11	ND	U	11
Chlorobenzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Ethylbenzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Styrene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Xylenes (total)	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Total VOCs		**0**			**0**			**2**			**16**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-01-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromomethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	UJ	12
Vinyl Chloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	3	J	12
Chloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Methylene chloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Acetone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Carbon disulfide	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	17		12
Chloroform	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
2-Butanone	ug/kg	3	J	11	3	J	11	ND	UJ	11	1	J	12
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromodichloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Trichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Dibromochloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Benzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromoform	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
2-Hexanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Tetrachloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Toluene	ug/kg	ND	U	11	2	J	11	ND	UJ	11	ND	U	12
Chlorobenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Ethylbenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Styrene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Xylenes (total)	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Total VOCs		**3**			**5**			**0**			**21**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=		32184-03-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromomethane	ug/kg	ND	UJ	11	ND	UJ	11	ND	UJ	11	ND	U	11
Vinyl Chloride	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Methylene chloride	ug/kg	1	J	11	ND	UJ	11	ND	UJ	11	ND	U	11
Acetone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Carbon disulfide	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chloroform	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
2-Butanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromodichloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Trichloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Dibromochloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Benzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromoform	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
2-Hexanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Tetrachloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Toluene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chlorobenzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Ethylbenzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Styrene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Xylenes (total)	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	1	J	11
Total VOCs		1			0			0			1		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B141-121393			FF-B151-121393			FF-B161-112393		
Sample Designation=		32184-01-SA			32184-0003-SA			031806-0011-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	390	ND	U	370	330	J	1400
Acenaphthylene	ug/kg	ND	U	390	40	J	370	ND	U	1400
Anthracene	ug/kg	ND	U	390	170	J	370	720	J	1400
9H-Carbazole	ug/kg	ND	U	390	ND	U	370	240	J	1400
Benzo(a)anthracene	ug/kg	ND	U	390	440		370	2400		1400
Benzo(a)pyrene	ug/kg	ND	U	390	240	J	370	2600		1400
Benzo(b)fluoranthene	ug/kg	ND	U	390	440		370	3900		1400
Benzo(g,h,i)perylene	ug/kg	ND	U	390	120	J	370	1300	J	1400
Benzo(k)fluoranthene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Bromophenyl phenyl ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Butyl benzyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chloroaniline	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroethyl) ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chloro-3-methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Chloronaphthalene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Chlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chlorophenyl phenyl ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Chrysene	ug/kg	ND	U	390	390		370	2400		1400
Di-n-butyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Dibenz(a,h)anthracene	ug/kg	ND	U	390	77	J	370	350	J	1400
Dibenzofuran	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,2-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,3-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,4-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
3,3'-Dichlorobenzidine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4-Dichlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Diethyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4-Dimethylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Dimethyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	950	ND	U	900	ND	U	3600
2,4-Dinitrophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3600
2,4-Dinitrotoluene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,6-Dinitrotoluene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Di-n-octyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	390	ND	U*	370	ND	U*	1400
Fluoranthene	ug/kg	ND	U	390	740		370	3200		1400
Fluorene	ug/kg	ND	U	390	ND	U	370	380	J	1400
Hexachlorobenzene	ug/kg	ND	U	390	43	J	370	ND	U	1400
Hexachlorobutadiene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Hexachlorocyclo-pentadiene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Hexachloroethane	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	390	130	J	370	1100	J	1400
Isophorone	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Methylnaphthalene	ug/kg	ND	U	390	ND	U	370	190	J	1400
2-Methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Naphthalene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
3-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
4-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
Nitrobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Nitrophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Nitrophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
N-Nitrosodiphenylamine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
N-Nitroso-di-n-propylamine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Pentachlorophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
Phenanthrene	ug/kg	ND	U	390	500		370	3300		1400
Phenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Pyrene	ug/kg	ND	U	390	800		370	4600		1400
1,2,4-Trichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4,5-Trichlorophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
2,4,6-Trichlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Total PAHs		0			4087			26770		
Total Carcinogenic PAHs		0			1837			14050		
Total SVOCs		0			4130			27010		

NOTE: "*" indicates a value which was changed to "ND" following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	92	J	380	62	J	380	ND	U	360
Acenaphthylene	ug/kg	270	J	380	ND	U	380	ND	U	360
Anthracene	ug/kg	320	J	380	130	J	380	68	J	360
9H-Carbazole	ug/kg	61	J	380	68	J	380	ND	U	360
Benzo(a)anthracene	ug/kg	1400		380	350	J	380	240	J	360
Benzo(a)pyrene	ug/kg	1200		380	310	J	380	220	J	360
Benzo(b)fluoranthene	ug/kg	1700		380	540		380	440		360
Benzo(g,h,i)perylene	ug/kg	420		380	140	J	380	59	J	360
Benzo(k)fluoranthene	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Bromophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
Butyl benzyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chloroaniline	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroethyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chloro-3-methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Chloronaphthalene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Chlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chlorophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
Chrysene	ug/kg	1400		380	380		380	250	J	360
Di-n-butyl phthalate	ug/kg	41	J	380	ND	U	380	140	J	360
Dibenz(a,h)anthracene	ug/kg	270	J	380	59	J	380	43	J	360
Dibenzofuran	ug/kg	130	J	380	46	J	380	ND	U	360
1,2-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
1,3-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
1,4-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
3,3'-Dichlorobenzidine	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,4-Dichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Diethyl phthalate	ug/kg	80	J	380	ND	U	380	ND	U	360
2,4-Dimethylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Dimethyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4-Dinitrophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,6-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Di-n-octyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	380	ND	U*	380	59	J	360
Fluoranthene	ug/kg	2100		380	740		380	430		360
Fluorene	ug/kg	190	J	380	75	J	380	ND	U	360
Hexachlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachlorobutadiene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachlorocyclo-pentadiene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachloroethane	ug/kg	ND	U	380	ND	U	380	ND	U	360
Indeno(1,2,3-cd)pyrene	ug/kg	560		380	170	J	380	100	J	360
Isophorone	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Methylnaphthalene	ug/kg	ND	U	380	45	J	380	ND	U	360
2-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Naphthalene	ug/kg	ND	U	380	39	J	380	ND	U	360
2-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
3-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
4-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
Nitrobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Nitrophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Nitrophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
N-Nitrosodiphenylamine	ug/kg	ND	U	380	ND	U	380	ND	U	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	380	ND	U	380	ND	U	360
Pentachlorophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
Phenanthrene	ug/kg	1600		380	640		380	210	J	360
Phenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Pyrene	ug/kg	2300		380	710		380	490		360
1,2,4-Trichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,4,5-Trichlorophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4,6-Trichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Total PAHs		13822			4390			2550		
Total Carcinogenic PAHs		6950			1949			1352		
Total SVOCs		14134			4504			2749		

NOTE: "*" indicates a value which was changed to "ND" following data validation.

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
beta-BHC	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
delta-BHC	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
gamma-BHC (Lindane)	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ*	4.6
Heptachlor	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
Aldrin	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
Heptachlor epoxide	ug/kg	0.17	J	2.0	1.3	J	1.9	0.81	J	1.9	0.06	NJ	1.9
Endosulfan I	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
Dieldrin	ug/kg	ND	UJ*	4.0	3.5	J	3.8	ND	UJ*	6.1	0.61	J	3.6
4,4'-DDE	ug/kg	72	J	4.0	9.2	J	3.8	8.3	J	3.8	6.5	J	3.6
Endrin	ug/kg	ND	UJ	4.0	7.6	J	3.8	2.5	J	3.8	ND	UJ	3.6
Endosulfan II	ug/kg	ND	UJ	4.0	1.6	J	3.8	0.92	J	3.8	ND	UJ	3.6
4,4'-DDD	ug/kg	3.4	J	4.0	3.8	J	3.8	3.3	J	3.8	ND	UJ	3.6
Endosulfan sulfate	ug/kg	ND	UJ	4.0	ND	UJ	3.8	ND	UJ	3.8	0.56	J	3.6
4,4'-DDT	ug/kg	38	J	4.0	15	J	3.8	12	J	3.8	11	J	3.6
Methoxychlor	ug/kg	ND	UJ*	20	ND	UJ	19	1.4	NJ	19	ND	UJ	19
Endrin ketone	ug/kg	ND	UJ	4.0	ND	UJ	3.8	ND	UJ	3.8	ND	UJ	3.6
Endrin aldehyde	ug/kg	ND	UJ*	4.0	ND	UJ	3.8	ND	UJ	3.8	3.3	J	3.6
alpha-Chlordane	ug/kg	0.17	J	2.0	ND	UJ	1.9	ND	UJ*	1.9	0.33	J	1.9
gamma-Chlordane	ug/kg	ND	U	2.0	ND	UJ*	1.9	ND	UJ*	1.9	ND	UJ	1.9
Toxaphene	ug/kg	ND	U	200	ND	UJ	190	ND	UJ	190	ND	UJ	190
Aroclor 1016	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1221	ug/kg	ND	U	80	ND	UJ	77	ND	UJ	76	ND	UJ	74
Aroclor 1232	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1242	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1248	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1254	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1260	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-0001-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2.0	0.048	J	1.9	ND	UJ	3.8	ND	U	2.0
beta-BHC	ug/kg	ND	U	2.0	ND	UJ	1.9	ND	UJ	3.8	ND	U	2.0
delta-BHC	ug/kg	ND	U	2.0	ND	UJ	1.9	ND	UJ	3.8	ND	U	2.0
gamma-BHC (Lindane)	ug/kg	ND	UJ*	3.3	ND	UJ*	5.0	ND	UJ	3.8	0.24	J	2.0
Heptachlor	ug/kg	ND	U	2.0	ND	UJ	1.9	ND	UJ	3.8	0.27	J	2.0
Aldrin	ug/kg	ND	U	2.0	ND	UJ	1.9	ND	UJ	3.8	ND	U	2.0
Heptachlor epoxide	ug/kg	0.24	J	2.0	0.66	J	1.9	1.4	J	3.8	0.34	J	2.0
Endosulfan I	ug/kg	ND	U	2.0	ND	UJ	1.9	0.66	NJ	3.8	ND	U	2.0
Dieldrin	ug/kg	ND	UJ*	3.3	ND	UJ*	7.1	5.6	NJ	7.4	0.88	J	3.9
4,4'-DDE	ug/kg	6.5		3.8	0.41	J	3.7	ND	UJ*	7.4	20	J	3.9
Endrin	ug/kg	3.2	J	3.8	4.8	J	3.7	9.7	NJ	7.4	0.59	NJ	3.9
Endosulfan II	ug/kg	0.98	J	3.8	ND	UJ	3.7	7.3	NJ	7.4	0.72	J	3.9
4,4'-DDD	ug/kg	1.8	J	3.8	ND	UJ	3.7	ND	UJ	7.4	2.6	NJ	3.9
Endosulfan sulfate	ug/kg	ND	U	3.8	ND	UJ*	4.3	ND	UJ	7.4	ND	U	3.9
4,4'-DDT	ug/kg	11		3.8	7.2	J	3.7	ND	UJ	7.4	34	J	3.9
Methoxychlor	ug/kg	ND	U	20	5.4	J	19	ND	UJ*	54	ND	U	20
Endrin ketone	ug/kg	ND	U	3.8	ND	U	3.7	ND	UJ	7.4	ND	U	3.9
Endrin aldehyde	ug/kg	ND	UJ*	12	ND	UJ*	32	ND	UJ	7.4	1.4	NJ	3.9
alpha-Chlordane	ug/kg	0.61	J	2.0	ND	U	1.9	ND	UJ*	5.7	ND	U	2.0
gamma-Chlordane	ug/kg	0.29	J	2.0	ND	U	1.9	ND	UJ*	3.8	ND	U	2.0
Toxaphene	ug/kg	ND	U	200	ND	U	190	ND	UJ	380	ND	U	200
Aroclor 1016	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1221	ug/kg	ND	U	78	ND	U	74	ND	UJ	150	ND	U	80
Aroclor 1232	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1242	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1248	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1254	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1260	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=		32184-0003-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
beta-BHC	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
delta-BHC	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
gamma-BHC (Lindane)	ug/kg	0.21	J	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	UJ*	4.7
Heptachlor	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
Aldrin	ug/kg	ND	U	1.9	ND	UJ*	9.2	ND	UJ	1.9	ND	U	1.9
Heptachlor epoxide	ug/kg	1.1	NJ	1.9	8.1	J	9.2	2	J	1.9	ND	UJ*	4.2
Endosulfan I	ug/kg	ND	U	1.9	9.4	J	9.2	2	J	1.9	ND	U	1.9
Dieldrin	ug/kg	ND	UJ*	8.4	ND	UJ*	100	ND	UJ*	28	ND	U	3.7
4,4'-DDE	ug/kg	3.3	J	3.7	ND	UJ	18	ND	UJ	3.7	1.5	J	3.7
Endrin	ug/kg	13	J	3.7	74	J	18	25	J	3.7	ND	U	3.7
Endosulfan II	ug/kg	3.6	J	3.7	25	NJ	18	6.5	J	3.7	ND	UJ*	3.7
4,4'-DDD	ug/kg	ND	U	3.7	17	J	18	4.7	J	3.7	ND	U	3.7
Endosulfan sulfate	ug/kg	1.7	J	3.7	33	J	18	11	J	3.7	ND	U	3.7
4,4'-DDT	ug/kg	ND	U*	28	ND	UJ	18	9.6	J	3.7	3.6	J	3.7
Methoxychlor	ug/kg	ND	U	19	ND	UJ	92	ND	UJ	19	1.4	J	19
Endrin ketone	ug/kg	ND	U	3.7	ND	UJ	18	ND	UJ	3.7	ND	U	3.7
Endrin aldehyde	ug/kg	6.8	NJ	3.7	ND	UJ	18	ND	UJ	3.7	3.9	NJ	3.7
alpha-Chlordane	ug/kg	ND	U*	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
gamma-Chlordane	ug/kg	ND	U*	1.9	3.5	J	9.2	ND	UJ	1.9	ND	U	1.9
Toxaphene	ug/kg	ND	U	190	ND	UJ	920	ND	UJ	190	ND	U	190
Aroclor 1016	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1221	ug/kg	ND	U	75	ND	UJ	360	ND	UJ	75	ND	U	76
Aroclor 1232	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1242	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1248	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1254	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1260	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	10000		NA	10300		NA	11200		NA	9910		NA
Antimony	mg/kg	6	UJ	NA	5.7	UJ	NA	5.6	UJ	NA	5.7	J	NA
Arsenic	mg/kg	6.2	J	NA	6.3	J	NA	6	J	NA	5	J	NA
Barium	mg/kg	27.2	B	NA	25.6	B	NA	29.9	B	NA	25.4	B	NA
Beryllium	mg/kg	0.4	B	NA	0.33	B	NA	0.43	B	NA	0.39	B	NA
Cadmium	mg/kg	0.72	U	NA	0.71	U	NA	0.7	U	NA	0.69	U	NA
Calcium	mg/kg	668		NA	644	B	NA	1830		NA	1170		NA
Chromium	mg/kg	11.6		NA	12.1		NA	13.2		NA	11.5		NA
Cobalt	mg/kg	5.8	B	NA	6.7	B	NA	9.7	B	NA	6.5	B	NA
Copper	mg/kg	17.2		NA	11.3		NA	19.8		NA	16.4		NA
Iron	mg/kg	17300		NA	16500		NA	19800		NA	16800		NA
Lead	mg/kg	133		NA	35.1	S	NA	68.7		NA	60.4		NA
Magnesium	mg/kg	1900		NA	1930		NA	2390		NA	2120		NA
Manganese	mg/kg	211		NA	233	J	NA	331	J	NA	221	J	NA
Mercury	mg/kg	0.19		NA	0.06	U	NA	0.06	U	NA	0.07	B	NA
Nickel	mg/kg	14.3		NA	12		NA	15.7		NA	15.4		NA
Potassium	mg/kg	280	B	NA	446	B	NA	419	B	NA	402	B	NA
Selenium	mg/kg	0.48	UW	NA	0.47	UW	NA	0.47	U	NA	0.46	U	NA
Silver	mg/kg	0.96	U	NA	1.2	U	NA	1.2	U	NA	1.1	U	NA
Sodium	mg/kg	289	U	NA	401	U	NA	396	U	NA	388	U	NA
Thallium	mg/kg	0.48	U	NA	0.47	UJ	NA	0.47	UJ	NA	0.46	UJ	NA
Vanadium	mg/kg	29.5		NA	18.3	J	NA	22.5		NA	41.2		NA
Zinc	mg/kg	82		NA	42.8	UJ	NA	73.4	J	NA	65.1	J	NA
Cyanide, Total	mg/kg	0.60	U	NA	0.59	U	NA	0.59	UJ	NA	0.57	UJ	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-01-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	10500		NA	10500		NA	8380		NA	10700		NA
Antimony	mg/kg	5.3	UJ	NA	5.3	UJ	NA	5.4	UJ	NA	5.9	UJ	NA
Arsenic	mg/kg	6.6	J	NA	6.6	J	NA	10	J	NA	8.5		NA
Barium	mg/kg	25.9	B	NA	25.9	B	NA	32.4	B	NA	27.4	B	NA
Beryllium	mg/kg	0.28	B	NA	0.28	B	NA	0.37	B	NA	0.35	B	NA
Cadmium	mg/kg	0.66	U	NA	0.66	U	NA	0.67	U	NA	0.74	U	NA
Calcium	mg/kg	1400	B	NA	1400		NA	4520		NA	937	B	NA
Chromium	mg/kg	13.7		NA	13.7		NA	19.3		NA	11.8		NA
Cobalt	mg/kg	10.8	B	NA	10.8	B	NA	10.6	B	NA	5.8	B	NA
Copper	mg/kg	33.9		NA	33.9		NA	63.8		NA	9.1		NA
Iron	mg/kg	23000		NA	23000		NA	31000		NA	15400		NA
Lead	mg/kg	108		NA	108		NA	125		NA	22.5	S	NA
Magnesium	mg/kg	3280		NA	3280		NA	3540		NA	1930		NA
Manganese	mg/kg	439	J	NA	439	J	NA	325	J	NA	215	J	NA
Mercury	mg/kg	0.080	B	NA	0.08	B	NA	0.14		NA	0.06	U	NA
Nickel	mg/kg	18.3		NA	18.3		NA	20.8		NA	11.7		NA
Potassium	mg/kg	382	B	NA	382	B	NA	443	B	NA	279	B	NA
Selenium	mg/kg	0.47	U	NA	0.47	U	NA	0.58	B	NA	0.49	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.2	U	NA
Sodium	mg/kg	372	U	NA	372	U	NA	378	U	NA	415	U	NA
Thallium	mg/kg	0.44	UJ	NA	0.44	UJ	NA	0.45	UJ	NA	0.49	UJ	NA
Vanadium	mg/kg	19.0		NA	19		NA	21.9		NA	18.7		NA
Zinc	mg/kg	104	J	NA	104	J	NA	168	J	NA	38	J	NA
Cyanide, Total	mg/kg	0.55	UJ	NA	0.55	UJ	NA	0.56	UJ	NA	0.61	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=		32184-0003-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9540		NA	7080		NA	9580		NA	6270		NA
Antimony	mg/kg	5.1	UJ	NA	5.2	UJ	NA	6.5	J	NA	5.1	UJ	NA
Arsenic	mg/kg	7		NA	6.9	J	NA	7.3	J	NA	3.4	J	NA
Barium	mg/kg	26.9	B	NA	46.5		NA	10.2	B	NA	13.3	B	NA
Beryllium	mg/kg	0.36	B	NA	0.22	B	NA	0.4	B	NA	0.23	B	NA
Cadmium	mg/kg	0.72	B	NA	0.65	U	NA	0.66	U	NA	0.64	U	NA
Calcium	mg/kg	1640		NA	1550		NA	849	B	NA	732	B	NA
Chromium	mg/kg	12.1		NA	28.4		NA	17.6		NA	7.2		NA
Cobalt	mg/kg	11.1		NA	7.4	B	NA	14.9		NA	7	B	NA
Copper	mg/kg	20.5		NA	87		NA	45.1		NA	11.6		NA
Iron	mg/kg	22700		NA	39200		NA	31100		NA	12700		NA
Lead	mg/kg	77.4		NA	126		NA	83.2		NA	23.6	S	NA
Magnesium	mg/kg	2640		NA	3330		NA	3320		NA	2170		NA
Manganese	mg/kg	506	J	NA	290	J	NA	554	J	NA	404	J	NA
Mercury	mg/kg	0.05	U	NA	0.11	B	NA	0.1	B	NA	0.05	U	NA
Nickel	mg/kg	19.5		NA	26.8		NA	19.1		NA	11		NA
Potassium	mg/kg	329	B	NA	1160		NA	339	B	NA	330	B	NA
Selenium	mg/kg	0.43	UW	NA	0.44	U	NA	0.44	U	NA	0.43	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.1	U	NA
Sodium	mg/kg	362	U	NA	368	U	NA	372	U	NA	362	U	NA
Thallium	mg/kg	0.43	UJ	NA	0.44	UJ	NA	0.44	UJ	NA	0.43	UJ	NA
Vanadium	mg/kg	19.3		NA	27.3		NA	16.4		NA	9	B	NA
Zinc	mg/kg	89.3	J	NA	207	J	NA	125	J	NA	39.5	J	NA
Cyanide, Total	mg/kg	0.54	U	NA	0.54	UJ	NA	0.55	UJ	NA	0.46	UJ	NA

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP11-011194			FF-TP12-011194			FF-TP13-011194			FF-TP21-011194		
Sample Designation=		9401L245-001			9401L245-002			9401L245-003			9401L245-004		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Diesel Scan	*mg/kg*	ND	U	749	Not Analyzed			Not Analyzed			Not Analyzed		
Chloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromomethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Vinyl Chloride	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Chloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Methylene chloride	ug/kg	ND	U*	2400	ND	U*	15	ND	U*	17	ND	U*	1700
Acetone	ug/kg	ND	U*	5100	ND	U*	29	ND	U*	29	ND	U	1400
Carbon disulfide	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1-Dichloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1-Dichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Chloroform	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
2-Butanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,1-Trichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Carbon tetrachloride	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromodichloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloropropane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
cis-1,3-Dichloropropene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Trichloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Dibromochloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,2-Trichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Benzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
trans-1,3-Dichloropropene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromoform	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
4-Methyl-2-Pentanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
2-Hexanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Tetrachloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Toluene	ug/kg	ND	U	2400	ND	U	11	2	J	11	ND	U	1400
Chlorobenzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Ethylbenzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Styrene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Xylenes (total)	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Total VOCs		**0**			**0**			**2**			**0**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP22-011194			FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=		9401L245-005			9401L245-006			9401L245-007			9401L245-008		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromomethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Vinyl Chloride	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Chloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Methylene chloride	ug/kg	ND	U*	13	ND	U*	18	ND	U*	3800	ND	U*	17
Acetone	ug/kg	ND	U*	56	ND	U*	32	ND	U*	3500	ND	U*	29
Carbon disulfide	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Chloroform	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
2-Butanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromodichloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Trichloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Dibromochloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Benzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromoform	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
2-Hexanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Tetrachloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Toluene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	1	J	11
Chlorobenzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Ethylbenzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Styrene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Xylenes (total)	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Total VOCs		0			0			0			1		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP33-011194			FB-011194			TB-011294		
Sample Designation=		9401L245-009			9401L245-010			9401L245-011		
Sample Collection Date=		11 JAN 94			11 JAN 94			12 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	U*	18	ND	U*	12	ND	U*	23
Acetone	ug/kg	ND	U*	32	ND	U*	12	ND	U*	10
Carbon disulfide	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Benzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	U	11	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Toluene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Styrene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	U	11	ND	U	10	ND	U	10
Total VOCs		**0**			**0**			**0**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP21-011194			FF-TP22-011194			FF-TP23-011194		
Sample Designation=		9401L245-004			9401L245-005			9401L245-006		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
bis(2- ;hloroethyl)ether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Chlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,3-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,4-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,2-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachloroethane	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Nitrobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Isophorone	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Nitrophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dimethylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
bis(2-Chloroethoxy)methane	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dichlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,2,4-Trichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Naphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chloroaniline	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorobutadiene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chloro-3-methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Methylnaphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorocyclopentadiene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4,6-Trichlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4,5-Trichlorophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
2-Chloronaphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Dimethylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Acenaphthylene	ug/kg	ND	U	7700	ND	UJ	380	100	J	360
2,6-Dinitrotoluene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
3-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Acenaphthene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dinitrophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
4-Nitrophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Dibenzofuran	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dinitrotoluene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Diethylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chlorophenyl-phenylether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Fluorene	ug/kg	1500	J	7700	ND	UJ	380	ND	UJ	360
4-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
N-Nitrosodiphenylamine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Bromophenyl-phenylether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Pentachlorophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Phenanthrene	ug/kg	850	J	7700	ND	UJ	380	860	J	360
Anthracene	ug/kg	440	J	7700	ND	UJ	380	170	J	360
Carbazole	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Di-n-butylphthalate	ug/kg	ND	U	7700	ND	UJ*	380	ND	UJ	360
Fluoranthene	ug/kg	460	J	7700	ND	UJ	380	930	J	360
Pyrene	ug/kg	1000	J	7700	ND	UJ	380	1100	J	360
Butylbenzylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
3,3'-Dichlorobenzidine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Benzo(a)anthracene	ug/kg	ND	U	7700	ND	UJ	380	500	J	360
Chrysene	ug/kg	ND	U	7700	ND	UJ	380	580	J	360
bis(2-Ethylhexyl)phthalate	ug/kg	ND	U*	7700	ND	UJ	380	ND	UJ	360
Di-n-octyl phthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Benzo(b)fluoranthene	ug/kg	ND	U	7700.	ND	UJ	380	320	J	360
Benzo(k)fluoranthene	ug/kg	ND	U	7700	ND	UJ	380	390	J	360
Benzo(a)pyrene	ug/kg	ND	U	7700	ND	UJ	380	460	J	360
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	7700	ND	UJ	380	260	J	360
Dibenz(a,h)anthracene	ug/kg	ND	U	7700	ND	UJ	380	160	J	360
Benzo(g,h,i)perylene	ug/kg	ND	U	7700	ND	UJ	380	330	J	360
Total PAHs		4250			0			6160		
Total Carcinogenic PAHs		0			0			3000		
Total SVOCs		4250			0			6160		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP31-011194			FF-TP32-011194			FF-TP33-011194		
Sample Designation=		9401L245-007			9401L245-008			9401L245-009		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
bis(2-Chloroethyl)ether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Chlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,3-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,4-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,2-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
N-Nitroso-di-n-propylamine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachloroethane	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Nitrobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Isophorone	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Nitrophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dimethylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
bis(2-Chloroethoxy)methane	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dichlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,2,4-Trichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Naphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chloroaniline	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorobutadiene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chloro-3-methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Methylnaphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorocyclopentadiene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4,6-Trichlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	37[illegible]
2,4,5-Trichlorophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	9[illegible]
2-Chloronaphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	3[illegible]
2-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Dimethylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Acenaphthylene	ug/kg	ND	UJ	6700	380	J	700	ND	UJ	370
2,6-Dinitrotoluene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
3-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Acenaphthene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dinitrophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
4-Nitrophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Dibenzofuran	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dinitrotoluene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Diethylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chlorophenyl-phenylether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Fluorene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
4,6-Dinitro-2-methylphenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
N-Nitrosodiphenylamine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Bromophenyl-phenylether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Pentachlorophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Phenanthrene	ug/kg	6300	J	6700	1300	J	700	730	J	370
Anthracene	ug/kg	480	J	6700	520	J	700	200	J	370
Carbazole	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Di-n-butylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ*	370
Fluoranthene	ug/kg	ND	UJ	6700	3000	J	700	1200	J	370
Pyrene	ug/kg	ND	UJ	6700	3100	J	700	980	J	370
Butylbenzylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
3,3'-Dichlorobenzidine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Benzo(a)anthracene	ug/kg	500	J	6700	2400	J	700	580	J	370
Chrysene	ug/kg	690	J	6700	2500	J	700	640	J	370
bis(2-Ethylhexyl)phthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Di-n-octyl phthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Benzo(b)fluoranthene	ug/kg	430	J	6700	2300	J	700	480	J	370
Benzo(k)fluoranthene	ug/kg	850	J	6700	2500	J	700	570	J	370
Benzo(a)pyrene	ug/kg	ND	UJ	6700	2900	J	700	630	J	370
Indeno(1,2,3-cd)pyrene	ug/kg	ND	UJ	6700	1700	J	700	400	J	370
Dibenz(a,h)anthracene	ug/kg	ND	UJ	6700	780	J	700	130	J	37[illegible]
Benzo(g,h,i)perylene	ug/kg	ND	UJ	6700	1700	J	700	440	J	
Total PAHs		9250			25080			6980		
Total Carcinogenic PAHs		2470			16780			3870		
Total SVOCs		9250			25080			6980		

*NOTE: * indicates a value which was changed to 'ND' following data validation.*

TABLE L3.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=				FF-TP22-011194			FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=				9401L245-005			9401L245-006			9401L245-007			9401L245-008		
Sample Collection Date=				11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units			Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
beta-BHC	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
delta-BHC	ug/kg			ND	UJ	1.8	ND	U	1.6	2.4	J	2.0	ND	UJ	3.6
gamma-BHC (Lindane)	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Heptachlor	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Aldrin	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Heptachlor epoxide	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Endosulfan I	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Dieldrin	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
4,4'-DDE	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Endrin	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Endosulfan II	ug/kg			ND	UJ	3.6	5.1	J	3.2	4.7	J	3.9	9.7	J	7.2
4,4'-DDD	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Endosulfan sulfate	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
4,4'-DDT	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Methoxychlor	ug/kg			ND	UJ	18	ND	U	16	ND	UJ	20	ND	UJ	36
Endrin ketone	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Endrin aldehyde	ug/kg			ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
alpha-Chlordane	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
gamma-Chlordane	ug/kg			ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Toxaphene	ug/kg			ND	UJ	180	ND	U	160	ND	UJ	200	ND	UJ	360
Aroclor 1016	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1221	ug/kg			ND	UJ	71	ND	U	64	ND	UJ	78	ND	UJ	140
Aroclor 1232	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1242	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1248	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1254	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1260	ug/kg			ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L3.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-TB33-011194			FB-011194		
Sample Designation=		9401L245-009			9401L245-010		
Sample Collection Date=		11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	1.9	ND	UJ	0.052
beta-BHC	ug/kg	ND	UJ	1.9	ND	UJ	0.052
delta-BHC	ug/kg	ND	UJ	1.9	ND	UJ	0.052
gamma-BHC (Lindane)	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Heptachlor	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Aldrin	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Heptachlor epoxide	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Endosulfan I	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Dieldrin	ug/kg	ND	UJ	3.7	ND	UJ	0.10
4,4'-DDE	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endrin	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endosulfan II	ug/kg	5.4	J	3.7	ND	UJ	0.10
4,4'-DDD	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endosulfan sulfate	ug/kg	ND	UJ	3.7	ND	UJ	0.10
4,4'-DDT	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Methoxychlor	ug/kg	ND	UJ	19	ND	UJ	0.52
Endrin ketone	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endrin aldehyde	ug/kg	ND	UJ	3.7	ND	UJ	0.10
alpha-Chlordane	ug/kg	ND	UJ	1.9	ND	UJ	0.052
gamma-Chlordane	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Toxaphene	ug/kg	ND	UJ	190	ND	UJ	5.2
Aroclor 1016	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1221	ug/kg	ND	UJ	74	ND	UJ	2.1
Aroclor 1232	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1242	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1248	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1254	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1260	ug/kg	ND	UJ	37	ND	UJ	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-TP11-011194			FF-TP12-011194			FF-TP13-011194			FF-TP21-011194		
Sample Designation=		9401L245-001			9401L245-002			9401L245-003			9401L245-004		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	0.66	J	0.15	ND	UJ	0.091	ND	UJ	0.089	ND	UJ	0.092
Aluminum, Total	mg/kg	10900		5.8	8710		3.5	7970		3.2	5650		3.5
Arsenic, Total	mg/kg	9.5	J	0.77	4.1	J	0.45	2.6	J	0.45	3.7	J	0.46
Barium, Total	mg/kg	329		1.2	46.2	B	0.70	23.6	B	0.65	9.6	B	0.70
Beryllium, Total	mg/kg	1	B	0.39	0.28	B	0.23	0.37	B	0.22	ND	U	0.23
Calcium, Total	mg/kg	4930		7.0	4930		4.2	795	B	3.9	760	B	4.2
Cadmium, Total	mg/kg	11.5		0.31	0.25	J	0.091	ND	UJ	0.089	ND	UJ	0.092
Cobalt, Total	mg/kg	33.8		0.77	8.3	B	0.47	12.2		0.43	8	B	0.46
Chromium, Total	mg/kg	97.9	J	1.2	8.6	J	0.70	11.8	J	0.65	5.8	J	0.70
Copper, Total	mg/kg	544		0.77	23.3		0.47	16.1		0.43	16.9		0.46
Iron, Total	mg/kg	170000		2.3	17200		1.4	23000		1.3	16900		1.4
Mercury, Total	mg/kg	0.26		0.097	0.25		0.059	ND	U	0.056	ND	U	0.045
Potassium, Total	mg/kg	592	B	258	329	B	156	538	B	144	320	B	154
Magnesium, Total	mg/kg	3650		18.2	1840		11.0	2180		10.2	2040		10.9
Manganese, Total	mg/kg	692	J	1.2	255	J	0.70	186	J	0.65	243	J	0.70
Sodium, Total	mg/kg	196	B	10.4	89.2	B	6.3	97.9	B	5.8	87.3	B	6.3
Nickel, Total	mg/kg	145		3.5	13.7		2.1	28.1		1.9	16.3		2.1
Lead, Total	mg/kg	497	J	7.0	475	J	4.2	40.1	J	3.9	10.8	J	4.6
Antimony, Total	mg/kg	ND	U	10.4	ND	U	6.3	ND	U	5.8	ND	U	6.3
Selenium, Total	mg/kg	ND	UJ	0.77	0.59	J	0.45	ND	UJ	0.45	ND	UJ	0.46
Thallium, Total	mg/kg	ND	UJ	0.77	ND	UJ	4.5	ND	UJ	0.45	ND	UJ	0.46
Vanadium, Total	mg/kg	ND	U	1.5	16.5		0.94	7.1	B	0.87	11.1	B	0.93
Zinc, Total	mg/kg	4480		1.2	169		0.70	57.8		0.65	210		0.70
Cyanide, Total	mg/kg	ND	U	1.9	ND	U	1.2	ND	U	1.2	ND	U	1.2

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-TP22-011194			FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=		9401L245-005			9401L245-006			9401L245-007			9401L245-008		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	ND	UJ	0.092	ND	UJ	0.084	ND	UJ	0.095	ND	UJ	0.089
Aluminum, Total	mg/kg	12000		3.2	6620		3.3	3030		3.6	10300		3.3
Arsenic, Total	mg/kg	4.3	J	0.46	2.1	J	0.42	16.3	J	1.9	2.9	J	0.45
Barium, Total	mg/kg	18.2	B	0.65	13.2	B	0.65	200		0.72	22.1	B	0.66
Beryllium, Total	mg/kg	0.37	B	0.22	0.24	B	0.22	ND	U	0.24	0.29	B	0.22
Calcium, Total	mg/kg	884	B	3.9	4330		3.9	32300		4.3	1090	B	4.0
Cadmium, Total	mg/kg	ND	UJ	0.092	ND	UJ	0.084	3.6		0.095	ND	UJ	0.089
Cobalt, Total	mg/kg	10.4	B	0.43	8.6	B	0.44	2.9	B	0.48	11.8		0.44
Chromium, Total	mg/kg	12.5	J	0.65	8.8	J	0.65	6.1	J	0.72	12.3	J	0.66
Copper, Total	mg/kg	10.6		0.43	26.6		0.44	52.4		0.48	27.4		0.44
Iron, Total	mg/kg	22100		1.3	15500		1.3	12300		1.4	24400		1.3
Mercury, Total	mg/kg	ND	U	0.049	ND	U	0.055	0.16		0.060	0.076	B	0.046
Potassium, Total	mg/kg	336	B	144	471	B	145	822	B	161	809	B	147
Magnesium, Total	mg/kg	2570		10.2	2490		10.3	4630		11.3	3150		10.4
Manganese, Total	mg/kg	139	J	0.65	273		0.65	299	J	0.72	413	J	0.66
Sodium, Total	mg/kg	ND	U*	60.1	ND	U*	49.8	324	B	6.5	76	B	6.0
Nickel, Total	mg/kg	17.7		1.9	11.8		2.0	4.3	B	2.2	18.7		2.0
Lead, Total	mg/kg	6.9	J	4.6	65.6	J	3.9	3090	J	4.3	67.6	J	4.0
Antimony, Total	mg/kg	ND	U	5.8	ND	U	5.9	6.7		6.5	ND	U	6.0
Selenium, Total	mg/kg	ND	UJ	0.46	0.5	J	0.42	ND	UJ	0.48	ND	UJ	0.45
Thallium, Total	mg/kg	ND	UJ	0.46	ND	UJ	0.42	ND	UJ	4.8	ND	UJ	0.45
Vanadium, Total	mg/kg	7.4	B	0.86	ND	U*	4.6	ND	U*	6.9	7.7	B	0.88
Zinc, Total	mg/kg	42.7		0.65	112		0.65	1580		0.72	76.3		0.66
Cyanide, Total	mg/kg	ND	U	1.2	ND	U	1.1	ND	U	1.2	ND	U	1.1

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-TP33-011194	FB-011194
Sample Designation=	9401L245-009	9401L245-010
Sample Collection Date=	11 JAN 94	11 JAN 94

Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	ND	UJ	0.083	ND	U	0.0004
Aluminum, Total	mg/kg	8170		3.2	0.121	B	0.015
Arsenic, Total	mg/kg	2.9	J	0.42	ND	U	0.002
Barium, Total	mg/kg	21.7	B	0.65	0.0077	B	0.003
Beryllium, Total	mg/kg	0.37	B	0.22	ND	U	0.001
Calcium, Total	mg/kg	2600		3.9	ND	U*	0.179
Cadmium, Total	mg/kg	ND	UJ	0.083	ND	UJ	0.0004
Cobalt, Total	mg/kg	10.3	B	0.43	0.0022	B	0.002
Chromium, Total	mg/kg	9.7	J	0.65	ND	U	0.003
Copper, Total	mg/kg	25.6		0.43	ND	U	0.002
Iron, Total	mg/kg	19700		1.3	0.087	B	0.006
Mercury, Total	mg/kg	0.073	B	0.051	ND	U	0.0001
Potassium, Total	mg/kg	353	B	144	ND	U	0.666
Magnesium, Total	mg/kg	2350		10.2	0.275	B	0.047
Manganese, Total	mg/kg	310	J	0.65	ND	U	0.003
Sodium, Total	mg/kg	ND	U*	55.6	ND	U*	0.0532
Nickel, Total	mg/kg	15.3		1.9	ND	U	0.009
Lead, Total	mg/kg	76.6	J	3.9	ND	U	0.002
Antimony, Total	mg/kg	ND	U	5.8	ND	U	0.027
Selenium, Total	mg/kg	0.45	J	0.42	ND	U	0.002
Thallium, Total	mg/kg	ND	UJ	0.42	ND	U	0.002
Vanadium, Total	mg/kg	9.2	B	0.86	ND	U	0.004
Zinc, Total	mg/kg	102		0.65	ND	U*	0.0142
Cyanide, Total	mg/kg	ND	U	1.1	ND	U	0.01

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			031806-0012-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromomethane	ug/kg	ND	U	13	ND	UJ	11	ND	U	11	ND	UJ	11
Vinyl Chloride	ug/kg	ND	UJ	13	ND	U	11	ND	U	11	ND	UJ	11
Chloroethane	ug/kg	1	J	13	ND	U	11	ND	U	11	ND	UJ	11
Methylene chloride	ug/kg	ND	U	13	2	J	11	1	J	11	ND	UJ	11
Acetone	ug/kg	ND	U*	34	ND	U*	15	ND	UJ*	11	ND	UJ*	11
Carbon disulfide	ug/kg	10	J	13	ND	U	11	ND	U	11	ND	UJ	11
1,1-Dichloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,1-Dichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Chloroform	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
2-Butanone	ug/kg	ND	U*	13	ND	U*	11	ND	UJ*	11	ND	UJ	11
1,1,1-Trichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Carbon tetrachloride	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromodichloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloropropane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
cis-1,3-Dichloropropene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Trichloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Dibromochloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,1,2-Trichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Benzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
trans-1,3-Dichloropropene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromoform	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
4-Methyl-2-Pentanone	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
2-Hexanone	ug/kg	ND	U	13	ND	U	11	ND	UJ	11	ND	UJ	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Tetrachloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Toluene	ug/kg	2	J	13	2	J	11	ND	U	11	5	J	11
Chlorobenzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Ethylbenzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Styrene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Xylenes (total)	ug/kg	3	J	13	2	J	11	ND	U	11	ND	UJ	11
Total VOCs		**16**			**6**			**1**			**5**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B132-112393			FF-B142-121393			FF-B152-121393		
Sample Designation=		031806-0010-SA			32184-02-SA			32184-04-SA		
Sample Collection Date=		23 NOV 93			13 DEC 93			13 DEC 93		
Sample Depth=		4'6"			15-17'			10-12'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	160	J	420	ND	U	780	230	J	730
Acenaphthylene	ug/kg	ND	U	420	ND	U	780	240	J	730
Anthracene	ug/kg	110	J	420	150	J	780	510	J	730
9H-Carbazole	ug/kg	ND	U	420	ND	U	780	130	J	730
Benzo(a)anthracene	ug/kg	360	J	420	410	J	780	1200		730
Benzo(a)pyrene	ug/kg	280	J	420	250	J	780	730		730
Benzo(b)fluoranthene	ug/kg	510		420	420	J	780	1300		730
Benzo(g,h,i)perylene	ug/kg	88	J	420	130	J	780	300	J	730
Benzo(k)fluoranthene	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Bromophenyl phenyl ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
Butyl benzyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chloroaniline	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroethyl) ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chloro-3-methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Chloronaphthalene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Chlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chlorophenyl phenyl ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
Chrysene	ug/kg	320	J	420	460	J	780	1100		730
Di-n-butyl phthalate	ug/kg	56	J	420	120	J	780	ND	U	730
Dibenz(a,h)anthracene	ug/kg	66	J	420	100	J	780	220	J	730
Dibenzofuran	ug/kg	86	J	420	ND	U	780	200	J	730
1,2-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
1,3-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
1,4-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
3,3'-Dichlorobenzidine	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4-Dichlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Diethyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4-Dimethylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Dimethyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	1900	320	J	1800
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
2,4-Dinitrotoluene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,6-Dinitrotoluene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Di-n-octyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	420	ND	U*	780	ND	U	730
Fluoranthene	ug/kg	830		420	820		780	2200		730
Fluorene	ug/kg	140	J	420	ND	U	780	330	J	730
Hexachlorobenzene	ug/kg	ND	U	420	370	J	780	ND	U	730
Hexachlorobutadiene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Hexachlorocyclo-pentadiene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Hexachloroethane	ug/kg	ND	U	420	ND	U	780	ND	U	730
Indeno(1,2,3-cd)pyrene	ug/kg	120	J	420	140	J	780	360	J	730
Isophorone	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Methylnaphthalene	ug/kg	ND	U	420	ND	U	780	110	J	730
2-Methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Naphthalene	ug/kg	ND	U	420	ND	U	780	84	J	730
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
Nitrobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Nitrophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
N-Nitrosodiphenylamine	ug/kg	ND	U	420	ND	U	780	ND	U	730
N-Nitroso-di-n-propylamine	ug/kg	ND	U	420	ND	U	780	ND	U	730
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
Phenanthrene	ug/kg	480		420	410	J	780	1600		730
Phenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Pyrene	ug/kg	660		420	790		780	1700		730
1,2,4-Trichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
2,4,6-Trichlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Total PAHs		4124			4080			12214		
Total Carcinogenic PAHs		1744			1910			5210		
Total SVOCs		4266			4570			12864		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B153-121393			FF-B162-112393			FF-B172-112493		
Sample Designation=		32184-05-SA			031806-0012-SA			031813-0006-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			24 NOV 93		
Sample Depth=		17-19'			2-4'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	340	J	370	250	J	730	ND	U	360
Acenaphthylene	ug/kg	120	J	370	78	J	730	ND	U	360
Anthracene	ug/kg	570		370	480	J	730	ND	U	360
9H-Carbazole	ug/kg	220	J	370	120	J	730	ND	U	360
Benzo(a)anthracene	ug/kg	1300		370	1200		730	ND	U	360
Benzo(a)pyrene	ug/kg	760		370	1200		730	ND	U	360
Benzo(b)fluoranthene	ug/kg	1400		370	1900		730	47	J	360
Benzo(g,h,i)perylene	ug/kg	360	J	370	510	J	730	ND	U	360
Benzo(k)fluoranthene	ug/kg	ND	U	370	ND	U	730	ND	U	360
4-Bromophenyl phenyl ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
Butyl benzyl phthalate	ug/kg	120	J	370	ND	U	730	ND	U	360
4-Chloroaniline	ug/kg	ND	U	370	ND	U	730	ND	U	360
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	370	ND	R	730	ND	U	360
bis(2-Chloroethyl) ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	370	ND	U	730	ND	U	360
4-Chloro-3-methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
2-Chloronaphthalene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Chlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Chlorophenyl phenyl ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
Chrysene	ug/kg	1100		370	1400		730	ND	U	360
Di-n-butyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
Dibenz(a,h)anthracene	ug/kg	200	J	370	170	J	730	ND	U	360
Dibenzofuran	ug/kg	200	J	370	ND	U	730	ND	U	360
1,2-Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]-Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]-Dichlorobenzidine	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,4-Dichlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Diethyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,4-Dimethylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Dimethyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
2,4-Dinitrophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
2,4-Dinitrotoluene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,6-Dinitrotoluene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Di-n-octyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	370	ND	U*	730	56	J	360
Fluoranthene	ug/kg	2200		370	2100		730	39	J	360
Fluorene	ug/kg	370		370	260	J	730	ND	U	360
Hexachlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachlorobutadiene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachlorocyclo-pentadiene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachloroethane	ug/kg	ND	U	370	ND	U	730	ND	U	360
Indeno(1,2,3-cd)pyrene	ug/kg	380		370	500	J	730	ND	U	360
Isophorone	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Methylnaphthalene	ug/kg	160	J	370	110	J	730	ND	U	360
2-Methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Naphthalene	ug/kg	79	J	370	ND	U	730	ND	U	360
2-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
3-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
4-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
Nitrobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Nitrophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Nitrophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
N-Nitrosodiphenylamine	ug/kg	ND	U	370	ND	R	730	ND	U	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	370	ND	R	730	ND	U	360
Pentachlorophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
Phenanthrene	ug/kg	1800		370	2200		730	38	J	360
Phenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Pyrene	ug/kg	1800		370	3000		730	70	J	360
1,2,4-Trichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]5-Trichlorophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
[illegible]-Trichlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Total PAHs		12939			15858			194		
Total Carcinogenic PAHs		5500			6880			47		
Total SVOCs		13479			15478			250		

NOTE: "*" indicates a value which was changed to "ND" following data validation.

TABLE L2.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			31806-12-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
beta-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
delta-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
gamma-BHC (Lindane)	ug/kg	0.28	J	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
Heptachlor	ug/kg	ND	U	2	ND	U	1.9	1.4	J	1.9	ND	UJ	3.7
Aldrin	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
Heptachlor epoxide	ug/kg	0.89	J	2	3.4	J	1.9	3.3	NJ	1.9	3.4	J	3.7
Endosulfan I	ug/kg	ND	U	2	ND	U	1.9	4.3	NJ	1.9	4	J	3.7
Dieldrin	ug/kg	1.5	NJ	3.9	ND	UJ*	30	ND	UJ*	21	ND	UJ*	47
4,4'-DDE	ug/kg	4.4	J	3.9	ND	U*	1.9	7.2	J	3.7	ND	UJ	7.2
Endrin	ug/kg	6.3	J	3.9	ND	UJ*	40	ND	U	3.7	43	J	7.2
Endosulfan II	ug/kg	2.5	J	3.9	ND	U	3.7	ND	U	3.7	13	J	7.2
4,4'-DDD	ug/kg	9.1	J	3.9	ND	U	3.7	10	J	3.7	9.3	J	7.2
Endosulfan sulfate	ug/kg	1.1	NJ	3.9	ND	U	3.7	3.8	J	3.7	17	J	7.2
4,4'-DDT	ug/kg	77	J	7.8	ND	U*	11	58	J	7.4	42	J	7.2
Methoxychlor	ug/kg	ND	U	20	ND	U	19	ND	U	19	ND	UJ	37
Endrin ketone	ug/kg	ND	U	3.9	ND	U	3.7	ND	U	3.7	ND	UJ	7.2
Endrin aldehyde	ug/kg	2.2	UJ	3.9	ND	UJ*	73	14	J	3.7	ND	UJ	7.2
alpha-Chlordane	ug/kg	1.3	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
gamma-Chlordane	ug/kg	ND	U	2	1.9	J	1.9	2.5	J	1.9	ND	UJ	3.7
Toxaphene	ug/kg	ND	U	200	ND	U	190	ND	U	190	ND	UJ	370
Aroclor 1016	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1221	ug/kg	ND	U	79	ND	U	74	ND	U	75	ND	UJ	150
Aroclor 1232	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1242	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1248	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1254	ug/kg	ND	U	39	ND	U	37	190	J	33	ND	UJ	72
Aroclor 1260	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72

NOTE: "*" indicates a value which was changed to 'ND' following data validation

TABLE L2.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			031806-0012-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	7490		NA	9660		NA	8620		NA	9020		NA
Antimony	mg/kg	5.6	UJ	NA	5.3	UJ	NA	5.7	J	NA	6.8	J	NA
Arsenic	mg/kg	9.2		NA	5.3		NA	5.5		NA	5.8	J	NA
Barium	mg/kg	25.7	B	NA	25.3	B	NA	28.9	B	NA	23.1	B	NA
Beryllium	mg/kg	0.28	B	NA	0.33	B	NA	0.36	B	NA	0.22	U	NA
Cadmium	mg/kg	0.86	B	NA	0.86	B	NA	0.77	B	NA	0.66	U	NA
Calcium	mg/kg	6250		NA	4550		NA	11400		NA	2250		NA
Chromium	mg/kg	17.6		NA	11.9		NA	17.2		NA	24		NA
Cobalt	mg/kg	5.9	B	NA	8.5	B	NA	8.1	B	NA	9.7	B	NA
Copper	mg/kg	35.2		NA	23.8		NA	48.2		NA	83.4		NA
Iron	mg/kg	19900		NA	21000		NA	24700		NA	39700		NA
Lead	mg/kg	252		NA	86.4		NA	292		NA	92.9		NA
Magnesium	mg/kg	3990		NA	3000		NA	3940		NA	3380		NA
Manganese	mg/kg	259	J	NA	291	J	NA	419	J	NA	303	J	NA
Mercury	mg/kg	0.16		NA	0.07	B	NA	0.17		NA	0.1	B	NA
Nickel	mg/kg	15		NA	17.2		NA	19.2		NA	32.9		NA
Potassium	mg/kg	1010	B	NA	470	B	NA	1030	B	NA	588	B	NA
Selenium	mg/kg	0.51	J	NA	0.44	U	NA	0.45	U	NA	0.44	U	NA
Silver	mg/kg	1.2	U	NA	1.1	U	NA	1.1	U	NA	1.1	U	NA
Sodium	mg/kg	682	B	NA	373	U	NA	571	B	NA	378	U	NA
Thallium	mg/kg	0.47	UJ	NA	0.44	UJ	NA	0.45	UJ	NA	0.44	UJ	NA
Vanadium	mg/kg	19		NA	19.2		NA	19.3		NA	19.8		NA
Zinc	mg/kg	97.7	J	NA	121	J	NA	156	J	NA	123	J	NA
Cyanide, Total	mg/kg	0.58	U	NA	0.55	U	NA	0.56	U	NA	0.55	UJ	NA

PDI Soil Sample Analytical Results

Sample ID

SB-406-0002
SB-407-0002
SB-407-0204
SB-411-0204
SB-411-0608
SB-411-1012
SB-411-1416
SB-412-0204
SB-412-0608
SB-412-1012
SB-415-0002
SB-415-0608
SB-416-0002
SB-418-0002
SB-433-0204
SB-433-0608
SB-411-2022
SB-415-0204
SB-416-0406

See revised

ANALYTICAL RESULTS
OFFTA PDI SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-406-0002		OFF-SB-407-0002		OFF-SB-407-0204		OFF-SB-411-0204		OFF-SB-411-0608		OFF-SB-411-1012		OFF-SB-411-1416		OFF-SB-412-0204	
Sample Location		406		407		407		411		411		411		411		412	
Date Sampled		12/3/2003		12/1/2003		12/1/2003		11/24/2003		11/24/2003		11/24/2003		11/24/2003		11/25/2003	
Interval		0.0-2.0		0.0-2.0		2.0-4.0		2.0-4.0		6.0-8.0		10.0-12.0		14.0-16.0		2.0-4.0	
QC Identifier	Soil Direct Exposure Residential	None		None		None		None		None		None		None		Field Dup. OFF-SB-412 0204	
Volatile Organic Analysis (UG/KG)																	
1,1-Dichloroethane	920000	8	U	6	U	5	U	9	U	6	U	5	U	1	J	6	U
2-Butanone	10000000	8	U	6	U	5	U	10		7		5	U	8		6	
2-Hexanone		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Acetone	7800000	39	B	18		15		240	J*	960	*	260		240	J*	480	*
Benzene	2500	6	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Methylene Chloride	45000	14		11		7		21		9		8		12		18	
Tetrachloroethene	12000	8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Toluene	190000	8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Total Xylenes	110000	8	U	6	U	5	U	4	J	6	U	1	J	6	U	6	U
Trichloroethene	13000	8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Trichlorofluoromethane		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Semivolatile Organic Analysis (UG/KG)																	
2-Methylnaphthalene	123000	410	U	1800	U	1800	U	42	J	52	J	170	J	1900	U	410	U
Acenaphthene	43000	83	J	1800	U	1800	U	36	J	76	J	110	J	330	J	410	U
Acenaphthylene	23000	69	J	1800	U	1800	U	91	J	77	J	120	J	330	J	410	U
Anthracene	35000	190	J	270	J	290	J	170	J	190	J	380		1300	J	410	U
Benzaldehyde		71	J	1800	U	1800	U	360	U	380	U	370	U	1900	U	410	U
Benzo(a)anthracene	900	600		1000	J	1000	J	480		520		930		3600		43	J
Benzo(a)pyrene	400	460		860	J	1000	J	410		270	J	610		2900		410	U
Benzo(b)fluoranthene	900	510		1100	J	1400	J	460		520		1100		3300		42	J
Benzo(g,h,i)perylene	800	63	J	380	J	390	J	290	J	290	J	670		1700	J	410	U
Benzo(k)fluoranthene	900	280	J	570	J	520	J	190	J	190	J	410		1400	J	410	U
bis(2-Ethylhexyl)phthalate	46000	68	J	1800	U	1800	U	38	J	820		140	J	1900	U	200	J
Butylbenzylphthalate		120	J	1800	U	1800	U	360	U	380	U	370	U	1900	U	410	U
Carbazole		130	J	1800	U	1800	U	40	J	67	J	96	J	470	J	410	U
Chrysene	400	510		930	J	980	J	480		490		970		3300		45	J
Dibenzo(a,h)anthracene	400	60	J	1800	U	1800	U	82	J	82	J	160	J	600	J	410	U
Dibenzofuran		45	J	1800	U	1800	U	360	U	48	J	91	J	1900	U	410	U
Fluoranthene	20000	990		1700	J	1700	J	690		870		1800		7900		66	J
Fluorene	28000	84	J	1800	U	1800	U	38	J	64	J	120	J	520	J	410	U
Indeno(1,2,3-cd)pyrene	900	230	J	330	J	330	J	260	J	240	J	540		1500	J	410	U
Naphthalene	54000	410	U	1800	U	1800	U	360	U	54	J	130	J	210	J	410	U
Phenanthrene	40000	740		1300	J	1400	J	460		670		1400		5600		410	U
Pyrene	13000	990		2200		2500		900		960		1900		7400		75	J
Pesticide/PCB Analysis (UG/KG)																	
4,4'-DDD		4.0	U	3.6	U	3.6	U	3.6	U	0.64	JP	3.6	U	7.9	P	1.2	JP
4,4'-DDE		4.0	U	3.6	U	3.6	U	3.6	U	1.6	JP	3.6	U	5.3	P	11	P
4,4'-DDT		4.0	U	5.0	P	11	P	3.6	U	1.1	JP	3.6	U	3.8	U	6.6	
alpha-Chlordane		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	2.1	U
Aroclor-1254		40	U	36	U	36	U	36	U	38	U	36	U	400		41	U
Aroclor-1260		40	U	36	U	53	P	36	U	38	U	36	U	38	U	41	U
beta-BHC		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	2.1	U
Endrin Ketone		4.0	U	3.6	U	3.6	U	3.6	U	3.8	U	3.6	U	8.0	P	4.1	U
gamma-Chlordane		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	6.5	P	2.1	U
TAL Metal Analysis (MG/KG)																	
Aluminum		12100		12300	*	10900	*	9820		12200		11300		9680		13200	
Antimony	10	7.0	N	0.84	BN*	1.1	N*	7.8	N	9.6	N	7.4	N	8.2	N	6.6	N
Arsenic	1.7	6.7		5.8	*	6.9	*	7.8		12.8		8.6		9.5		11.5	
Barium	5500	49.3		60.6	*	43.3	*	26.9		36.1		40.1		40.9		35.9	
Beryllium	0.4	0.56		0.27	*	0.19	B*	0.36		0.54		0.50		0.46		0.54	
Cadmium	39	0.035	U	0.38	*	0.48	*	0.16	B	0.28		0.29		0.50		0.016	U
Calcium		1790		1800	*	10600	*	3610		3490		14900		13000		1660	
Chromium	1400	16.2		13.2	*	14.9	*	13.2		17.2		14.3		24.7		15.8	
Cobalt		8.6	E	11.5	*	9.2	*	9.1		9.2		7.8		8.6		7.0	
Copper	3100	29.1		67.3	N*	29.0	N*	35.5		37.7		59.3		54.3		15.7	
Iron		23900		29900	*	40000	*	25700		29800		24800		25700		21800	
Lead	150	268	E	217	*	192	*	63.4		88.8		143		559		31.1	
Magnesium		3260		3550	*	3460	*	3330		3420		3500		4000		2380	
Manganese	390	450	E	445	*	424	*	491		557		424		234		321	
Mercury	23	0.076		0.027	B	0.043		0.039		0.16		0.14		0.28		0.063	
Nickel	1000	21.4	E	20.2	*	20.0	*	16.8		18.7		17.0		19.3		14.4	
Potassium		560		341	*	331	*	503		434		617		873		378	
Selenium	390	2.6		0.14	UN	0.16	UN	0.23	U	0.27	U	0.25	U	0.27	U	0.27	U
Silver	200	0.046	U	2.5		2.9		0.033	U	0.037	U	0.036	U	0.038	U	0.038	U
Sodium		69.7		83.4	*	103	*	48.6		70.7		234		560		76.9	
Thallium	5.5	2.6		0.090	UN	0.11	UN	3.4		4.2		3.5		3.1		2.6	
Vanadium	550	38.1		31.6	*	57.7	*	21.8		34.0		17.3		22.1		19.9	
Zinc	6000	207		139	*	190	*	111	E	119	E	130	E	147	E	63.4	E

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS
OFFTA PDI SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-DUP07		OFF-SB-412 0608		OFF-SB-412 1012		OFF-SB-415 0002		OFF-SB-DUP03		OFF-SB-415 0204		OFF-SB-416 0002		OFF-SB-418-0002	
Sample Location		412		412		412		415		415		415		416		418	
Date Sampled		11/25/2003		11/25/2003		11/25/2003		11/18/2003		11/18/2003		11/19/2003		11/19/2003		12/3/2003	
Interval		2.0-4.0		6.0-8.0		10.0-12.0		0.0-2.0		0.0-2.0		2.0-4.0		0.0-2.0		0.0-2.0	
QC Identifier	Soil Direct Exposure Residential	Field Dup. OFF-SB-412 0204		None		None		Field Dup. OFF-SB-415 0002		Field Dup. OFF-SB-415 0002		None		None		None	
Volatile Organic Analysis (UG/KG)																	
1,1-Dichloroethane	920000	6	U		NA	6	U	6	U	6	U	7	U	7	U	6	U
2-Butanone	10000000	5	J		NA	13		11		6	U	7	U	7	U	6	U
2-Hexanone		6	U		NA	6	U	1	J	6	U	7	U	7	U	6	U
Acetone	7800000	580	*		NA	3600	*	230		450		25		23		46	B
Benzene	2500	6	U		NA	4	J	6	U	6	U	7	U	7	U	6	U
Methylene Chloride	45000	17			NA	14		19		13		13		17		10	
Tetrachloroethene	12000	6	U		NA	6	U	6	U	2	J	13		7	U	6	U
Toluene	190000	6	U		NA	3	J	6	U	6	U	7	U	7	U	6	U
Total Xylenes	110000	6	U		NA	6	U	6	U	6	U	7	U	7	U	6	U
Trichloroethene	13000	6	U		NA	6	U	6	U	6	U	2	J	7	U	6	U
Trichlorofluoromethane		6	U		NA	6	U	6	U	1	J	7	U	7	U	6	U
Semivolatile Organic Analysis (UG/KG)																	
2-Methylnaphthalene	123000	410	U		NA	130	J	390	U	390	U	39	J	370	U	370	U
Acenaphthene	43000	410	U		NA	100	J	42	J	400	U	120	J	72	J	370	U
Acenaphthylene	23000	410	U		NA	84	J	89	J	110	J	44	J	96	J	370	U
Anthracene	35000	410	U		NA	410		160	J	140	J	220	J	180	J	370	U
Benzaldehyde		410	U		NA	370	U	390	U	390	U	340	U	370	U	370	U
Benzo(a)anthracene	900	42	J		NA	740		480		470		840		510		120	J
Benzo(a)pyrene	400	410	U		NA	590		420		440		800		480		92	J
Benzo(b)fluoranthene	900	51	J		NA	780		540		560		1100		620		95	J
Benzo(g,h,i)perylene	800	410	U		NA	450		300	J	310	J	540		370	J	60	J
Benzo(k)fluoranthene	900	410	U		NA	310	J	210	J	190	J	400		230	J	58	J
bis(2-Ethylhexyl)phthalate	46000	280	J		NA	610		41	J	390	U	40	J	370	U	370	U
Butylbenzylphthalate		410	U		NA	370	U	390	U	390	U	340	U	370	U	370	U
Carbazole		410	U		NA	370	U	60	J	390	U	150	J	69	J	370	U
Chrysene	400	44	J		NA	680		450		450		880		520		120	J
Dibenzo(a,h)anthracene	400	410	U		NA	93	J	77	J	80	J	140	J	100	J	370	U
Dibenzofuran		410	U		NA	76	J	390	U	390	U	55	J	370	U	370	U
Fluoranthene	20000	72	J		NA	1300		1000		970		2100		930		180	J
Fluorene	28000	410	U		NA	150	J	50	J	390	U	74	J	47	J	370	U
Indeno(1,2,3-cd)pyrene	900	410	U		NA	350	J	260	J	270	J	480		320	J	53	J
Naphthalene	54000	410	U		NA	100	J	390	U	390	U	59	J	370	U	370	U
Phenanthrene	40000	50	J		NA	1100		590		430		1200		560		100	J
Pyrene	13000	93	J		NA	1900		950		980		1600		910		200	J
Pesticide/PCB Analysis (UG/KG)																	
4,4'-DDD		1.3	JP		NA	14	P	5.8	P	5.0	P	3.4	U	2.7	J	3.7	U
4,4'-DDE		10			NA	4.3	P	20	P	21	P	24	P	3.7	U	9.2	
4,4'-DDT		6.6	P		NA	3.7	U	16		16		14		12		7.3	P
alpha-Chlordane		2.1	U		NA	1.9	U	2.0	U	2.0	U	1.6	J	1.9	U	1.9	U
Aroclor-1254		40	U		NA	85		39	U	40	U	34	U	37	U	37	U
Aroclor-1260		40	U		NA	37	U	39	U	40	U	34	U	37	U	37	U
beta-BHC		2.1	U		NA	1.9	U	2.0	U	2.0	U	2.4		1.9	U	1.9	U
Endrin Ketone		4.0	U		NA	3.7	U	3.9	U	4.0	U	3.4	U	3.7	U	3.7	U
gamma-Chlordane		2.1	U		NA	1.9	U	2.0	U	2.0	U	2.8	P	1.9	U	1.9	U
TAL Metal Analysis (MG/KG)																	
Aluminum		14000		12000		8860		11200		11700		5850		10100		12900	
Antimony	10	6.2	N	9.6	N	21.2	N	5.7	N	4.8	N	5.0	N	6.7	N	5.5	N
Arsenic	1.7	11.1		8.9		11.6		10.6		11.5		11.1		10.7		8.4	
Barium	5500	35.4		38.2		44.3		32.6		35.0		26.7		36.6		32.1	
Beryllium	0.4	0.55		0.44		0.38		0.55		0.63		0.42		0.53		0.64	
Cadmium	39	0.018	U	0.24	B	1.5		0.016	U	0.016	U	0.015	U	0.016	U	0.033	U
Calcium		1640		3860		15200		2400		2690		3550		5080		983	
Chromium	1400	15.2		25.6		35.4		14.2		17.3		10.2		14.4		15.6	
Cobalt		7.4		9.3		4.4		8.7		7.3		6.1		8.5		9.3	E
Copper	3100	14.7		40.0		104		21.8		19.8		516		38.9		19.6	
Iron		21900		41000		75400		22300	*	19800	*	14400	*	28000	*	22500	
Lead	150	28.6		118		186		77.4		63.8		50.3		168		40.6	E
Magnesium		2820		4070		3160		2770		2680		1790		2620		2660	
Manganese	390	339		574		536		303		260		243		343		338	E
Mercury	23	0.13		0.097		0.20		0.066		0.069		0.39		0.076		0.050	
Nickel	1000	16.1		23.0		34.3		17.6		17.1		13.8		20.6		21.4	E
Potassium		365		500		826		423		440		344		369		358	
Selenium	390	0.30	U	0.25	U	0.25	U	0.27	U	0.26	U	0.26	U	0.28	U	3.0	
Silver	200	0.042	U	0.036	U	0.035	U	0.038	U	0.037	U	0.036	U	0.039	U	0.039	U
Sodium		68.5		122		360		52.3	B	56.0		67.7		67.4		85.2	
Thallium	5.5	2.6		4.3		8.0		2.5		2.0		1.9		2.9		2.2	
Vanadium	550	20.3		26.0		18.8		20.3		21.2		16.9		21.5		20.6	
Zinc	6000	77.0	E	124	E	180	E	78.2		67.3		90.2		119		54.1	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS
OFFTA PDI SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-433-0204		OFF-SB-433-0608	
Sample Location		433		433	
Date Sampled		11/26/2003		11/26/2003	
Interval		2.0-4.0		6.0-8.0	
QC Identifier	Soil Direct Exposure Residential	None		None	
Volatile Organic Analysis (UG/KG)					
2-Butanone	10000000	6		5	U
Acetone	7800000	120		440	*
Benzene	2500	3	J	5	U
Methylene Chloride	45000	12		12	
Toluene	190000	2	J	5	U
Semivolatile Organic Analysis (UG/KG)					
Anthracene	35000	270	J	1800	U
Benzo(a)anthracene	900	670	J	230	J
Benzo(a)pyrene	400	620	J	250	J
Benzo(b)fluoranthene	900	910	J	330	J
Benzo(g,h,i)perylene	800	230	J	220	J
Benzo(k)fluoranthene	900	350	J	1800	U
Chrysene	400	640	J	220	J
Fluoranthene	20000	1200	J	270	J
Indeno(1,2,3-cd)pyrene	900	210	J	1800	U
Phenanthrene	40000	1000	J	190	J
Pyrene	13000	1500	J	520	J
Pesticide/PCB Analysis (UG/KG)					
4,4'-DDD		4.0	U	5.6	P
4,4'-DDE		4.0	U	3.7	JP
4,4'-DDT		10	P	14	
alpha-Chlordane		2.0	U	6.0	
gamma-Chlordane		2.0	U	5.6	P
Heptachlor		2.0	U	2.4	P
TAL Metal Analysis (MG/KG)					
Aluminum		12300		8120	
Antimony	10	7.4	N	7.3	N
Arsenic	1.7	10.6		5.7	
Barium	5500	50.4		27.0	
Beryllium	0.4	0.49		0.35	
Cadmium	39	0.28		0.12	B
Calcium		7490		7350	
Chromium	1400	17.4		26.4	
Cobalt		9.3		6.8	
Copper	3100	41.8		33.4	
Iron		28000		24800	
Lead	150	150		96.6	
Magnesium		3250		2930	
Manganese	390	417		318	
Mercury	23	0.076		0.049	
Nickel	1000	18.8		21.2	
Potassium		585		577	
Selenium	390	0.27	U	0.26	U
Silver	200	0.038	U	0.036	U
Sodium		56.8		70.5	
Thallium	5.5	3.3		2.8	
Vanadium	550	22.8		28.8	
Zinc	6000	165	E	89.3	E

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS
OFFTA PDI SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-411-2022		OFF-SB-415-0608		OFF-SB-416-0406	
Sample Location		411		415		416	
Date Sampled		11/24/2003		11/18/2003		11/19/2003	
Interval		20.0-22.0		6.0-8.0		4.0-6.0	
QC Identifier	Soil Direct Exposure Residential	None		None		None	
Low Concentration PAH (SIM) Analysis (UG/KG)							
2-Methylnaphthalene	123000	24	U	3.6	U	18	U
Acenaphthene	43000	24	U	3.6	U	35	
Acenaphthylene	23000	24	U	3.6	U	40	
Anthracene	35000	24	U	3.6	U	110	
Benzo(a)anthracene	900	48		19		880	
Benzo(a)pyrene	400	47		18		820	
Benzo(b)fluoranthene	900	60		22		1100	
Benzo(g,h,i)perylene	800	30		11		450	
Benzo(k)fluoranthene	900	25		7.9		470	
Chrysene	400	72		21		890	
Dibenzo(a,h)anthracene	400	24	U	3.6	U	120	
Fluoranthene	20000	67		30		1000	
Fluorene	28000	24	U	3.6	U	26	
Indeno(1,2,3-cd)pyrene	900	24	U	8.8		370	
Naphthalene	54000	24	U	3.6	U	18	U
Phenanthrene	40000	47		15		440	
Pyrene	13000	94		36		1200	
Gasoline Range Organic Analysis (UG/KG)							
Gasoline Range Organics		2900	U	2500	U	3300	U
TAL Metal Analysis (MG/KG)							
Aluminum		7650	E	8070		9630	
Antimony	10	0.76	BN	7.5	N	6.2	N
Arsenic	1.7	4.3	*	23.6		11.8	
Barium	5500	20.3	*	10.0	B	17.6	
Beryllium	0.4	0.081	B	0.35		0.43	
Cadmium	39	0.013	U	0.016	U	0.014	U
Calcium		1520	E	948		1840	
Chromium	1400	7.5	*	7.7		12.6	
Cobalt		7.3	E	3.7		10.2	
Copper	3100	17.4	*	43.2		33.9	
Iron		17000		31600	*	25100	*
Lead	150	16.2	N*	182		136	
Magnesium		3380	*	2370		3070	
Manganese	390	409	E	197		570	
Mercury	23	0.023	U*	0.064		0.081	
Nickel	1000	12.7	E	13.1		18.8	
Potassium		616	*	215		389	
Selenium	390	0.20	U	0.26	U	0.24	U
Silver	200	2.3	E	0.036	U	0.034	U
Sodium		317	*	41.4	B	71.5	
Thallium	5.5	0.13	U	2.9		2.6	
Vanadium	550	12.1	E	10.9		16.8	
Zinc	6000	54.5	E	30.8		119	
Total Petroleum Hydrocarbon Analysis (MG/KG)							
Total Petroleum Hydrocarbons	500	300		13	U	170	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; R - Rejected; NA - Not Analyzed

PDI Soil Sample Analytical Results

Sample ID

SB-406-0002
SB-407-0002
SB-407-0204
SB-411-0204
SB-411-0608
SB-411-1012
SB-411-1416
SB-412-0204
SB-412-0608
SB-412-1012
SB-415-0002
SB-415-0608
SB-416-0002
SB-418-0002
SB-433-0204
SB-433-0608
SB-411-2022
SB-415-0204
SB-416-0406

Replace DEEs w/ PRTs

OK

ANALYTICAL RESULTS: DETECTED CONTAMINANTS IN MOUND SAMPLES
OFFTA PDI DECEMBER 2003: SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-406-0002		OFF-SB-407-0002		OFF-SB-407-0204		OFF-SB-411-0204		OFF-SB-411-0608		OFF-SB-411-1012		OFF-SB-411-1416		OFF-SB-412-0204	
Sample Location		406		407		407		411		411		411		411		412	
Date Sampled		12/3/2003		12/1/2003		12/1/2003		11/24/2003		11/24/2003		11/24/2003		11/24/2003		11/25/2003	
Interval		0.0-2.0		0.0-2.0		2.0-4.0		2.0-4.0		6.0-8.0		10.0-12.0		14.0-16.0		2.0-4.0	
QC Identifier	Preliminary Remediation Goal (PRG)	None		None		None		None		None		None		None		Field Dup. OFF-SB-412-0204	
Volatile Organic Analysis (UG/KG)																	
1,1-Dichloroethane		8	U	6	U	5	U	9	U	6	U	5	U	1	J	6	U
2-Butanone		8	U	6	U	5	U	10		7		5	U	8		6	
2-Hexanone		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Acetone		39	B	18		15		240	J*	960	*	260		240	J*	480	*
Benzene		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Methylene Chloride		14		11		7		21		9		8		12		18	
Tetrachloroethene		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Toluene		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Total Xylenes		8	U	6	U	5	U	4	J	6	U	1	J	6	U	6	U
Trichloroethene		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Trichlorofluoromethane		8	U	6	U	5	U	9	U	6	U	5	U	6	U	6	U
Semivolatile Organic Analysis (UG/KG)																	
2-Methylnaphthalene		410	U	1800	U	1800	U	42	J	52	J	170	J	1900	U	410	U
Acenaphthene		83	J	1800	U	1800	U	36	J	76	J	110	J	330	J	410	U
Acenaphthylene		69	J	1800	U	1800	U	91	J	77	J	120	J	330	J	410	U
Anthracene		190	J	270	J	290	J	170	J	190	J	380		1300	J	410	U
Benzaldehyde		71	J	1800	U	1800	U	360	U	380	U	370	U	1900	U	410	U
Benzo(a)anthracene	900	600		1000	J	1000	J	480		520		930		3600		43	J
Benzo(a)pyrene	400	460		860	J	1000	J	410		270	J	610		2900		410	U
Benzo(b)fluoranthene	900	510		1100	J	1400	J	460		520		1100		3300		42	J
Benzo(g,h,i)perylene	800	63	J	380	J	390	J	290	J	290	J	670		1700	J	410	U
Benzo(k)fluoranthene	900	280	J	570	J	520	J	190	J	190	J	410		1400	J	410	U
bis(2-Ethylhexyl)phthalate		68	J	1800	U	1800	U	38	J	820		140	J	1900	U	200	J
Butylbenzylphthalate		120	J	1800	U	1800	U	360	U	380	U	370	U	1900	U	410	U
Carbazole		130	J	1800	U	1800	U	40	J	67	J	96	J	470	J	410	U
Chrysene	400	510		930	J	980	J	480		490		970		3300		45	J
Dibenzo(a,h)anthracene	400	60	J	1800	U	1800	U	82	J	82	J	160	J	600	J	410	U
Dibenzofuran		45	J	1800	U	1800	U	360	U	48	J	91	J	1900	U	410	U
Fluoranthene		990		1700	J	1700	J	690		870		1800		7900		66	J
Fluorene		84	J	1800	U	1800	U	38	J	64	J	120	J	520	J	410	U
Indeno(1,2,3-cd)pyrene	900	230	J	330	J	330	J	260	J	240	J	540		1500	J	410	U
Naphthalene		410	U	1800	U	1800	U	360	U	54	J	130	J	210	J	410	U
Phenanthrene		740		1300	J	1400	J	460		670		1400		5600		410	U
Pyrene		990		2200		2500		900		960		1900		7400		75	J
Pesticide/PCB Analysis (UG/KG)																	
4,4'-DDD		4.0	U	3.6	U	3.6	U	3.6	U	0.64	JP	3.6	U	7.9	P	1.2	JP
4,4'-DDE		4.0	U	3.6	U	3.6	U	3.6	U	1.6	JP	3.6	U	5.3	P	11	P
4,4'-DDT		4.0	U	5.0	P	11	P	3.6	U	1.1	JP	3.6	U	3.8	U	6.6	
alpha-Chlordane		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	2.1	U
Aroclor-1254		40	U	36	U	36	U	36	U	38	U	36	U	400		41	U
Aroclor-1260		40	U	36	U	53	P	36	U	38	U	36	U	38	U	41	U
beta-BHC		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	2.1	U
Endrin Ketone		4.0	U	3.6	U	3.6	U	3.6	U	3.8	U	3.6	U	8.0	P	4.1	U
gamma-Chlordane		2.1	U	1.8	U	1.9	U	1.9	U	1.9	U	1.9	U	6.5	P	2.1	U
TAL Metal Analysis (MG/KG)																	
Aluminum		12100		12300	*	10900	*	9820		12200		11300		9680		13200	
Antimony	10	7.0	N	0.84	BN*	1.1	N*	7.8	N	9.6	N	7.4	N	8.2	N	6.6	N
Arsenic	6.2	6.7		5.8	*	6.9	*	7.8		12.8		8.8		9.5		11.5	
Barium		49.3		60.6	*	43.3	*	26.9		36.1		40.1		40.9		35.9	
Beryllium	0.4	0.56		0.27	*	0.19	B*	0.36		0.54		0.50		0.46		0.54	
Cadmium		0.035	U	0.38	*	0.48	*	0.16	B	0.28		0.29		0.50		0.016	U
Calcium		1790		1800	*	10600	*	3610		3490		14900		13000		1660	
Chromium		16.2		13.2	*	14.9	*	13.2		17.2		14.3		24.7		15.8	
Cobalt		8.6	E	11.5	*	9.2	*	9.1		9.2		7.8		8.6		7.0	
Copper		29.1		67.3	N*	29.0	N*	35.5		37.7		59.3		54.3		15.7	
Iron		23900		29900	*	40000	*	25700		29800		24800		25700		21800	
Lead	150	268	E	217	*	192	*	63.4		88.8		143		559		31.1	
Magnesium		3260		3550	*	3460	*	3330		3420		3500		4000		2380	
Manganese	390	450	E	445	*	424	*	491		557		424		234		321	
Mercury		0.076		0.027	B	0.043		0.039		0.16		0.14		0.28		0.063	
Nickel		21.4	E	20.2	*	20.0	*	16.8		18.7		17.0		19.3		14.4	
Potassium		560		341	*	331	*	503		434		617		873		378	
Selenium		2.6		0.14	UN	0.16	UN	0.23	U	0.27	U	0.25	U	0.27	U	0.27	U
Silver		0.040	U	2.5		2.9		0.033	U	0.037	U	0.036	U	0.038	U	0.038	U
Sodium		69.7		83.4	*	103	*	48.6		70.7		234		560		76.9	
Thallium		2.6		0.090	UN	0.11	UN	3.4		4.2		3.5		3.1		2.6	
Vanadium		38.1		31.6	*	57.7	*	21.8		34.0		17.3		22.1		19.9	
Zinc		207		139	*	190	*	111	E	119	E	130	E	147	E	63.4	E
Total Petroleum Hydrocarbons (mg/kg)																	
Extractable TPH	500	36		92		190		94		230		290		340		41	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS: DETECTED CONTAMINANTS IN MOUND SAMPLES
OFFTA PDI DECEMBER 2003: SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-DUP07		OFF-SB-412-0608		OFF-SB-412-1012		OFF-SB-415-0002		OFF-SB-DUP03		OFF-SB-415-0204		OFF-SB-416-0002		OFF-SB-418-0002	
Sample Location		412		412		412		415		415		415		416		418	
Date Sampled		11/25/2003		11/25/2003		11/25/2003		11/18/2003		11/18/2003		11/19/2003		11/19/2003		12/3/2003	
Interval		2.0-4.0		6.0-8.0		10.0-12.0		0.0-2.0		0.0-2.0		2.0-4.0		0.0-2.0		0.0-2.0	
QC Identifier	Preliminary Remediation Goal (PRG)	Field Dup. OFF-SB-412-0204		None		None		Field Dup. OFF-SB-415-0002		Field Dup. OFF-SB-415-0002		None		None		None	
Volatile Organic Analysis (UG/KG)																	
1,1-Dichloroethane		6	U		NA	6	U	6	U	6	U	7	U	7	U	6	U
2-Butanone		5	J		NA	13		11		6	U	7	U	7	U	6	U
2-Hexanone		6	U		NA	6	U	1	J	6	U	7	U	7	U	6	U
Acetone		580	*		NA	3600	*	230		450		25		23		46	B
Benzene		6	U		NA	4	J	6	U	6	U	7	U	7	U	6	U
Methylene Chloride		17			NA	14		19		13		13		17		10	
Tetrachloroethene		6	U		NA	6	U	6	U	2	J	13		7	U	6	U
Toluene		6	U		NA	3	J	6	U	6	U	7	U	7	U	6	U
Total Xylenes		6	U		NA	6	U	6	U	6	U	7	U	7	U	6	U
Trichloroethene		6	U		NA	6	U	6	U	6	U	2	J	7	U	6	U
Trichlorofluoromethane		6	U		NA	6	U	6	U	1	J	7	U	7	U	6	U
Semivolatile Organic Analysis (UG/KG)																	
2-Methylnaphthalene		410	U		NA	130	J	390	U	390	U	39	J	370	U	370	U
Acenaphthene		410	U		NA	100	J	42	J	400	U	120	J	72	J	370	U
Acenaphthylene		410	U		NA	84	J	89	J	110	J	44	J	96	J	370	U
Anthracene		410	U		NA	410		160	J	140	J	220	J	180	J	370	U
Benzaldehyde		410	U		NA	370	U	390	U	390	U	340	U	370	U	370	U
Benzo(a)anthracene	900	42	J		NA	740		480		470		840		510		120	J
Benzo(a)pyrene	400	410	U		NA	590		420		440		800		480		92	J
Benzo(b)fluoranthene	900	51	J		NA	780		540		580		1100		620		95	J
Benzo(g,h,i)perylene	800	410	U		NA	450		300	J	310	J	540		370	J	60	J
Benzo(k)fluoranthene	900	410	U		NA	310	J	210	J	190	J	400		230	J	58	J
bis(2-Ethylhexyl)phthalate		280	J		NA	610		41	J	390	U	40	J	370	U	370	U
Butylbenzylphthalate		410	U		NA	370	U	390	U	390	U	340	U	370	U	370	U
Carbazole		410	U		NA	370	U	60	J	390	U	150	J	69	J	370	U
Chrysene	400	44	J		NA	680		450		450		880		520		120	J
Dibenzo(a,h)anthracene	400	410	U		NA	93	J	77	J	80	J	140	J	100	J	370	U
Dibenzofuran		410	U		NA	76	J	390	U	390	U	55	J	370	U	370	U
Fluoranthene		72	J		NA	1300		1000		970		2100		930		180	J
Fluorene		410	U		NA	150	J	50	J	390	U	74	J	47	J	370	U
Indeno(1,2,3-cd)pyrene	900	410	U		NA	350	J	260	J	270	J	480		320	J	53	J
Naphthalene		410	U		NA	100	J	390	U	390	U	59	J	370	U	370	U
Phenanthrene		50	J		NA	1100		590		430		1200		560		100	J
Pyrene		93	J		NA	1900		950		980		1600		910		200	J
Pesticide/PCB Analysis (UG/KG)																	
4,4'-DDD		1.3	JP		NA	14	P	5.8	P	5.0	P	3.4	U	2.7	J	3.7	U
4,4'-DDE		10			NA	4.3	P	20	P	21	P	24	P	3.7	U	9.2	
4,4'-DDT		6.6	P		NA	3.7	U	16		16		14		12		7.3	P
alpha-Chlordane		2.1	U		NA	1.9	U	2.0	U	2.0	U	1.6	J	1.9	U	1.9	U
Aroclor-1254		40	U		NA	85		39	U	40	U	34	U	37	U	37	U
Aroclor-1260		40	U		NA	37	U	39	U	40	U	34	U	37	U	37	U
beta-BHC		2.1	U		NA	1.9	U	2.0	U	2.0	U	2.4		1.9	U	1.9	U
Endrin Ketone		4.0	U		NA	3.7	U	3.9	U	4.0	U	3.4	U	3.7	U	3.7	U
gamma-Chlordane		2.1	U		NA	1.9	U	2.0	U	2.0	U	2.8	P	1.9	U	1.9	U
TAL Metal Analysis (MG/KG)																	
Aluminum		14000		12000		8860		11200		11700		5850		10100		12900	
Antimony	10	6.2	N	9.6	N	21.2	N	5.7	N	4.8	N	6.0	N	6.7	N	5.5	N
Arsenic	6.2	11.1		8.9		11.6		10.6		11.5		11.1		10.7		8.4	
Barium		35.4		38.2		44.3		32.6		35.0		26.7		36.6		32.1	
Beryllium	0.4	0.55		0.44		0.38		0.55		0.63		0.42		0.53		0.64	
Cadmium		0.018	U	0.24	B	1.5		0.016	U	0.016	U	0.015	U	0.016	U	0.033	U
Calcium		1640		3860		15200		2400		2690		3550		5080		983	
Chromium		15.2		25.6		35.4		14.2		17.3		10.2		14.4		15.6	
Cobalt		7.4		9.3		4.4		8.7		7.3		6.1		8.5		9.3	E
Copper		14.7		40.0		104		21.8		19.8		516		38.9		19.6	
Iron		21900		41000		75400		22300	*	19800	*	14400	*	28000	*	22500	
Lead	150	28.6		118		186		77.4		63.8		50.3		168		40.6	E
Magnesium		2820		4070		3160		2770		2680		1790		2620		2660	
Manganese	390	339		574		536		303		260		243		343		338	E
Mercury		0.13		0.097		0.20		0.066		0.069		0.39		0.076		0.050	
Nickel		16.1		23.0		34.3		17.6		17.1		13.8		20.6		21.4	E
Potassium		365		500		826		423		440		344		369		358	
Selenium		0.30	U	0.25	U	0.25	U	0.27	U	0.26	U	0.26	U	0.26	U	0.0	
Silver		0.042	U	0.036	U	0.035	U	0.038	U	0.037	U	0.036	U	0.039	U	0.039	U
Sodium		68.5		122		360		52.3	B	56.0		67.7		67.4		85.2	
Thallium		2.6		4.3		8.0		2.5		2.0		1.9		2.9		2.2	
Vanadium		20.3		26.0		18.8		20.3		21.2		16.9		21.5		20.6	
Zinc		77.0	E	124	E	180	E	78.2		67.3		90.2		119		54.1	
Total Petroleum Hydrocarbons (mg/kg)																	
Extractable TPH	500	38		210		760		370		140		470		95		31	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS: CONTAMINANTS DETECED AT MOUND/SOIL INTERFACE
OFFTA PDI DECEMBER 2003: SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-433-0204		OFF-SB-433-0608	
Sample Location		433		433	
Date Sampled		11/26/2003		11/26/2003	
Interval		2.0-4.0		6.0-8.0	
QC Identifier	Preliminary Remediation Goal (PRG)	None		None	
Volatile Organic Analysis (UG/KG)					
2-Butanone		6		5	U
Acetone		120		440	*
Benzene		3	J	5	U
Methylene Chloride		12		12	
Toluene		2	J	5	U
Semivolatile Organic Analysis (UG/KG)					
Anthracene		270	J	1800	U
Benzo(a)anthracene	900	670	J	230	J
Benzo(a)pyrene	400	620	J	250	J
Benzo(b)fluoranthene	900	910	J	330	J
Benzo(g,h,i)perylene	800	230	J	220	J
Benzo(k)fluoranthene	900	350	J	1800	U
Chrysene	400	640	J	220	J
Fluoranthene		1200	J	270	J
Indeno(1,2,3-cd)pyrene	900	210	J	1800	U
Phenanthrene		1000	J	190	J
Pyrene		1500	J	520	J
Pesticide/PCB Analysis (UG/KG)					
4,4'-DDD		4.0	U	5.6	P
4,4'-DDE		4.0	U	3.7	JP
4,4'-DDT		10	P	14	
alpha-Chlordane		2.0	U	6.0	
gamma-Chlordane		2.0	U	5.6	P
Heptachlor		2.0	U	2.4	P
TAL Metal Analysis (MG/KG)					
Aluminum		12300		8120	
Antimony	10	7.4	N	7.3	N
Arsenic	6.2	10.6		5.7	
Barium		50.4		27.0	
Beryllium	0.4	0.49		0.35	
Cadmium		0.28		0.12	B
Calcium		7490		7350	
Chromium		17.4		26.4	
Cobalt		9.3		6.8	
Copper		41.8		33.4	
Iron		28000		24800	
Lead	150	150		96.6	
Magnesium		3250		2930	
Manganese	390	417		318	
Mercury		0.076		0.049	
Nickel		18.8		21.2	
Potassium		585		577	
Selenium		0.27	U	0.26	U
Silver		0.038	U	0.036	U
Sodium		56.8		70.5	
Thallium		3.3		2.8	
Vanadium		22.8		28.8	
Zinc		165	E	89.3	E
Total Petroleum Hydrocarbons (mg/kg)					
Extractable TPH	500	62		410	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

ANALYTICAL RESULTS: CONTAMINANTS DETECTED AT MOUND/SOIL INTERFACE
OFFTA PDI DECEMBER 2003: SITE 09
NEWPORT, RHODE ISLAND

Sample Number		OFF-SB-411-2022		OFF-SB-415-0608		OFF-SB-416-0406	
Sample Location		411		415		416	
Date Sampled		11/24/2003		11/18/2003		11/19/2003	
Interval		20.0-22.0		6.0-8.0		4.0-6.0	
QC Identifier	Preliminary Remediation Goal (PRG)	None		None		None	
Low Concentration PAH (SIM) Analysis (UG/KG)							
2-Methylnaphthalene		24	U	3.6	U	18	U
Acenaphthene		24	U	3.6	U	35	
Acenaphthylene		24	U	3.6	U	40	
Anthracene		24	U	3.6	U	110	
Benzo(a)anthracene	900	48		19		880	
Benzo(a)pyrene	400	47		18		820	
Benzo(b)fluoranthene	900	60		22		1100	
Benzo(g,h,i)perylene	800	30		11		450	
Benzo(k)fluoranthene	900	25		7.9		470	
Chrysene	400	72		21		890	
Dibenzo(a,h)anthracene	400	24	U	3.6	U	120	
Fluoranthene		67		30		1000	
Fluorene		24	U	3.6	U	26	
Indeno(1,2,3-cd)pyrene	900	24	U	8.8		370	
Naphthalene		24	U	3.6	U	18	U
Phenanthrene		47		15		440	
Pyrene		94		36		1200	
Gasoline Range Organic Analysis (UG/KG)							
Gasoline Range Organics		2900	U	2500	U	3300	U
TAL Metal Analysis (MG/KG)							
Aluminum		7650	E	8070		9630	
Antimony	10	0.76	BN	7.5	N	6.2	N
Arsenic	6.2	4.3	*	23.6		11.8	
Barium		20.3	*	10.0	B	17.6	
Beryllium	0.4	0.081	B	0.35		0.43	
Cadmium		0.013	U	0.016	U	0.014	U
Calcium		1520	E	948		1840	
Chromium		7.5	*	7.7		12.6	
Cobalt		7.3	E	3.7		10.2	
Copper		17.4	*	43.2		33.9	
Iron		17000		31600	*	25100	*
Lead	150	16.2	N*	182		136	
Magnesium		3380	*	2370		3070	
Manganese	390	409	E	197		570	
Mercury		0.023	U*	0.064		0.081	
Nickel		12.7	E	13.1		18.8	
Potassium		616	*	215		389	
Selenium		0.20	U	0.26	U	0.24	U
Silver		2.3	E	0.036	U	0.034	U
Sodium		317	*	41.4	B	71.5	
Thallium		0.13	U	2.9		2.6	
Vanadium		12.1	E	10.9		16.8	
Zinc		54.5	E	30.8		119	
Total Petroleum Hydrocarbon Analysis (MG/KG)							
Total Petroleum Hydrocarbons	500	300		13	U	170	

Black Background = Criteria Exceeded; U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
R - Rejected; NA - Not Analyzed

APPENDIX E
CALCULATIONS

Mound Volume Calculations
OFFTA Site
NAVSTA Newport, RI

1/23/2004

Central Mound

E1	A1	E2	A2	Aavg	E2-E1	Vol (sf)	Vol (CY)
11	26,794	12	23,254	25,024	1	25,024	927
12	23,254	13	20,909	22,082	1	22,082	818
13	20,909	14	18,780	19,845	1	19,845	735
14	18,780	15	16,733	17,757	1	17,757	658
15	16,733	16	14,977	15,855	1	15,855	587
16	14,977	17	13,292	14,135	1	14,135	524
17	13,292	18	11,744	12,518	1	12,518	464
18	11,744	19	10,352	11,048	1	11,048	409
19	10,352	20	9,041	9,697	1	9,697	359
20	9,041	21	7,857	8,449	1	8,449	313
21	7,857	22	6,752	7,305	1	7,305	271
22	6,752	23	5,708	6,230	1	6,230	231
23	5,708	24	4,728	5,218	1	5,218	193
24	4,728	25	3,815	4,272	1	4,272	158
25	3,815	26	3,000	3,408	1	3,408	126
26	3,000	27	2,280	2,640	1	2,640	98
27	2,280	28	1,688	1,984	1	1,984	73
28	1,688	29	1,107	1,398	1	1,398	52
29	1,107	30	530	819	1	819	30
30	530	30.7	-	265	0.7	186	7
						Total	**7,032**

Mound No. 1

E1	A1	E2	A2	Aavg	E2-E1	Vol (sf)	Vol (CY)
9	7,211	10	5,498	6,355	1	6,355	235
10	5,494	11	3,962	4,728	1	4,728	175
11	3,962	12	2,494	3,228	1	3,228	120
12	2,494	13	1,317	1,906	1	1,906	71
13	1,317	13.7	-	659	0.7	461	17
						Total	**618**

Mound No. 2

E1	A1	E2	A2	Aavg	E2-E1	Vol (sf)	Vol (CY)
8	22,334	9	19,286	20,810	1	20,810	771
9	19,286	10	16,703	17,995	1	17,995	666
10	16,703	11	13,933	15,318	1	15,318	567
11	13,933	12	10,706	12,320	1	12,320	456
12	10,706	13	8,314	9,510	1	9,510	352
13	8,314	14	6,238	7,276	1	7,276	269
14	6,238	15	4,275	5,257	1	5,257	195
15	4,275	16	2,612	3,444	1	3,444	128
16	2,612	17	1,062	1,837	1	1,837	68
17	1,062	17.7	-	531	0.7	372	14
						Total	**3,487**

TOTAL	**11,136**